Ex-post Evaluation of the impact of trade chapters of the Euro-Mediterranean Association Agreements with six partners: Algeria, Egypt, Jordan, Lebanon, Morocco and Tunisia

Final Report

CASE - Centrum Analiz Społeczno-Ekonomicznych
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LIST OF ABBREVIATIONS

Abbreviation	Full name
AA	Association Agreement
ACAA	Agreement on Conformity Assessment and Acceptance
AHS	Effectively applied tariffs
ANPE	National Environmental Protection Agency of Tunisia
APEC	Asia-Pacific Economic Cooperation
APOCE	Organisation Algérienne pour la Protection et l'Orientation du Consommateur et son Environnement
ASEAN	Association of Southeast Asian Nations
ATC	Agreement on Textiles and Clothing
AVE	Ad valorem equivalents
BRICS	Brazil, Russia, India, China and South Africa
CAPA	Central Administration of Pharmaceutical Affairs
CARIFORUM	Caribbean Forum
CASE	Center for Social and Economic Research
CBI	Centre for the Promotion of Imports from developing countries
CDN	Nationally Determined Contributions
CEO	Chief Executive Officer
CEPII	Centre d'Études Prospectives et d'Informations Internationales
CEPS	Centre for European Policy Studies
CGE	Computable general equilibrium
CGEM	General Confederation of Moroccan Companies
CJEU	Court of Justice of the European Union
CMT	cut-make-trim
CN	Combined Nomenclature
CNUCED	United Nations Conference on Trade and Development
COMESA	Common Market for Eastern and Southern Africa
COMEXT	Eurostat's reference database for detailed statistics on international trade in goods
COMTRADE	International Trade Statistics Database
CPI	Consumer Price Index
CSR	Corporate Social Responsibility
CTC	Change in tariff classification
CTPM	Contingent trade protective measures
DAPS	Additional Duty on certain products
DCFTA	Deep and Comprehensive Free Trade Areas
DEW	Environment Departments of Local Governments
DG TRADE	The Directorate-General for Trade
DH	Moroccan Dirham
DPM	Directorate of Pharmacy and Pharmaceuticals
DSM	Dispute Settlement Mechanism
DZ	Algeria

Abbreviation	Full name
DZA	Algeria
DZD	Algerian Dinar
EBA	Everything But Arms
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EFSA	European Food Safety Authority
EFTA	European Free Trade Association
EGA	Environmental Goods Agreement
EGs	Environmental Goods
EGP	Egyptian Pound
EGY	Egypt
EIB	European Investment Bank
EMNES	Euro-Mediterranean Network for Economic Studies
ENP	European Neighbourhood Policy
EPA	Economic Partnership Agreement
EPI	Environmental Performance Index
EBRD	European Bank for Reconstruction and Development
ERF	Economic Research Forum
ES	Spain
ESCWA	United Nations Economic and Social Commission for West Asia
EU	European Union
€	Euro
EuroMed	Euro-Mediterranean Partnership
FAO	Food and Agriculture Organisation of the United Nations
FDI	Foreign Direct Investment
FEMIP	Facility for Euro-Mediterranean Investment and Partnership
FEMISE	Euro-Mediterranean Forum of Institutes of Economic Sciences
FOB	Free on Board
FORTEX	Restructuring of Textiles and Clothing Sector's Fund
FTA	Free Trade Agreements
GAFTA	Grain and Feed Trade Association
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GCC	Gulf Cooperation Council
GDP	Gross domestic product
GHG	Greenhouse gas
GOEIC	General Organization for Export and Import Control
GSP	Generalised System of Preferences
GTAP	Global Trade Analysis Project
GVC	Global Value Chains
HACCP	Hazard Analysis and Critical Control Point
HHC	High Health Council

Abbreviation	Full name
HS	Harmonised System
IANOR	Institut Algérien de Normalisation
ICT	Information and communications technology
IDS	Industrial Development Strategy
ILAC	International Laboratory Accreditation Cooperation
ILO	International Labour Organization
IMF	International Monetary Fund
INC	Institut National de la Consommation
IND	Industrial
INDSTAT	UNIDO Statistics Data Portal
INSP	Pre-shipment inspection
IPR	Intellectual Property Rights
ISO	International Organization for Standardization
ITC	International Trade Center
IZ	Industrial zones
JCI	Jordan Chamber of Industry
JFDA	Jordanian Food and Drug Administration
JGATE	Jordan Garment Accessories and Textile Exporters Association
JIC	Jordan Investment Commission
JOD	Jordanian Dinar
JOR	Jordan
JUSFTA	Jordan-USA Free Trade Agreement
JWG	Joint Working Group
LBN	Lebanon
LBP	Lebanese Pound
LDC	Least Developed Countries
LRA	Local and Regional Authorities
M&A	Mergers and Acquisitions
MA	Morocco
MAD	Moroccan Dirham
MARPOL	International Convention for the Prevention of Pollution from Ships
MCINET	Ministry of Industry, Trade, Green and Digital Economy
MED	Mediterranean
MENA	Middle East and North Africa
MERCOSUR	Southern Common Market
MFA	Ministry of Foreign Affairs
MFN	Most-Favoured Nation
MIICEN	Ministry of Industry, Investment, Commerce and Digital Economy
MIRAGE	Modelling International Relations in Applied General Equilibrium
MOH	Ministry of Health
MOPIC	Ministry of Planning

Abbreviation	Full name
MOR	Morocco
MOTIS	Ministry of Trade, Industry and Supply
MPC	Mediterranean Partner Countries
MS	Member States
MSSD	Mediterranean Strategy for Sustainable Development
MT	Metric Tonnes
NACs	North African countries
NAFTA	North American Free Trade Agreement
NDC	Nationally Determined Contributions
NFSA	National Food Safety Authority
NFSS	National Food Systems
NGO	Non-governmental Organization
NTB	Non-Tariff Barriers
NTM	Non-tariff Measures
OBM	Original Brand
ODM	Original Design Manufacturing
OECD	Organisation for Economic Co-operation and Development
OEM	Original Equipment Manufacturing
ONEDD	Environmental Monitoring Agency
ONSS	Office National de Sécurité Sanitaire des Produits Alimentaires
OPC	Open Public Consultations
OTH	Other Measures
PAFTA	Pan-Arab Free Trade Area
PAI	Industrial Acceleration Plan
PC	Price control
PCAM	Support Programme for Business Competitiveness and Market Access facilitation
PCBs	Polychlorinated Biphenyls
PE	Partial equilibrium
PECS	Pan-European Cumulation System
PEM	Pan-Euro-Mediterranean
PEMCS	Pan-Euro-Mediterranean cumulation system
PM	Particulate matter
PNEI	Pacte National pour l'Émergence Industrielle
PRF	Preferential rate
PUR	Preference utilisation rate
QC	Quantity control
QIZ	Qualified industrial zones
R&D	Research and development
RE	Renewable energy
RoO	Rules of Origin
ROW	Rest of the World

Abbreviation	Full name
SADC	Southern African Development Community
SDG	Sustainable Development Goal
SEZ	Special economic zones
SIA	Sustainability Impact Assessment
SMC	South Mediterranean Country
SMEs	Small and Medium-sized Enterprises
SPS	Sanitary and Phytosanitary
STC	Specific Trade Concerns
T&C	Textiles and clothing
TAIEX	Technical Assistance and Information Exchange
TARIC	Integrated Tariff of the European Communities
TBT	Technical barriers to trade
TEQ	Toxic equivalents
TISI	Trade and Investment Support Institutions
TN	Tunisia
TND	Tunisian Dinar
TR	Technical requirement
TRAINS	Trade Analysis Information System
TRIMs	Trade-Related Investment Measures
TRQ	Tariff-rate quotas
TUN	Tunisia
UK	United Kingdom
UN	United Nations
UNCOMTRADE	International Trade Statistics Database
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
UNFCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization
US	United States
USA	United States of America
USD	US dollar
VA	Value Added
VAT	Value Added Tax
VC	Value Content
WB	World Bank
WDI	World Development Indicators
WHO	World Health Organisation
WITS	World Integrated Trade Solution
WO	Wholly-obtained
WTO	World Trade Organization

EXECUTIVE SUMMARY

1. Introduction

1.1. Policy context

Due to its geographical proximity and historically close cultural and economic ties, the Southern Mediterranean region has had a long and close trading relationship with Europe. The current EU Association Agreements between Algeria, Egypt, Jordan, Lebanon, Morocco and Tunisia (thereafter Southern Mediterranean Countries, SMCs) and the EU, were signed in the late 1990s. They were conceived to help achieve the objectives of the 1995 Barcelona Declaration[1] signed by EU Member States and Southern Mediterranean countries, including the six SMCs. The declaration aimed to create an **area of shared prosperity in the Mediterranean region through sustainable socio-economic development, improved living conditions, increased employment and closer regional cooperation and integration** as means to promoting stability and easing migratory pressures.

A key policy instrument to achieve the Barcelona objectives was an eventual establishment of a free-trade area between the EU and SMCs through bilateral Euro-Med free-trade agreements (Euro-Med FTAs) as part of the Euro-Med AAs and through FTAs to be concluded between the SMCs themselves. The **Euro-Med FTAs were signed between 1995 and 2002 and entered into force between 1998 and 2006**. They **concerned trade in goods,** with a focus on liberalisation of import tariffs on industrial products and to a lesser extent liberalisation with regard to agricultural products.

The main objectives of the Euro-Med FTAs were[2]:

- to promote trade and expansion of harmonious economic and social relations and to establish the conditions for the gradual liberalization of trade in goods, services, and capital between the EU and SM partner countries (i.e., **promotion of Euro-Med trade**);
- to encourage intra-regional integration by promoting trade and cooperation both within the region and between it and the EU Community and its Member States (i.e., **promotion of intra-Med trade**).

The **additional market access concessions negotiated in the Euro-Med FTAs added to the significant preferences granted under the earlier EU scheme of generalised tariff preferences (GSP) and the EU-Mediterranean Cooperation Agreements**. Overall, it is estimated that by the mid-1990s, on the eve of the signing of the Euro-Med FTAs, the EU was already granting to the SMCs duty-free market on more than half of its tariff lines. **Some gains from the FTAs were therefore expected from further trade liberalisation by the EU but the main gains were expected from the reduction of SMCs' import duties**, which until then were not disciplined by the existing Co-operation Agreements and were relatively high (*Chapter 3*).

The FTAs **also aimed at establishing conditions for the gradual liberalisation of trade in other areas** not liberalised directly by these agreements, but closely interlinked and complementary to the liberalised sectors. The latter included **trade in services, as well as foreign direct investment** (hereinafter FDI), and capital movement more broadly. These FTAs also **referred to some non-tariff measures (NTMs)**, such as, for example, in the areas of technical barriers to trade (TBT) and sanitary and phytosanitary measures (SPS), but mainly expressed the need for transparency and cooperation as well as the need for liberalisation in these areas in the future (*Chapters 2* and *3*).

The second key objective of the FTAs was to promote intra-regional integration and cooperation in the SM region, although, clearly, these objectives could not be directly and effectively addressed in bilateral FTAs between the EU and individual countries in the region. However, **the Barcelona Declaration also included a commitment to establish a free-trade area across the entire Euro-Med region by 2010**. Regional agreements such as the Agadir

[1] https://ec.europa.eu/research/iscp/pdf/policy/barcelona_declaration.pdf.
[2] This is the formulation presented in the terms of reference for this evaluation.

Agreement[3] contain formal references to the Association Agreements and are seen as building blocks in this process. The Regional Convention on pan-Euro-Mediterranean preferential rules of origin, signed in 2011 and ratified by all SMCs, was another step in promoting greater harmonisation and simplification of rules of origin (RoO) in the region.

1.2. Purpose of the ex-post evaluation

This report presents the results of an **ex-post evaluation of the impact of trade chapters of the Euro-Mediterranean Association Agreements** with six partners (Algeria, Egypt, Jordan, Lebanon, Morocco and Tunisia). The purpose of the evaluation was to assess **the achievement of the main objectives** of the trade chapters of the Euro-Mediterranean Association Agreements as well as of the supplementary trade-related protocols or agreements complementing the FTAs. The evaluation assessed the extent to which the objectives of the Euro-Med FTAs have been reached in terms of the following **criteria listed in the EU's Better Regulation guidelines and toolbox**: ***effectiveness***, ***efficiency***, ***coherence*** **and** ***relevance***.[4]

The evaluation has been commissioned by the Directorate General for Trade (DG TRADE) of the European Commission and it has been implemented by the Consortium consisting of Ecorys and the Center for Social and Economic Research (CASE), supported by the Euro-Mediterranean Forum of Institutes of Economic Sciences (FEMISE).

It is **expected that the evaluation will help to determine best practice and lessons learned** from the FTAs in order to better inform further implementation of the current Euro-Med FTAs as well as to enable cross fertilization of the gained insights across the various countries in the region to further enhance the Euro-Mediterranean partnership.

1.3. Overall findings of the evaluation

Overall, the evaluation found that the **performance of the Euro-Med FTAs is largely in line with the objectives set for them but not all of the objectives have been reached to the same extent**. Enforcement and implementation of the agreed FTAs are key for the achievement of their objectives and for the realisation of trade benefits, but the implementation status varies from one Euro-Med FTA to another (*Chapter 2*). The Euro-Med FTAs have preserved the earlier market access concessions and in some cases **created new opportunities for Euro-Med trade and supported the economic performance in both the EU and SMCs**. They were also an **important factor supporting intra-Med trade initiatives**. They have **helped achieve the broader goals** of the European Neighbourhood Policy, Association Agreements, action plans and Partnership Priorities.

Due to differentials in initial tariff levels and because of the gradual erosion of the effective Euro-Med tariff preferences due to external factors, it seems that **they have generated fewer and more asymmetric new market access opportunities than may have been intended** at their conception. However, the goal of the agreement was, both, expanding the trade relationship and safeguarding existing market access for the SMCs to the EU, which would have been lost without the agreements. Taking this into account, the picture is more positive.

[3] The Agadir Agreement is an FTA between Egypt, Jordan, Morocco and Tunisia, which was signed in February 2004 and entered into force in March 2007.

[4] These criteria can be summarised as follows: *effectiveness* - the extent to which the above objectives of the EU's FTAs with the six partner countries have been achieved, as well as the factors influencing (either positively or negatively) the achievements of those objectives, including identification of any unintended consequences; *efficiency* - the extent to which the EU's FTAs with the six partner countries have been efficient with respect to achieving their objectives, i.e. what costs have been associated with the achievement of these objectives and whether they have been proportionate to benefits, what factors influenced these costs and benefits and their distribution across different stakeholder groups as well as whether there are any remaining inefficiencies and regulatory costs related to the FTAs; *coherence* - the extent to which the EU's FTAs with partner countries have been coherent with the Neighbourhood Policy and Association Agreements, Action Plans and Partnership Priorities and with current EU trade policy; *relevance* - the extent to which the provisions of the EU's FTAs with partner countries are relevant for addressing current trade issues faced by the EU and its partners.

As traditional FTAs, which focus on reductions of import tariffs and have a limited coverage of non-tariff measures (NTMs), they **have nevertheless become less relevant for addressing current issues faced by the EU and SMCs in today's global economy** where the ability to remain competitive relies not just on low import tariffs but also other costs incurred along the whole value chain, including those implied by various NTMs. NTMs, because of their lesser transparency and potentially higher trade restrictiveness, are still a major factor constraining the realisation of gains from the Euro-Med tariff liberalisation (*Chapter 3*).

2. Key findings and answers to the evaluation questions

Key findings and full answers to the evaluation questions are provided in the full report and the accompanying Synthesis Report and are summarised below.

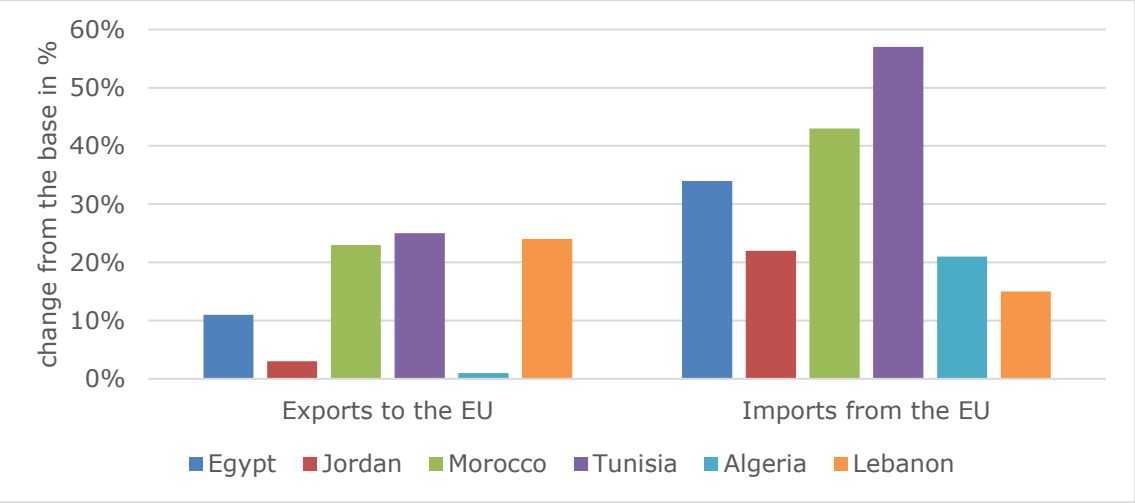
2.1. Effectiveness

2.1.1. Key effects of the FTAs on trade, GDP and welfare

Overall, the analysis of the impact on trade and the selected other economic indicators studied in this evaluation shows that the **effects of the Euro-Med FTAs on trade, GDP and welfare**, as quantified by the computable general equilibrium (CGE) and partial equilibrium (PE) model simulations, **have been positive and they have benefitted SMCs proportionally more than they did the EU** (*Chapter 3).*

The Euro-Med **FTAs fostered trade between the EU and the SMCs** (Figure 0.1). Over the long run[5], SMC exports to the EU are estimated to have increased by 15% and imports are estimated to have increased by 32% on average. The pattern of sectoral changes suggested by the modelling exercises indicates a **deepening of trade exchange along existing comparative advantage patterns**. Although the considered trade liberalisation is asymmetric in favour of the EU, **all SMCs gain in terms of welfare and income, and they gain relatively more than the EU from the Euro-Med FTA preferences**. This underscores that it is not only access to export markets but also the productivity and consumption gains from own liberalisation that contribute to overall gains from these agreements. Indeed, the positive **SMC income effects are at least an order of magnitude higher than those for the EU** ranging from 0.4% of GDP (0.4% of welfare) in Egypt to, respectively, 0.6 and 1.5% of GDP (0.4 and 1.5% of welfare) in Morocco and Tunisia (Figure 0.2).

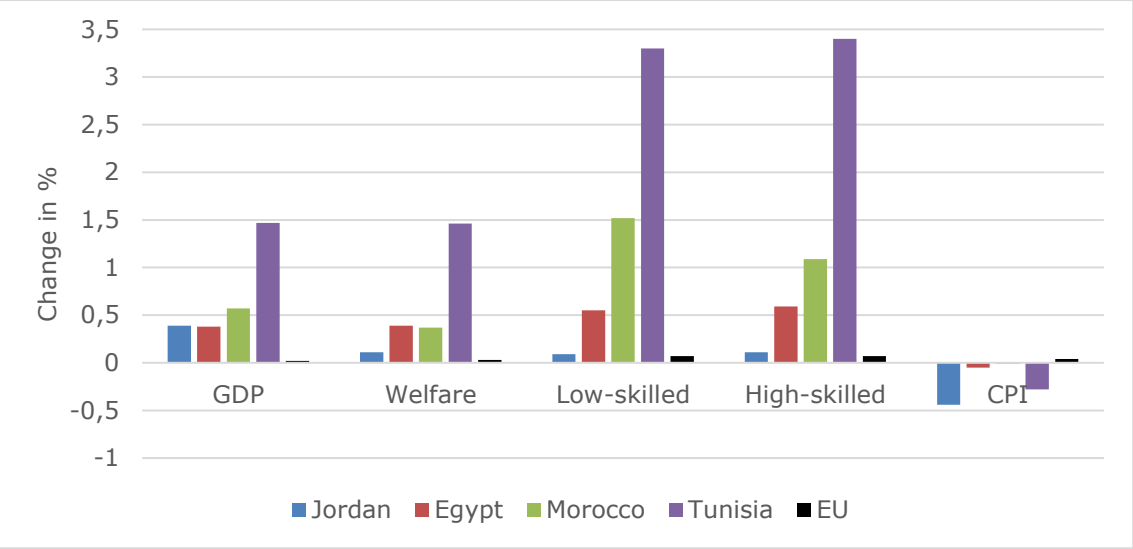
Figure 0.1 The simulated long-run effects of Euro-med preferences on bilateral trade between the EU and SMCs (% change)



Sources: DG Trade, European Commission using the MIRAGE and the Commission's PE model.

[5] 'Long run' means when all factor and product markets have had the time to adjust, typically assumed to be about 5 years after the trade reform. Here, the effects can be thought of as the overall impact of the Euro-Med FTAs after the FTAs have been fully implemented and there was enough time for the SMC and EU economies to adjust to the trade liberalisation.

Figure 0.2 Estimated impacts of Euro-med FTAs on GDP, welfare and wages (% change)



Note: Algeria and Lebanon were not included in the CGE modelling because of data constrains.
Source: DG Trade, European Commission using the MIRAGE model.

2.1.2. Key reasons for the change of trade patterns: evolution of effective preferential margins
The changes in bilateral trade flows are **related to the size and evolution of effective preference margins determined by the Euro-Med FTAs and other agreements of the EU and SMCs** (*Chapter 3*).

The preference margin is typically defined in the applied trade policy literature as the difference between MFN and preferential tariffs. In the case of the SMC's market access to the EU, both have not changed safe for a handful of isolated cases,[6] and as a consequence, also the preference margins granted to these countries by the EU have not changed. However, given that a large proportion of EU imports is happening under FTAs, and thus no longer subject to MFN treatment, a more relevant indicator of market access is what we define in this evaluation as the *effective preference margin*, which is the difference between the average tariff paid by third countries and the preferential tariff charged on imports from a given Euro-Med FTA partner.

While effective preference margins associated with the Euro-Med FTAs remain positive and generate economic benefits, they have decreased on average for Algeria, Morocco and Tunisia and improved only marginally for Egypt, Jordan and Lebanon since the entry into force of the FTAs (Figure 0.3).This is due to the fact that while most favoured nation (MFN) and preferential tariffs mandated by the Euro-Med FTAs have remained constant, in the meantime the EU entered into FTAs with many other countries. Beyond these average changes, there were also important variations across sectors (*Chapter 3*).

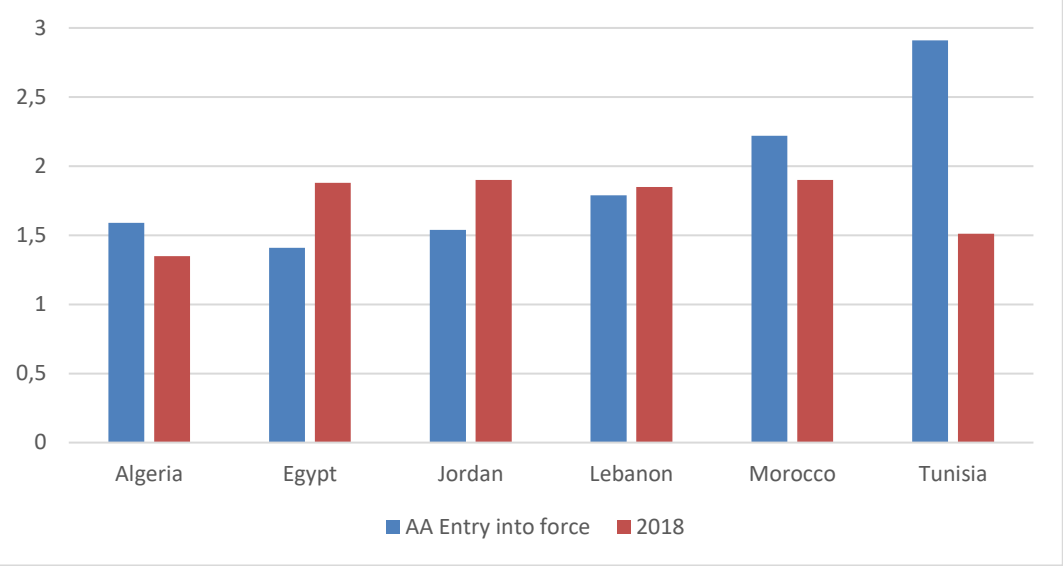
EU exporters, on the other hand, saw increasing effective preference margins in all six SMCs (Figure 0.4). This was mainly because SMCs applied higher tariffs on imports from other countries and engaged in few other FTAs. These positive effective preference margin changes were an order of magnitude larger than those observed for SMC exporters in the EU market and were also spread more evenly across the different sectors.

Thus, **SMC exporters faced effective preference erosion over time when exporting to the EU market** (relative to competing third country exporters also accessing the EU market), **while EU exporters experienced higher effective preference margins over time when exporting to the SMCs** (relative to competing third country exporters also accessing the SMC markets). The reasons for this divergence are that the EU had lower tariffs to start with and has not only reduced tariffs for exporters from SMCs but also for exporters from many other

[6] e.g. due to the implementation of the Internationational Technology Agreement (ITA), for more information, see: https://www.wto.org/english/tratop_e/inftec_e/inftec_e.htm.

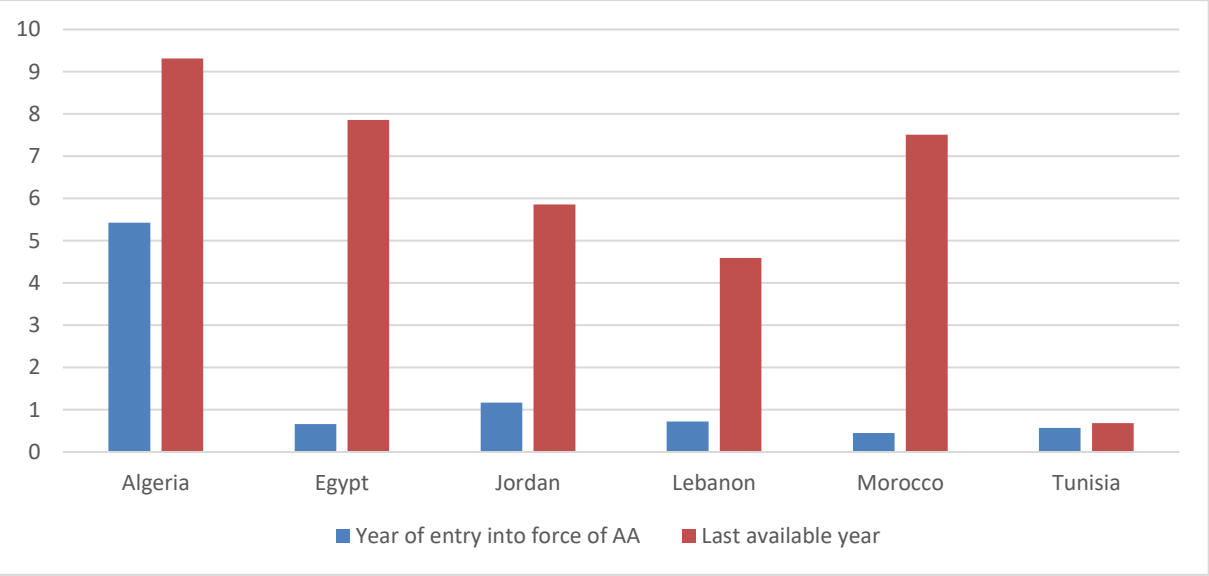
countries in the world over the last two decades. SMCs have broadly reduced tariffs for EU exporters over the last two decades while maintaining relatively high tariffs for exporters from other countries, sometimes including neighbouring nations.

Figure 0.3 Change in effective preference margins for SMC exporters accessing the EU market, comparing the initial year and 2018: The difference between the EU simple average tariffs applied on imports from the rest of the world and simple average tariffs applied on imports from SMCs (percentage points)



Note: these simple average tariffs are calculated based on Harmonised System 6-digit tariff data and concern only tariff lines which have positive import values. Hence, the observed differences are a combination of different tariff rates and the composition of trade that actually occurs.
Source: Authors' calculations based on tariff data extracted from the World Integrated Trade Solution (WITS) portal.

Figure 0.4 Change in effective preference margins for EU exporters accessing SMC markets, comparing the initial year and last available year: The difference between tariffs applied by SMCs on imports from the rest of the world and simple average tariffs applied on imports from the EU (percentage points)



Note: these simple average tariffs are calculated based on Harmonised System 6-digit tariff data and concern only tariff lines which have positive import values. Hence, the observed differences are a combination of different tariff rates and the composition of trade that actually occurs.
Source: authors' calculations based on tariff data extracted from the World Integrated Trade Solution (WITS) portal.

2.1.3. Impact of the FTAs on intra-SMC trade patterns

The Euro-Med FTAs have also resulted in redirection of some of the intra-SMC trade towards the EU and **trade among SMCs has been estimated to have been reduced over the long run by on average 3.4%**. While these changes are relatively small[7] and are expected given the bilateral nature of these trade agreements between the EU and each of the SMCs, they still show that the **tariff reductions associated with the bilateral Euro-Med FTAs were not as effective in advancing the objective of promotion of intra-Med trade as they were in advancing the Euro-Med trade**. However, the **regional agreements** such as the Agadir Agreement and the Regional Convention on pan-Euro-Mediterranean preferential rules of origin, which was a step in promoting greater harmonisation and simplification of rules of origin (RoO) in the region, **were inspired by the Euro-Med FTAs and supported by the EU, and were building blocks in the process of promoting intra-Med trade**.

2.1.4. Diversification impacts

Analysis of indicators of **diversification and economic complexity of exports of SMCs to the EU and other countries show improvements since the entry into force of the Euro-Med FTAs** for all SMCs except Algeria. Tunisia, for example, which signed its FTA with the EU the earliest, has also seen the most pronounced gains in diversification and complexity and its exports, which have evolved significantly from being concentrated in articles of apparel in the mid-1990s to being concentrated in electrical and electronic equipment.

Nevertheless, the analysis showed also that, overall, **the EU market is still challenging for SMC producers when it comes to diversifying their export structures and competing in markets for more complex products**. Egypt, Lebanon, Morocco and Tunisia have all experienced increasing trade with EU member states, although their exports remain less diversified than imports from the EU, which are growing dynamically (*Chapter 3*).

2.1.5. Conclusion about effectiveness of the FTAs to achieve their main objectives

All this suggests that **the main objectives of the FTAs have been largely achieved** but there is also evidence that the impacts on trade and other economic **indicators could have been more significant if bilateral trade had not been impeded by other factors.** These are presented below.

2.1.6. Factors influencing the achievement of Euro-Med FTAs' objectives

Some of the factors that impeded the realisation of higher economic gains from the Euro-Med FTAs were related to the policy intervention at hand, whilst contextual factors also played a role:

a) The FTAs themselves have affected the extent to which SMCs could take advantage of the market-access opportunities, in three principal ways:

- ***Non-tariff measures***. As the FTAs focused on tariff reductions, many NTMs were not addressed in the agreement, while our analysis on economic impacts showed that these **NTMs (such as certain technical standards and sanitary and phyto-sanitary measures, which are the most frequently maintained NTMs both in the EU and in SMCs)** can be more important for market access than tariffs (*Chapter 3*);
- Other factors related closely to trade in goods such as **trade in services and foreign direct investment (FDI) have only been covered to a limited extent** in the existing FTAs;
- ***Limited effectiveness with which the institutional structures of the FTAs were able to address the remaining or arising concerns***. While the EU and the SMCs' governments meet on a bilateral basis to discuss barriers (both barriers that violate the agreement or are outside of the strict provisions of the agreement), the problems are often not easily solved;
- ***Rules of origin***. This evaluation found limited evidence for rules of origin being a major barrier for SMC exports overall. The double-transformation rule applicable in the *Textile*

[7] While some re-orientation of trade is detected, it was found not to be a major concern given its relatively small magnitude. It should be also noted that the simulations compared the situation with and without the particular Euro-Med FTA, but keeps FTAs between other partners including between other SMCs (e.g. between the Agadir Agreement partners including Egypt, Jordan, Morocco) untouched. This can explain why an FTA with the EU has some impact on imports from the other Southern Mediterranean partners.

and clothing sector has been flagged by several regional industry representatives during the public consultations. The rule nevertheless affects the extent to which SMCs can use imported inputs from outside the Euro-Med region undermining their competitiveness in the EU market *vis-à-vis* LDC producers, notably from Asia.

b) Many **other factors were at play outside of the agreements,** which influenced the achievement of their objectives, including:

- ***Improved access of third countries to the EU market***. This has particularly been an issue in the *Textile and clothing* sector, as some countries that are generally more competitive in the sector have also received improved access to the EU market, which undermined preferences enjoyed by SMC exporters. This was the case for China (after the abolition of the Multi-fibre and subsequent Textiles and Clothing agreements) and Bangladesh (through the Everything but Arms (EBA) Agreement);
- ***Constraints in the business environment as barrier to structural adjustment and trade***. Together with the large differences in economic strength and productivity between the EU and SMCs, the significant lowering of import tariffs by SMCs also meant that a much more pronounced trade-related structural adjustment in SMCs was needed to fully benefit from the agreement. But institutional development and the functioning of product and factor (labour and capital) markets in SMCs lag behind the EU as well as other countries with comparable income per capita levels and impede such adjustment;
- ***Entrepreneurship and competitiveness***. *T*he private sector has led the way in taking advantage of opportunities associated with the Euro-Med FTAs, which has required certain skills (e.g. related to marketing and sales, networking and management skills) and attitudes (e.g. risk-taking, persistence). While these aspects have not been analysed in detail in this evaluation, selected measures of competitiveness reviewed in this evaluation in suggest that competitiveness has stagnated or even worsened over time in some SMCs, which is also related to the business environment discussed above;
- ***Opportunities in other markets***. Several business representatives considered that the costs of entering the EU market are relatively high as a result of the EU's high standards and technical requirements (NTMs). Others pointed to the fragmented nature of the EU market (and thus relatively high costs of entering and remaining in the market) because of the differences in rules and regulations but also business culture between different Member States. In some cases, these factors made other countries (including the domestic market) relatively more attractive.

2.1.7. Accompanying effects of the FTAs on sustainability dimensions

This evaluation investigated also the *social*, *human rights* and *environmental impacts* of the FTAs, as well as their effects on Least Developed Countries (LDCs) and developing countries. Sustainable growth was one of the main objectives of the Barcelona Declaration. The Euro-Med FTAs themselves subscribe to these objectives though they do not have specific commitments on social, human rights, environmental issues. Social and environmental issues are dealt with in the other chapters of the Association Agreements, especially in terms of co-operation on these topics, but these parts of the agreements are not evaluated within the scope of this study. The way this evaluation approached sustainability effects was therefore as 'accompanying' effects of the FTAs, where special focus was placed on detecting any unintended negative effects of the FTAs.

The **effects of the FTAs in these areas are mainly indirect**, stemming from the economic changes brought about by the agreements. The four cross-country case studies conducted as part of the sustainability analysis made it possible to examine the connection between the FTAs and developments in these areas in greater depth and showed that **the role of the FTAs was very small compared with other factors**. A detailed discussion of such accompanying effects can be found in *Chapter 5,* while the key findings are summarised below.

Social and human rights impact

Impact areas that were identified as particularly relevant in relation to the FTAs in terms of **social** and human rights were: ***employment, income, labour conditions*, *gender*** and the ***right to food***.[8]

[8] While other areas (e.g. social protection, social dialogue, poverty reduction, vulnerable groups, as well as other economic, social and cultural rights)[8] have also been investigated through literature review and consultations, no evidence on a link with the FTA was identified.

While the CGE modelling assumed full employment and thus could not shed light on overall employment changes, in reality **positive effects can be expected on the basis of positive effects on GDP and wages** obtained in simulations for SMCs and the EU. Indeed, the impact of the FTAs with the EU is also positive with respect to social indicators, both in the EU and the SMCs, with higher welfare, higher wages for both low-skilled and high-skilled labour, and lower consumer prices.[9] However, **the impacts are also modest**, with most estimated impacts below 1%.

A **case study of *employment* effects of the FTAs** focusing on *Textiles and clothing* and *Chemicals, plastics and rubber* in the SMCs has estimated that the Euro-Med FTAs had only a **small effect on employment**. While employment effects in *Chemicals, plastics and rubber* appear to be negative in nearly all SMCs (except Jordan) based on trends in the bilateral trade balances and estimated output changes from the CGE model, for *Textiles and clothing* it is likely that the FTA has had positive effects in Morocco, Tunisia and Egypt. These effects seem to be small at sectoral level: even where a negative employment effect of the FTA is found, the value added and wages in both the sectors have increased over the evaluation period in the SMCs. In the context of whole economies, these changes are even smaller, given that these sectors, while accounting for a large share of bilateral trade with the EU, only account for a small share of total employment in the SMCs.

Gender-related impacts were examined via an **analysis of female employment in the agricultural sector**. The case study on female employment in the agricultural sector showed that women face particular challenges (e.g. due to lack of education or access to specific networks). With respect to female employment in the sector, we observe that it went down in all SMCs except in Morocco and Egypt. While the increase in Morocco was associated with a rise in formal employment, in Egypt, there was an uptick in informal employment. The trends in SMCs are difficult to link to changes in agricultural trade with the EU, but appear to be more associated with structural changes in the SMC economies. It is therefore **difficult to draw strong conclusions on FTA-related effects on gender.**

Most SMCs had already ratified the International Labour Organisation's (ILO) core labour conventions before the FTAs were signed and the feedback from stakeholders suggested that **the impact of the Euro-Med FTAs on working conditions has been either neutral** (e.g. because EU investors only complied with local regulations) **or positive** (conditions improved in response to demand of EU buyers).

The FTAs have also helped improve access to food, as staple foods like cereals can now be imported from the EU at lower prices, although there is now also more reliance on food imports in the SMCs.

Environmental impact

The CGE modelling results show that despite the economic growth predicted by the model, **CO2 emissions in the SMCs are estimated to be lower with the Euro-Med FTAs in place than without them.** The combined CO2 reduction in the SMCs more than off sets the estimated increase of CO2 emissions in the EU, although the changes in percentage terms are small (below 0.1%). This is largely due to a change in sector structures, where more polluting sectors in SMCs (notably other manufacturing) contracted as a result of the FTA.

A case study on air emissions looked at air pollutants (Carbon monoxide (CO), nitrogen oxides (NOx), fine particulates and dust (PM), sulphur dioxide (SO2), and volatile organic compounds (VOCs)) as well as CO2 effects in Egypt, Jordan, Morocco and Tunisia. Emissions have clearly increased over the evaluation period, but **the impact of the FTA on air pollutants and greenhouse gas (GHG) emissions is estimated to be small overall**. The analysis shows the FTA contributed to a reduction in some air pollutants (e.g. a reduction of SO2 emissions in the four countries analysed) and to an increase in others (e.g. an increase in NOx emissions in Egypt and Jordan), depending on the country and the pollutant. These differences mainly arise because of differences in changes in production structures (composition effects). The effect of

[9] With the exception of consumer prices in the EU, which have very marginally increased based on CGE results. [CGE modelling results reported above were reported with 'present perfect': «have been»; so, for consistency it may be useful to do that here as well.].

the FTA is therefore not homogeneous across countries, it depends on what sectors have been impacted most by the FTA and in what direction.

The same case study also showed **increased production of energy from renewable sources** (solar, wind) and energy efficiency in the SMCs over the evaluation period. However, progress is slow and **the use of fossil fuel has increased faster than the use of renewable energy, thus increasing the share of fossil fuel in the energy mix**. The case study also identified **increased international transport which is at least partly induced by the FTA** and **is likely to have increased emissions (both for air pollutants and GHG) as well**, in particular from maritime transport.

Analysing the estimated output effects from the CGE model for the primary sectors gave also an **indication of effects on land use** which is linked with biodiversity. **For some SMCs these primary sectors contracted, and a decrease in land use seems likely**, while for others[10] the direction of effects is mixed across sectors and therefore the resulting effect on land use could be negative.

Analysis showed also that **the FTAs facilitated trade in environmental goods[11] and thereby indirectly contributed to the greening of the economy in the SMCs**. Imports by SMCs of environmental goods from the EU have almost tripled between 1998 and 2017 and a positive link between the decrease in tariffs and the level of imports was observed.

Effects on developing countries and LDCs
The FTAs have not only impacted bilateral trade flows between the EU and the SMCs, but also trade flows with third countries.

a) Regarding developing countries:
CGE modelling results, which provided an estimated impact of the FTA on these external actors, showed that for all four SMCs covered in the CGE analysis, **the SMC imports from China decreased the most in absolute terms as a result of the FTAs (ranging from a decrease of imports in Jordan of €€171m to a decrease of €744 m in Egypt). Turkey was also found to be exporting less to the four SMCs (a decrease of exports to the SMCs of € 792m (-11.1%) only partly compensated by an increase of export to the EU of € 150m (0.2%) for all four FTAs combined)**, than it would without the Euro-Med FTAs in place. Geographical proximity also plays a role, with the North African region being more affected by the FTAs of Tunisia and Morocco and the Gulf region by the FTA with Egypt.

b) Regarding least developed countries (LDCs):
Overall, according to the modelling results, **imports from LDCs into SMCs and the EU show a decrease, but, for most FTAs, this decrease is small** (reduction of € 35 million of exports to SMCs (-3.1%), and a reduction of € 139m of export to the EU (-0.3%), for all four FTAs combined) compared to the effects on other trade partners. The sector case studies did not identify a major impact on direct trade with LDCs either. In terms of value-chain effects, an increase in imports of SMCs from LDCs (notably Bangladesh) has been observed in the textile and clothing sector, as these imports provide low-cost inputs and therefore help the sector to remain competitive.

2.2. Efficiency

2.2.1. Structural adjustment costs: reallocations of labour and capital across sectors
As is the case with other types of trade reforms, **the Euro-Med FTAs generated economic gains through labour and capital reallocations across some of the sectors** and this **underlines the role of the business environment and of national governments' support in facilitating such adjustments**.

[10] Land use decreases were identified for Egypt, Morocco and Tunisia while for Jordan the results were mixed (see Chapter 5). For Algeria and Lebanon no results are available, as they are not included in the CGE model.
[11] Please note there is no consensus on what environmental goods are. The definition of environmental goods used in this evaluation is the WTO "Friends list" (see WTO document "JOB(07)/54") which has been elaborated with countries participating to the WTO negotiations on the Environmental Goods Agreement (EGA).

Although costly adjustment to Euro-Med FTAs have been raised on numerous occasions during public consultations, our qualitative analysis and consultations have not identified specific groups that have been clearly negatively and disproportionately affected by the FTAs. The modelling simulations show that some sectors, such as *Textiles and Clothing* and *Leather products*, expanded their output in SMCs as a result of the FTAs while others, such as *Chemicals, rubber and plastics*, and *Other manufactures*, contracted. In countries which gain the most from the FTAs in terms of GDP and welfare increases due to the FTA, these differences across sectors tend to be more pronounced than in those countries that do not gain as much from the respective FTA. This suggests that **the adjustment costs were also related to the size of the overall gains**.

A related issue, often raised frequently in public consultations, was the **role of the national governments' support and of the business environment in facilitating such adjustments**. While the majority of SMCs' business representatives would have liked to see more involvement of the state in facilitating trade-related adjustments, positive examples of actions taken by some SMC governments were also identified.[12]

2.2.2. Costs of macroeconomic adjustment: trade balances

Both the analysis of historical trade data and the CGE PE model simulations suggest that the **Euro-Med FTAs may have contributed to deteriorating bilateral trade balances for SMCs**. This topic also came up frequently in stakeholder consultations.[13] However, while deteriorating bilateral trade balances are not surprising given the asymmetric nature of the tariff liberalisation due to the Euro-Med FTAs, **bilateral balances are not a meaningful indicator of balance of payment issues**. Fiscal, monetary and structural policies are considered their primary policy levers as they shape national saving-investment relations.[14] Moreover, historical trade data show that while the overall trade balances have deteriorated for five SMCs[15], since the entry into force of the Euro-Med FTAs, their **bilateral balances with the EU deteriorated less rapidly[16] than the overall balances, suggesting that trade with the EU might have been a mitigating factor.**

2.2.3. Negative impact on tariff revenue

Long-term impacts of the FTAs on SMCs' import tariff revenue[17] estimated with the CGE model suggest that in countries such as Morocco and Tunisia, which have relatively high shares of trade with the EU, the tariff reduction due to the FTAs would mean an effective termination of this source of government revenue for these two countries. The effects of the FTAs on the other four SMCs range from -43 to 63% of annual customs and other import duty revenue in 2011.[18] However, these impacts have to be considered in the context of relatively small and falling[19] share of customs and other import duties in overall tax revenue in SMCs.[20] In addition, these trends **reflect also a more general shift to other, more efficient sources of government**

[12] For example, Morocco has government programmes supporting investments in new sectors, see *Chapter 3* and *Annex G*.
[13] For example, in Egypt, Morocco, Tunisia and Jordan, see *Annex G*.
[14] From this point of view, for a given macroeconomic saving-investment imbalance, the forces of comparative advantage as well as trade barriers determine how a deficit or surplus is distributed across partners and products but do not influence the overall balance.
[15] These are Egypt, Jordan, Lebanon, Morocco and Tunisia.
[16] In the case of Tunisia, the bilateral trade balance with the EU actually improved.
[17] These revenue change estimates are taken from the CGE and PE models which are typically interpreted to provide meaningful estimates of medium to long-term impacts. Thus, the estimated revenue loss, although it is calculated on the basis of annual data to which the CGE and PE models are calibrated, would not occur immediately in any given year after the entry into force of the FTA but should be interpreted as a long term reduction in annual tariff revenue, which would be observed when all adjustments within the economy will have taken place (i.e. typically after 5 to 10 years after the policy changes occurs).
[18]The comparison year for the revenue data is 2011 as this is both the year of the base data used for the CGE analysis (the base year for PE analysis is 2019) and the only year for which comparable customs revenue statistics were available in the World Bank Development Indicators database. The only country missing in this comparison is Algeria for which data on customs revenue are also unavailable from the national statistical sources.
[19] These shares started falling already before the entry into force of the Euro-Med FTAs as a result of earlier reductions of customs and import revenue due to the implementation of the WTO Uruguay Round tariff reduction commitments as well as unilateral and regional import tariff liberalisations.
[20] These ranged from 7% in Egypt to 9% in Jordan in 2011 (see *Chapter 3*).

revenue (i.e. value added, sales and income taxes). Data indicates also that that the overhauling of revenue collection systems in SMCs worked well as the **overall ratio of tax revenue to GDP has remained stable, and increased in some cases**, despite the reduction of import tariff revenue due to the Euro-Med FTAs.

The impact of tariff reductions associated with the Euro-Med FTAs on the EU budget is estimated to be much smaller, amounting to the equivalent of 5% of the EU's customs duties collected in 2011 and less than 1% of the overall EU budget[21] when all Euro-Med FTAs are taken into account. This is because SMCs account for a smaller share of EU's total imports, and because EU import tariffs were already close to zero on most items at the time of entry into force of the Euro-Med FTAs.

Overall, the impacts on tariff revenue both in SMCs and in the EU have to be seen in the context of the discussed impacts on GDP and welfare, which already 'net out' the effect of tariff revenue reductions, and are positive on balance.

2.2.4. Sustainability costs

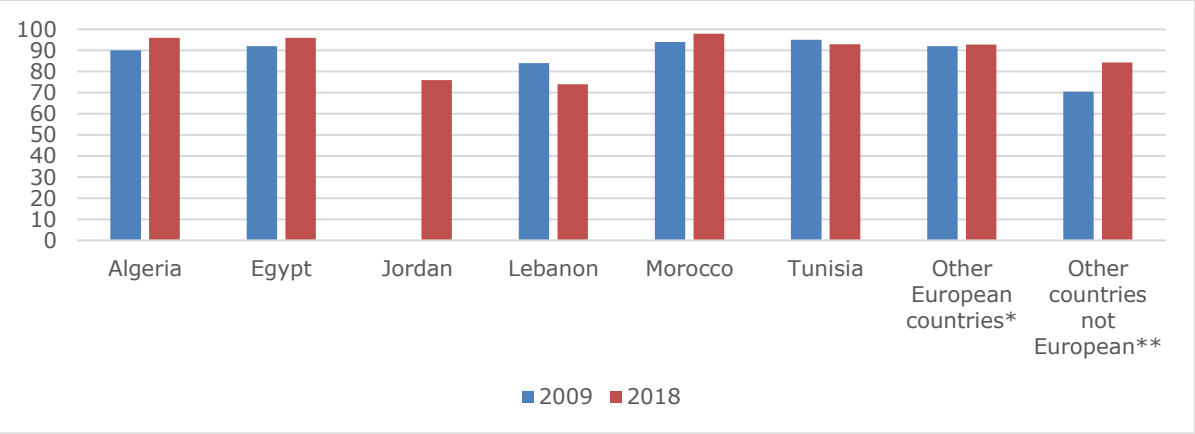
The results of the study in respect of effects accompanying the Euro-Med FTAs in the areas of social and human rights, environment and the impacts on LDCs and other developing countries discussed above showed that, while both positive and negative effects have been identified, the **effects of the FTAs related to sustainability borne by different stakeholder groups** seem small overall.

2.2.5. Inefficiencies and unnecessary regulatory costs

Direct costs of compliance with these first-generation trade agreements (e.g. the one-off costs of adopting legislation and adjusting the collected import duty rates) **have not been found to be significant**.

The preference utilisation rates, which indicate the costs of compliance (including complying with RoO) show that the **take up of preferences by SMCs exporters is widespread and has generally grown over the last decade** (Figure 0.6). Utilisation rates of Euro-Med FTA tariff preferences used by EU exporters when accessing SMC markets are lower but have also grown (Figure 0.7).

Figure 0.6 Preference utilisation rates for exports from SMCs to EU (in %)

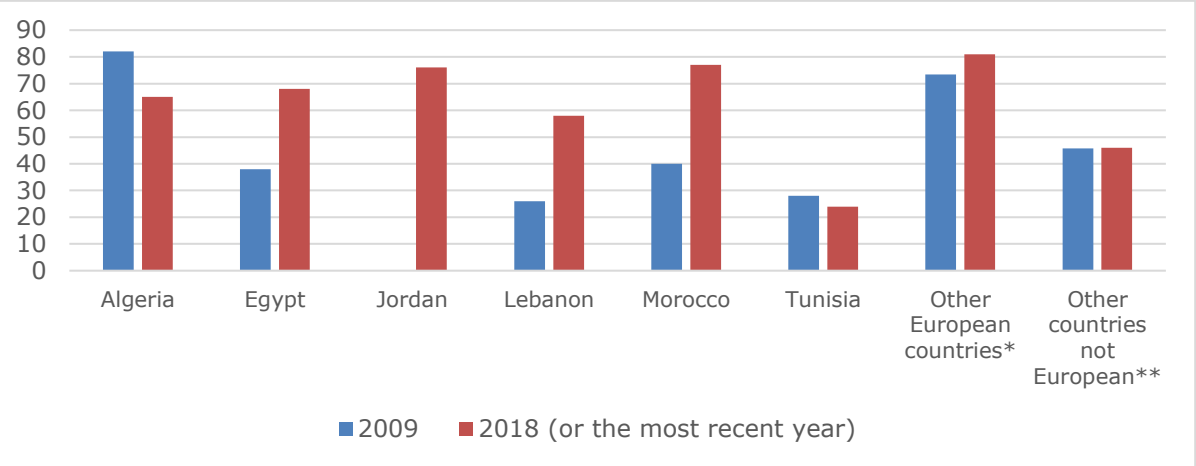


* Other European countries: Iceland, Switzerland, Turkey, Macedonia, Albania, Bosnia Herzegovina, Montenegro, Serbia.
* Other countries not European: Mexico, Chile, South Korea, Nicaragua.

[21] EU customs duties collected on all dutiable EU imports accounted for 13% in 2011 (to be able to compare them with data for SMCs). Note that the share of customs and other import tariffs in the EU budget is not comparable with such shares in other countries because of its different nature. In the EU, the EU Members have their national budgets where revenue is collected from, among others, income and value added taxes. In the EU budget, the majority of revenues are income based on member contributions which depend on Gross National Incomes (GNI) as well as some value added tax sources. Customs duties collected by the member States do not contribute to national budgets but to the EU budget, where they account for a relatively large share. See e.g.: https://ec.europa.eu/taxation_customs/facts-figures/customs-duties-mean-revenue_en.

Source: *The Use of the EU's Free Trade Agreements*, UNCTAD (2018), except the data for SMCs in 2018 for which data was sourced from the *Individual reports and info sheets on implementation of EU Free Trade Agreements*, published by the European Commission on 31 October 2018.[22]

Figure 0.7 Preference utilisation rate EU exports to SMCs (in %)



* Other European countries: Iceland, Switzerland, Turkey, Macedonia, Albania, Bosnia Herzegovina, Montenegro, Serbia.
* Other countries not European: Mexico, Chile, South Korea, Nicaragua.
The last recent year: 2013 for Algeria, Tunisia and all other countries; 2018 for Egypt, Jordan and Lebanon, 2017 for Morocco.
Source: The Use of the EU's Free Trade Agreements, UNCTAD (2018), except the data for Egypt, Jordan, Lebanon and Morocco in the most recent for which data was sourced from the *Individual reports and info sheets on implementation of EU Free Trade Agreements*, published by the European Commission on 31 October 2018.

However, **other inefficiencies and remaining regulatory costs** in areas covered only partially by the FTAs at hand remain high and some estimates suggest they **may have larger impacts than the tariff liberalisation brought about by the FTAs**. This does not mean that the FTAs have increased costs of trade but rather that they did not address effectively some of the areas where such costs are estimated to be high. This concerns mainly regulatory **NTMs where the estimated ad-valorem tariff equivalents can easily exceed 20%, as well as barriers to FDI, services trade restrictions, and business and other obstacles** related to the institutional environment. In this sense, the remaining NTMs and other regulations that restrict Euro-Med trade are relevant, and they imply inefficiencies and costs which affect the functioning of Euro-Med FTAs.

2.3. Coherence

While the Barcelona Declaration and the Association Agreements were signed with political, security, cultural, and human partnerships in mind, the Euro-Med FTAs were the main instruments to implement the Barcelona Declaration. The **achievement of the objectives of the FTAs is likely to have supported the wider objectives of the Association Agreements**, particularly in areas where stronger commercial relations provided strong incentives to cooperate (e.g. political dialogue, regional co-operation, economic infrastructure, research in science and technology, education and training and scientific and technological co-operation).

At the same time, co-operation in the other areas, where it occurred, has helped to achieve the objectives of the FTAs (e.g. technical assistance projects on industrial modernisation) or to help ensure that the FTAs benefit the society at large (e.g. technical assistance projects on consumer protection). In addition, social and environmental co-operation

[22] Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2017 - 31 December 2017, COM(2018) 728 final, available at https://ec.europa.eu/transparency/regdoc/rep/1/2018/EN/COM-2018-728-F1-EN-MAIN-PART-1.PDF (accessed 19 August 2019).

have helped to strengthen these areas and helped to avoid potential negative effects of the agreements (e.g. in area of water, waste). This point has been emphasised by several SMC stakeholders who have pointed to the importance of **relevant wider policies that should accompany tariff liberalisation**. Many of these fall outside the scope of the trade chapters of the AAs but are covered in other parts of the AAs.

Through similar mechanisms, **the Euro-Med FTAs can be argued to have contributed to the achievement of *Partnership Priorities* agreed with SMCs** in the context of the revised EU Neighbourhood Policy and the EU Global Strategy for foreign and security policy. The latter build on the Association Agreements and in addition elaborate on more specific and recent priorities for co-operation, including: governance, the rule of law and the promotion of fundamental human rights; cooperation, socio-economic development, including trade and access to the European single market; energy, the environment and sustainable development, employment, including employment of youth; and others.

2.4. Relevance

During public consultations, the **stakeholders directly involved in trade showed awareness and confirmed the relevance of the FTAs**. At the same time, these stakeholders noticed that the agreement **have become gradually less relevant in the sense that they do not address the "newer" challenges in international trade** (e.g. services, FDI, non-tariff barriers). Stakeholders not directly involved in trade were often surprised by the limited scope of provisions of the current Euro-Med FTAs and they emphasised the need to have more attention to sustainability objectives.

Indeed, to the extent that the Euro-Med FTAs remove the costs of trade associated with tariffs, **they are relevant for trade in goods between the EU and the SMCs.** However, given the nature of trade relations in modern global value chains (GVCs) which rely on the ability to minimise also other costs incurred along the whole value chain, the Euro-Med FTAs **have become less relevant for addressing current trade barriers.**

The ability to beneficially participate in GVCs, notably with partners from the EU, which is considered one of the world's most important 'GVC hubs', relies on **being able to minimise the costs associated with: moving inputs and semi-finished products** across different locations (which sometimes involves crossing borders several times before the product is finished but also moving products within countries' borders); personnel travel; provision of services necessary for smooth operation of production chains (e.g. transport and logistics, telecommunication, postal and courier services); and minimisation of costs associated with administrative procedures. **Import tariffs are indeed estimated in the economic literature to be responsible for only a small portion (approximately 10%) of trade costs relevant to GVC participation**. The bulk of such costs (60-80%) is estimated to be related to the indirect costs of trade (e.g. NTMs, procedures, maritime connectivity and services, business environment and other regulatory barriers, availability and use of ICT services).

This is why **the EU's newer FTAs** (such as the DCFTAs with Georgia, Moldova and Ukraine, or the EU-Canada and EU-Japan FTAs) **are increasingly ambitious when it comes to the deep provisions which aim at reducing costs associated with participation in GVCs.** These agreements also pay more attention to the regulatory approximation or alignment as well as to sustainability.

Our findings related to the decreasing relevance of the Euro-Med FTAs for the current trade issues **should not lead to an underestimation of the role the Euro-Med FTAs have played in the past in fostering Euro-Med trade** or the current value of Euro-Med tariff preferences (which remains positive and in cases of some countries economically significant, see section about 'Effectiveness' above). **Nevertheless, they support the attempts to further liberalise Euro-Med trade in new areas, such as:**

- ***Agriculture:*** more opportunities could still be seized in this 'traditional' area of Euro-Med trade integration where the extent of liberalisation varies across SMCs. Several products important for the SMCs (e.g. olive oil in Tunisia) still face barriers for entering the EU. At the same time, the importance of the agricultural sector in terms of its contribution to sustainable development (e.g. food security and employment) could also be recognised more fully;

- The main additional stimulus can be expected from **broadening and deepening the FTAs** to areas covered typically in more modern trade agreements such as the DCFTAs, which tend to address costs more relevant to trade in GVCs:
    - ***NTMs***: NTM provisions in the existing Euro-Med FTAs are much more limited than commitments on NTMs seen in the EU's newer trade agreements. The latter include more advanced provisions on TBTs regarding technical co-operation and approximation of technical regulations and standards and conformity assessment, or marking and labelling, as well as provisions on SPS that elaborate on regulatory approximation, recognition and determination of equivalence of relevant standards. While the EU is a natural standard-setter in these deeper integration initiatives, particularly when it comes to agreements with partners at lower level of economic development, continued reflection is required on the best ways of giving the SMCs better access to the EU's internal market while also making sure that the associated regulatory requirements are commensurate with their level of development;
    - ***FDI and services trade regulations*:** provisions of the Euro-Med FTAs in the area of FDI and services do not go significantly beyond the GATS, failing to significantly boost Euro-Med or intra-Med investment and services trade. Regulations related to FDI and services have become integral parts of the EU's more modern trade agreements where they are as important as provisions on trade in goods. Therefore, expansion of provisions on services trade and FDI in future Euro-Med trade agreements can make a meaningful contribution to both the Euro-Med and intra-Med trade;
    - ***IPR and technology transfer provisions:*** the limited coverage of intellectual property rights (IPR) and technology transfer in the Euro-Med FTAs a well as the analysis of diversification and economic complexity in this evaluation suggest that additional gains from international commerce could be attained in the future trade agreements by including in them trade policy tools which facilitate transfer of technology, possibly by specific provisions balancing the need for both better intellectual property protection and better environment for transfer of technologies to SMCs. In addition, more explicit provisions could usefully focus on technical assistance and development co-operation focused on upgrading of skills in SMCs.

In addition, given the high attention sustainability issues in trade policy have attained since the 2015 « Trade for all » Communication and the Political Programme of the von der Leyen Commission, **future trade agreements between the EU and SMCs could focus more on sustainability**. The current Euro-Med FTAs make no explicit reference to sustainability, and while the current evaluation does not find strong effects of the FTA in terms of social, human rights, and environmental impacts, with deeper integration, such as that seen within the EU's internal market or with the DCFTA partners, these become increasingly a part of the EU trade rule book. The *Trade and Sustainable Development* chapters that are included in the current generation of EU trade agreements contain more explicit provisions on these subjects. They also have mechanisms for closer monitoring of developments on these fronts. Therefore, it will be important to keep monitoring these effects and to consider what sustainability provisions would be appropriate for the future EU trade agreements with SMCs.

3. Recommendations

In the light of the findings discussed, the following recommendations could be considered in order to maximise the gains from future trade between the EU and SMCs:

1. ***Addressing non-tariff measures:*** To be able to take advantage of the opportunities offered by the FTAs, all parties should work on reducing trade costs related to non-tariff measures, with a focus on the most pressing NTMs (e.g. non-automatic import licences; unnotified technical regulations and making TBT and SPS measures as conducive to trade as possible). As NTMs can have important welfare effects as well (e.g. ensuring food safety), the focus should be on decreasing the trade-distorting nature of NTMs. The reduction of NTMs does therefore not imply reducing the protection level for consumers, workers or the environment, but rather involves considering simpler procedures, agreeing on internationally recognised standards and avoiding unnecessary duplication of conformity assessments or other administrative procedures;

2. ***Improving the business environment:*** The SMC governments should improve the business environment to enhance competitiveness. This could cover measures to reduce bureaucracy and increase transparency, but also policies to encourage foreign and domestic investment. The latter can include the upgrading of skills, increasing access to finance, and improving the environment for technology transfer, etc. The EU could support these policies, e.g. by providing technical assistance and promoting further economic co-operation;

3. ***Expanding the coverage of trade agreements***: The parties should consider expanding the trade agreements through bilateral and reciprocal trade negotiations, to make the FTAs more relevant for addressing current barriers to trade, in areas such as NTMs, agriculture, services and FDI;

4. ***More attention for sustainable development***:
    a. If the parties consider an expansion of the current FTAs, **a Trade and Sustainable Development chapter should be included** as this can be a mitigating factor against potential negative effects and enhance potential positive effects;
    b. With or without additional trade agreements, **both parties should monitor trade and investment flows, and where bigger changes occur, analyse possible further implications of these changes on sustainability dimensions**. This would allow SMCs to respond to potential impacts at an early stage, possibly with support of the EU.
    c. **To support women's empowerment and allow them to take full advantage of trade liberalisation, SMCs should design a set of flanking policies that remove the barriers faced by women.** In particular, these policies should focus on improving in the education and vocational training of girls and women, promoting their access to financial services and distributional networks, limiting discriminatory laws and promoting a change in social norms.

1. INTRODUCTION: OBJECTIVES, SCOPE AND METHODOLOGY OF THE EX-POST EVALUATION

Summary

This chapter elaborates on the objectives and scope of the ex-post evaluation (hereafter also referred to as 'the study') and explains how the different parts of the Final Report relate to the tasks specified in the Terms of Reference for this study.

1.1. Introduction

The EU and Mediterranean countries have always had close cultural and economic ties. In 1995, the countries signed the Barcelona Declaration, with the aim of creating an area of shared prosperity in the Mediterranean region. A key policy instrument to achieve the objectives of the Barcelona Declaration's objectives was the eventual establishment of a free trade area between the EU and the South Mediterranean partners, which would remove barriers to trade and investment between the EU and Southern Mediterranean countries as well as between the Southern Mediterranean countries themselves.

It is in this context that new Association Agreements between the EU and the Mediterranean countries were signed. They cover among others political dialogue, co-operation on social matters and environmental protection. In addition, a key element in each of these agreements is the trade chapter, which constitute a Free Trade Agreement.

These trade chapters are assessed in more detail in this ex-post evaluation, covering the Agreements with Algeria, Egypt, Jordan, Lebanon, Morocco and Tunisia.

1.2. Objectives of the evaluation

The purpose of this study is to evaluate the impact of the trade chapters of the Euro-Mediterranean Association Agreements (AA) with six Southern Mediterranean partner countries by addressing the following four Evaluation Questions:

- the extent to which the above objectives of the EU's FTAs with the six partner countries have been achieved, as well as the factors influencing (either positively or negatively) the achievements of those objectives, including identification of any unintended consequences (these elements refer to the criterion of *Effectiveness* in the EU's Better Regulation guidelines and toolbox);
- the extent to which the EU's FTAs with the six partner countries have been efficient with respect to achieving their objectives, i.e. what costs have been associated with the achievement of these objectives and whether they have been proportionate to benefits, what factors influenced these costs and benefits and their distribution across different stakeholder groups as well as whether there are any remaining inefficiencies and regulatory costs related to the FTAs (these elements refer to the criterion of *Efficiency* in the EU's Better Regulation guidelines and toolbox);
- the extent to which the EU's FTAs with partner countries have been coherent with the Neighbourhood Policy and Association Agreements, Action Plans and Partnership Priorities and with current EU trade policy (these elements refer to the criterion of *Coherence* in the EU's Better Regulation guidelines and toolbox);
- the extent to which the provisions of the EU's FTAs with partner countries are relevant for addressing current trade issues faced by the EU and its partners (these elements refer to the criterion of *Relevance* in the EU's Better Regulation guidelines and toolbox).

The results of this ex-post evaluation will feed into a Staff Working Document of the Commission. The ex-post evaluation is expected to provide new insights in the manner in which the trade agreements have been implemented, their positive and negative effects and the lessons learned for the future. These lessons will help not only in the continued implementation of current FTAs (based on both country-specific lessons and lessons relevant across the region) but may also inform future negotiations.

1.3. Scope of the evaluation

The ex-post evaluation focuses on the impact of the trade chapters (FTAs) of the Euro-Med Association Agreements (referred to in the remainder of this study as Euro-Med FTAs), as well as of the supplementary trade-related protocols or agreements changing the FTAs. Although the provisions and timing of each AA are not identical, they are similar in objectives, scope and approach, allowing for broader comparisons (see Chapter 2).

Geographical scope

This study assesses the impacts of the FTAs on the EU and six Southern Mediterranean partner Countries (SMCs): Algeria, Egypt, Jordan, Lebanon, Morocco and Tunisia. It also considers the effects on third countries, including relevant partner countries, developing countries and least developed countries (LDCs).

Time period

The study generally covers a time period from three years prior to the date the FTA came into force (these dates differ by country, see Table 1.1) up to the latest data available, although longer or shorter periods may also be considered if appropriate or due to the availability of data. When supplementary agreements in form of Agricultural Protocols have been negotiated as top ups, their entry into force is also taken into account for the products covered (Table 1.2).

Table 1.1 Signing and entry into force of Association Agreements with the six Mediterranean partners

Country	Association Agreement signed	Association Agreement coming into force
Algeria	2002	2005
Egypt	2001	2004
Jordan	1997	2002
Lebanon	2002	2006
Morocco	1996	2000
Tunisia	1995	1998 (but already implemented by Tunisia in 1996)

Source: Based on CASE-CEPS (2009).

Table 1.2 Signing and entry into force of Agricultural Protocols with three of the six Mediterranean partners

Country	Agricultural Protocol signed	Agricultural Protocol coming into force
Algeria	n/a	n/a
Egypt	2009	2010
Jordan[23]	2007	2006
Lebanon	n/a	n/a
Morocco	2010	2012
Tunisia	n/a	n/a

1.4. Euro-Med trade relations in a nutshell

Before presenting the detailed results of the evaluation, this section provides a brief overview of key economic indicators of the six Mediterranean partners as well as information on Euro-Med trade flows.

Table 1.3 presents some key economic indicators for the six Southern Mediterranean countries (SMCs) to help understand the country contexts. All datapoints reflect 2018 data.

Table 1.3 Key economic indicators of the six Mediterranean partners

Country	Algeria	Egypt	Jordan	Lebanon	Morocco	Tunisia
GDP, €bn	150,424	208,871	35,207	47,152	98,648	33,184
Population, m	42,228,430	98,423,600	9,956,010	6,848,930	36,029,140	11,565,200
GDP per capita, €	3,562.2	2,122.1	3,536.3	6,884.6	2,695.6	2,869.3
CPI (relative to 2010)	148.5	231.1	124.7	126.2	110.9	145.5
Unemployment rate (%)	12.1	11.3	15	6.2	9	15.5
GDP growth (%)	2.1	5.3	1.9	0.2	3	2.5
Government debt to GDP (%)	36.9	90.5	94.2	151.0	65.2	69.2
Balance of trade, €m	-2,281.1	-2,906.3	-677.5	-1,321.3	-1,590.2	-562.5
Interest rate (%)	3.75	10.2	4	10	2.25	7.75

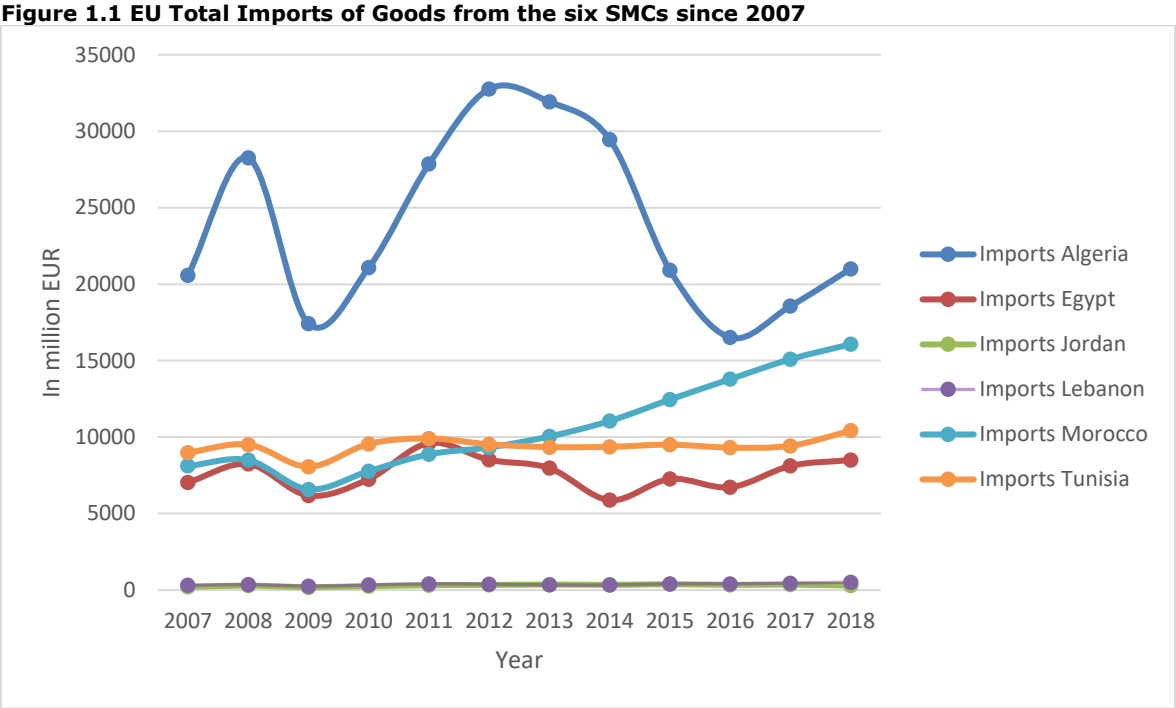
[23] Although the agreement was signed in 2007, a retroactive application to 1st January 2006 was agreed.

Current account to GDP (%)	-9	-2.4	-7	-27	-5.5	-11.1

Source: World Bank (2019) and Trading Economics (2019).

Trade between the EU and the SMCs not only varies in size but also in trends. Figure 1.1 presents EU imports from SMC and shows that the largest source of EU imports is Algeria, which also has seen wide swings in the value of its trade. This is mainly due to a heavy concentration of imports in fuels and other natural resources subjected to commodity price swings. This volatile trend is to a lesser extent also observed for Egypt. Morocco shows a steady increase in exports to the EU, while for the other three countries (Jordan, Lebanon, Tunisia), the changes since 2007 have been less pronounced.

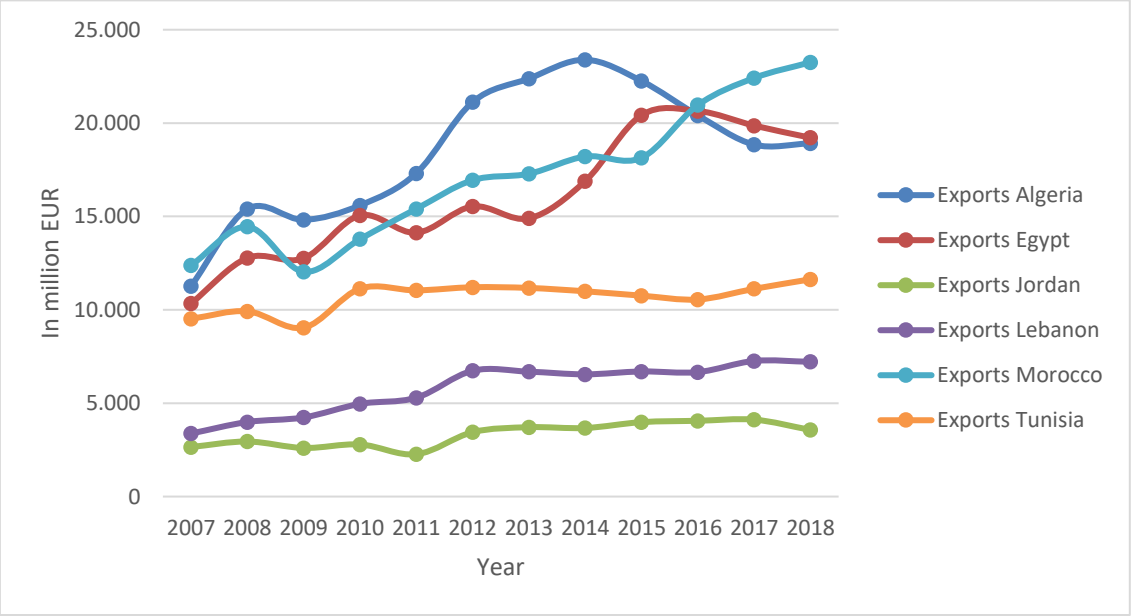
Figure 1.1 EU Total Imports of Goods from the six SMCs since 2007



Source: European Commission (2019).

EU exports to the Euro-Med partner countries have shown positive growth rates over the past ten years. In terms of EU exports, Algeria has also traditionally been the largest export destination, but since 2016, Morocco has become the top destination.

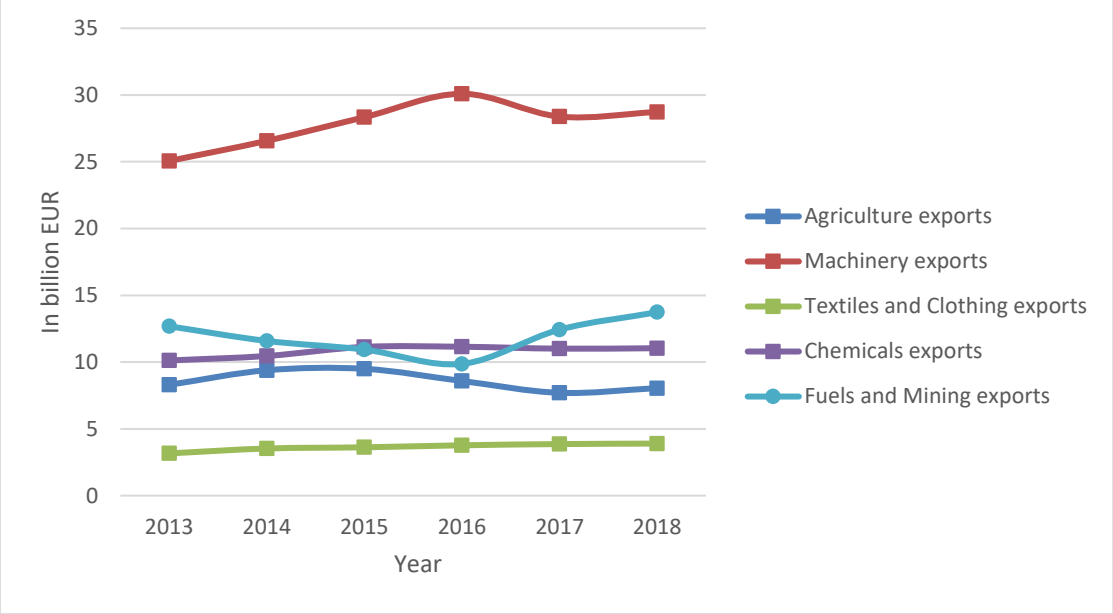
Figure 1.2 EU Total Exports of Goods to the six SMCs since 2007



Source: European Commission (2019).

In terms of composition, the EU exports to the SMCs are dominated by machinery and transport equipment. Other main export categories included fuels and mining products and chemicals. Agricultural exports have shown a slight decline in recent years.

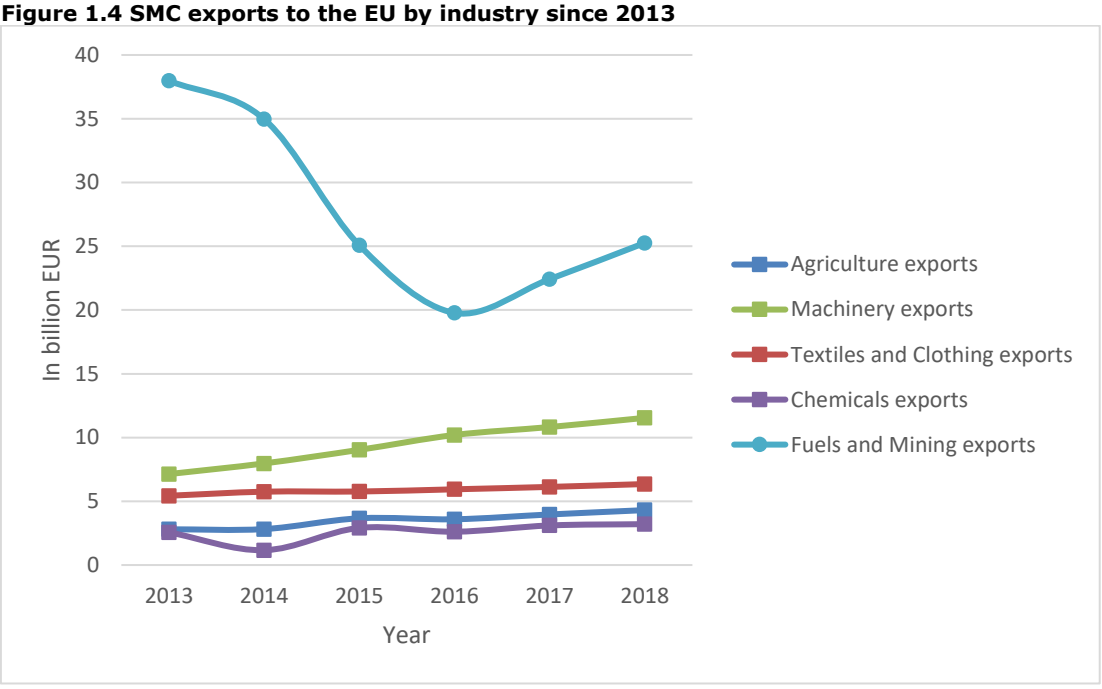
Figure 1.3 EU exports to all six SMCs by industry since 2013



Source: Authors based on European Commission (2019).

SMC exports to the EU remain concentrated in relatively less sophisticated and low value-added primary goods, namely fuels and minerals. This reflects the dominance of these products in the exports of Algeria, and to a lesser extent, Egypt, whereas other countries show a more varied pattern. An interesting trend is the small, but steadily increasing, imports of machinery, which may be indicative of the gradual integration of the region with EU supply chains for these products through intra-industry trade (see Figure 1.4). This is corroborated by the large share of the same category of products in EU exports to the region (see Figure 1.3).

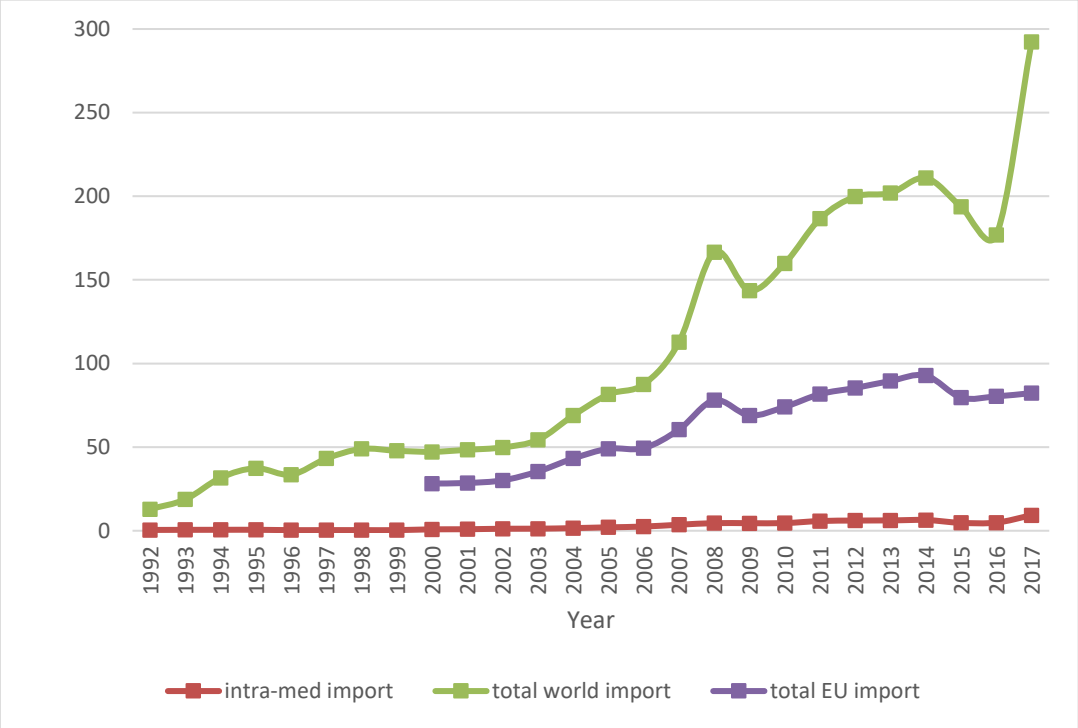
Figure 1.4 SMC exports to the EU by industry since 2013



Source: Authors based on European Commission (2019).

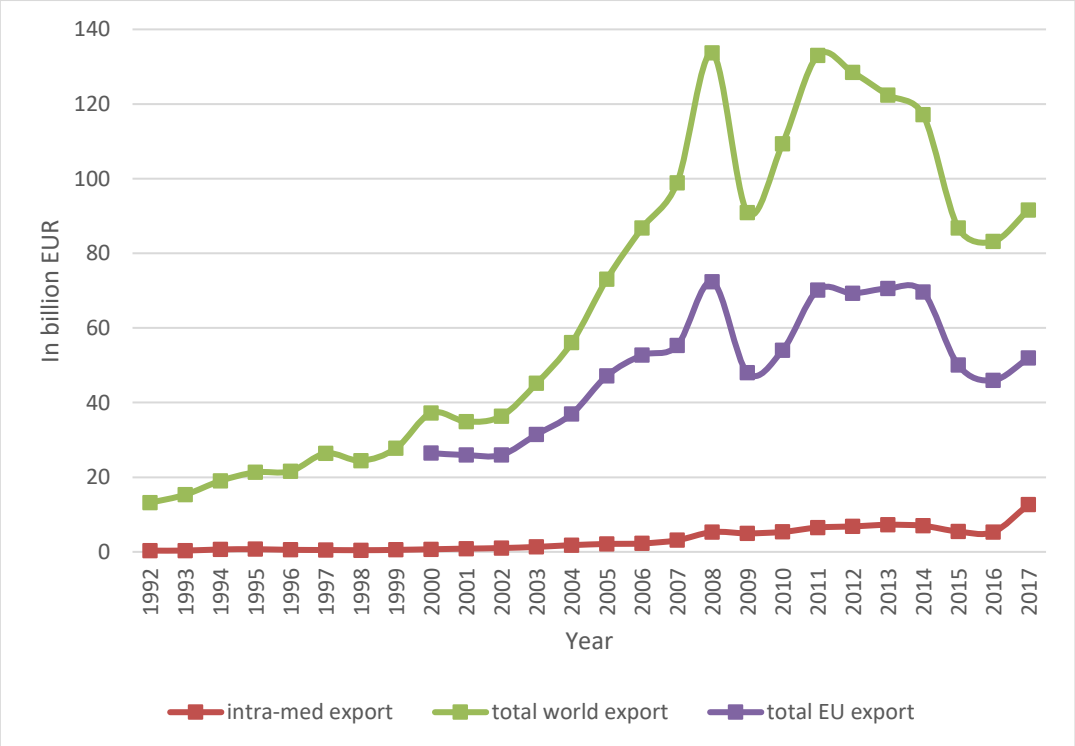
The importance of the EU as a trade partner varies across the six SMCs. Especially for Algeria, Egypt and Morocco, and to a lesser extent Tunisia, the EU is a very significant trade partner, while for Jordan and Lebanon, the share of the EU in overall trade is much smaller. It is also interesting to observe that the EU is neither the only nor even the most dynamic of all trading partners of the region. In fact, despite the implementation of the Euro-Med FTAs and related policy initiatives, SMCs' imports from other trading partners have been growing faster than those from the EU over the last ten years. Moreover, there was also no clear relative gain for SMCs to export to the EU compared to other trading partners (see Figures 1.5 and 1.6).

Figure 1.5 SMCs' imports (from the world, rest of the world, EU, and within the region)



Source: Authors based on UN Comtrade (2019).

Figure 1.6 SMCs' exports (to the world, rest of the world, EU, intra partner countries)



Source: Authors based on UN Comtrade (2019).

These simple, but perhaps somewhat puzzling, trends already show some of the difficulties associated with discerning the impact of the Euro-Med FTAs in question, if one would only look at trade flows. The trade flows depend on many other factors as well, like the situation of the world economy or the competitiveness of third countries. The differences in size and trends between the SMCs moreover reflect factors like size of the economy, production patterns, the relative importance of other trade partners, but also non-economic factors, like political stability. A more elaborate and detailed overview of the economic impact of the trade chapters is presented in Chapter 3.

A methodological approach allowing to separate the different influencing factors needed to be employed in order to better understand actual impacts. This is elaborated on in Chapter 3.

1.5. Approach and methodology

The ex-post evaluation focuses on the so-called first-generation FTAs that principally entail reductions of import tariff on goods. However, these FTAs have been introduced at different points in time, had different starting points (in terms of initial barriers) and differently phased implementation periods. They have also influenced tariffs on different products in different SMCs to a different degree. It is thus crucial to carefully define the actual trade liberalisation we are studying.

In addition to establishing the actual parameters of trade liberalisation, the main challenge for this ex-post evaluation is to assess to what extent the observed changes over each given time period can be attributed to the FTA. We need to separate FTA-induced effects from the effects of other concurrent processes, such as for example trade propelled by the economic growth (inspired by changes in other non-trade sources) of respective trading partners. This disentangling becomes a challenge, especially when we attempt to assess more indirect effects of the FTA (e.g. sustainability impacts).

For all the impacts we observe, there needs to be an understanding on how the FTA may have led to the obtained results, e.g. was it related to specific provisions or to the way it has been implemented (or not). This is why this evaluation has adopted an evaluation framework which utilises a mix of methods. For example, we use computable general equilibrium (CGE) and partial equilibrium (PE) techniques in this study to attribute the observed variation in trade to a host of driving factors posited by economic theory. This analysis is complemented with quantitative and qualitative methods to verify the modelling results and to deepen the understanding of the mechanisms at work.

Our overall approach to this ex-post evaluation consisted of 17 different tasks as defined in the ToR for this study. We have divided these tasks into four inter-related work packages. These are the following:

- Work package 1 – Evaluation framework;
- Work package 2 – Consultations;
- Work package 3 – Economic Analysis;
- Work Package 4 – Sustainability Analysis.

Annex A shows the 17 tasks of the ToR, how they relate to the work packages and indicates where the results of these tasks can be found. Annex B provides a more detailed description of the methodologies applied in the different work packages. Here we provide a summary of the methods used in each of the work packages.

Work package 1 – Evaluation Framework

The cross-cutting *Work Package 1 – Evaluation Framework* was based on the specific evaluation questions from the Terms of Reference (ToR). Two main elements of the evaluation framework are the intervention logic and the evaluation matrix. The intervention logic specifies the objectives of the six FTAs, and identifies through which channels FTAs would help to achieve these objectives. Furthermore, the intervention logic includes important implicit assumptions, which have made explicit and have been investigated during the study.

The evaluation matrix includes the evaluation questions, grouped under four evaluation criteria: effectiveness, efficiency, coherence and relevance. These evaluation questions guided the

analysis in the study, as these were the questions that ultimately needed to be answered. For each of the evaluation questions, we defined information needs that help to answer these questions.

Work package 2 – Consultations

Stakeholder consultations were an essential element of this ex-post evaluation.

The stakeholder consultation strategy for the evaluation relied on a variety of consultation tools and a mix of stakeholder categories at different levels. The consultations were focused on those stakeholders that were likely to have been significantly involved in or affected by the EuroMed agreements, namely public administrations, business associations, the private sector and civil society organisations. Within the scope of the evaluation, our stakeholder consultation approach was carried out through both remote and direct consultations and included experts from the EU as well as experts from the six Southern Mediterranean countries – to allow for more extensive physical consultations in the regions. Below we briefly list the different consultation tools as well as the outreach established by each tool.

The **Open Public Consultation** was an online survey that has been open for 12 weeks. It was launched on 4 September 2019 and was open until the end of November 2019. A total of 50 respondents participated in this survey, though not all respondents answered all questions. 46 of these respondents participated in the regional version, whereas the other four participated in the country-specific ones (i.e. Jordan (2) and Egypt (2)). So, participation in the country-specific surveys was rather limited.

The consortium has organised **seven stakeholder workshops** in total: in Algeria, Egypt, Jordan, Lebanon, Morocco, Tunisia, and the EU. These workshops had a dual purpose of presenting and discussing the work conducted so far. They served to share preliminary results and to receive feedback on these, as well as to gather additional input for the study. Most of these workshops lasted for a full day and were hosted at easily accessible locations for attendees. The stakeholder workshop for EU stakeholders had to be organised virtually due to the COVID-19 pandemic. The table below provides an overview of the seven workshops and the number of workshop participants in each country.

Table 1.4 Overview of stakeholder workshops

Country	Workshop date	Number of workshop participants
EU	30 April 2020	34
Algeria	26 February 2020	50
Egypt	16-17 October 2019	54
Jordan	20 November 2019	60
Lebanon	9 March 2020	47
Morocco	2 October 2019	106
Tunisia	26 September 2019	57

For more detailed discussions with stakeholders, the consortium has also conducted **personal interviews and three roundtable sessions** with stakeholders. The table below provides an overview of the number of interviewees consulted in each country.

Table 1.5 Overview of interviews in each country

Country	Number of interviewees
EU	20
Algeria	15
Egypt	19
Jordan	17
Lebanon	20
Morocco	28
Tunisia	20

The interviews were spread over the following categories: public sector (32%), business associations (24%), large enterprises (2%), SMEs (14%), social stakeholders (9%), human rights stakeholders (3%), environmental stakeholders (6%), and think tanks / academia (10%).

The Civil Society Dialogue of DG TRADE provided an additional opportunity to receive further inputs from civil society on the preliminary findings. The Civil Society Dialogue was organised on 30 April 2020 and lasted for two hours. Unfortunately, a physical meeting in Brussels was not feasible due to COVID-19 restrictions, so it was organised virtually through WebEx.
Different information dissemination tools were used for the dissemination of information and for maximizing our outreach. These include an e-mail account, newsletters, a dedicated website as well as a Twitter account. Through these multiple channels, we reached out to stakeholders, kept them up to date and invited them to participate in the consultation activities.

Despite the multiple consultation and outreach tools, the team encountered several challenges in the consultation process. Most of these challenges were brought about by low levels of awareness and interest in the trade chapters of the Association Agreements, which meant stakeholders were either not interested in participating (hence the low response rates) or were unable to provide extensive insights. While actively reaching out to stakeholders with anticipated knowledge on social, human rights and environmental impacts of the agreements, the awareness and interest of these stakeholders turned out to be particularly limited. Furthermore, the political instability in Algeria, the economic and financial situation in Lebanon, political sensitivity of the topic in Morocco and Tunisia, and the COVID-19 pandemic in 2020 did hamper a smooth consultations process.

Annex G contains further information on the overall consultation process and results.

Work package 3 – Economic Analysis

The third work package studied in detail the reductions in trade barriers stipulated by the FTAs and their economic impact. It started with an assessment of the legal aspects and the degree of implementation of the FTAs (chapter 2). Then it assessed the impact on a range of economic indicators (impact on trade, but also on competitiveness, consumers, etc.), while also analysing other factors that can explain observed changes (e.g. remaining non-tariff measures, other relevant government policies, etc). It used a range of methods for this:

- *Literature review*: this included a review of relevant documentation, ranging from the text of the trade chapters, policy papers, academic literature, etc.;
- *Descriptive statistics*: this included an analysis of economic indicators over the evaluation period, ranging from readily available indicators on trade and investment (e.g. changes in exports and imports) to composite indicators (e.g. on diversification). It also included the analysis of data of non-numerical databases, e.g. on non-tariff measures;
- *Economic modelling*: this included a description and interpretation of the computable general equilibrium (CGE) and partial equilibrium (PE) modelling exercises carried out by DG Trade. The modelling was used to discern the trade effects of the Euro-Med FTAs and to assess their broader economic effects;
- *Consultations*: this included the various consultations activities (see work package 2), which addressed the economic impact of the FTAs;
- *Case studies*: this included a more detailed analysis of four selected sectors: agriculture, chemicals, machinery & equipment and textiles & clothing, four sectors that are relatively important in the Euro-Med trade flows. The case studies combined the different methods above but allowed to gain a more detailed understanding of the different factors (enablers and bottlenecks) at play.

Work package 4 – Sustainability Analysis

Finally, the last work package informed and complemented the consultations and economic analysis to identify the most significant impacts on sustainable development, covering social, human rights, environmental and third country effects.

In order to keep focus on the specific effects of the FTAs, the sustainability analysis encompassed:

- Analysis of trade chapters of the association agreements as regards texts linked to the four areas (social, human rights, environment, third countries);
- Literature review on sustainability impacts;
- Consultations on sustainability impacts (see work package 2);
- Analysis of results of the CGE model (see also work package 3) relevant for sustainability;

- Case studies. The case studies allowed for a deeper understanding of the impact of the FTAs in specific areas. The case studies were selected in consultation with the EC, on the basis of initial literature review and consultations. In total four case studies have been conducted, on the following topics: 1) employment, with a closer look at two more trade-intensive sectors; 2) gender, with a focus on female employment in the agricultural sector; 3) trade in environmental goods; and 4) air emissions.

1.6. Guide to reading this report

The report is structured as follows:

- **Chapter 2** provides more details on the history, content and implementation of the FTAs;
- **Chapter 3** assesses the economic impact of the FTAs;
- **Chapter 4** presents the results of the four sectoral case studies;
- **Chapter 5** assesses the sustainability impacts of the FTA, on social and human rights, on the environment and on third countries;
- **Chapter 6** presents the conclusions and recommendations.

The supporting annex (separate document) contains the following parts:

- **Annex A** summarises the evaluation tasks;
- **Annex B** provides more details on the research methods and analytic models;
- **Annex C** presents the overall structure of the EuroMed Association Agreements;
- **Annex D** provides additional analysis including tables, graphs and figures for the economic analysis;
- **Annex E** presents the country levels analysis of the sector case studies as well as additional tables, graphs and figures on the sector case studies;
- **Annex F** provides supporting information on the sustainability analysis;
- **Annex G** is a summary of the stakeholder consultations conducted;
- **Annex H** provides the bibliography for this report.

2. DESCRIPTION OF THE EURO-MED FTAS AND ASSESSMENT OF THEIR IMPLEMENTATION

Summary

The implementation and status of trade relations vary considerably. This is due to a multitude of issues including policy choices opted for by SMCs, creating more or less conducive conditions for implementation. In addition, the implementation of the agreements varies as well due to the different degree of additional negotiations and updates to each of the Euro-Med FTAs. In terms of liberalisation, this largely concerns the issue of phased liberalisation for the SMCs, as well as the additional agreements on agricultural, processed agricultural and fisheries products that are in force with Egypt, Jordan, and Morocco. Furthermore, the overall domestic political situation in the six SMCs, as well the political situation in neighbouring countries, notably Syria, considerably affects trade capabilities and trade flows with the EU. Regarding the latter, since the entry into force of the FTAs, several SMCs have experienced episodes of economic and financial crises as well as social unrest which in some cases led to new economic and social policies. SMCs have also pursued additional trade liberalisation between themselves (e.g. within the Pan-Arab Free Trade Area [PAFTA] or the Agadir agreement) and with third countries (e.g. agreements of selected SMCs with the US and Turkey).

2.1. Introduction

This chapter provides a concise but comprehensive description of the Euro-Med FTAs and an assessment of their implementation. This includes the context in which they operate, their institutional structures and interaction with the overall Association Agreements, the respective Action Plans and recently agreed Partnership Priorities, as well as relations with other trade agreements between the EU and the Euro-Med countries and with other relevant policies.

2.2. Context of the Euro-Med FTAs

Due to its geographical proximity and historically close cultural and economic ties, the Southern Mediterranean region has occupied an important place on the EU trade agenda for decades. From its early years, the EU developed special political and economic relations with its neighbouring countries in the Southern Mediterranean. Prior to the signing of the current EU Association Agreements and their associated trade chapters (i.e. FTAs) with Algeria, Egypt, Jordan, Lebanon, Morocco and Tunisia in the mid to late 1990s, these countries already benefitted from a partial or full removal of customs duties on many tariff lines (with a notable industrial focus and limited coverage of agricultural products) under the EU's General System of Preferences (hereinafter, GSP) and under the EU's Global Mediterranean Policy (encompassing the EU-Mediterranean Co-operation Agreements dating from the 1970s).

2.2.1. Earlier Euro-Med trade agreements

Arrangements for trade preferences were included in various agreements and increased significantly between 1969 and 1972. In view of this increased number of arrangements with Mediterranean partner countries, the EU decided to harmonise these bilateral agreements in its Global Mediterranean Policy. This process resulted in a series of Co-operation and Association Agreements with Algeria, Egypt, Jordan, Lebanon, Morocco, Syria, and Tunisia, and a Trade Agreement with Israel, all concluded between 1975 and 1978. These agreements provided for duty-free market access for industrial goods to the EU and preferential market access for agricultural products. With respect to agricultural products, the EU applied a flexible approach vis-à-vis its Mediterranean trading partners, which covered different products for different countries. The agreements also provided for cooperation in various other sectors, such as economic, technical and financial cooperation. Economic cooperation also covered areas such as environment, science, as well as training and technical assistance.[24]

Between 1986 and 1988, the Euro-Med agreements were amended by Additional Protocols, which included extended trade preferences for agricultural products. As a next step, in the 1990s, the EU began to negotiate a series of new Euro-Mediterranean Association Agreements, with all Mediterranean countries. The establishment of the Association Agreements was part of

[24] The European Union's Relations with the Mediterranean, European Commission, Press Release, 6 December 1994, available at http://europa.eu/rapid/press-release_MEMO-94-74_en.htm (accessed 15 February 2019).

the Barcelona Process, which was launched in November 1995 and aimed at establishing "political stability and security" (through political chapters), "shared prosperity" (through economic chapters), and "understanding between cultures and exchanges between civil societies" (through social chapters). The economic chapters of the Association Agreements largely concerned trade in goods, with a focus on industrial products and to a lesser extent liberalisation with regards to agricultural products.

The additional market access concessions negotiated in the Association Agreements added to the GSP and the EU-Mediterranean Cooperation Agreements preferences in place already prior to the entry into force of the Association Agreements. Under the GSP, out of approximately 10,300 tariff lines in the EU's Common Customs Tariff, the six SMCs already enjoyed duty-free market access on some 3,700 so-called non-sensitive products and a 3.5 percentage point reduction from the EU Most-Favoured Nation (MFN) duties on some 3,300 so-called sensitive products. This was already on top of the duty-free access for some 2,100 products on imports of which the EU was already imposing zero MFN duty rates for all trading partners.

More significantly, under the earlier EU-Mediterranean Cooperation Agreements signed in the 1970s, the EU had already granted to the SMCs significant preferential market access on a non-reciprocal basis. These agreements provided for duty-free access to the EU market for these partners on most industrial products (except some textile and clothing products)[25] and preferential access in terms of tariff elimination and/or reduction for agricultural and fishery products.

Overall, it is estimated that by the mid-1990s, on the eve of the signing of the Euro-Med FTAs, the EU was already granting to the SMCs duty-free market on more than half of its tariff lines. However, tariff preferences granted under both the GSP and the EU-Mediterranean Cooperation Agreements on unprocessed and processed agricultural products, especially those which were deemed sensitive, were in general more limited.

The average remaining import tariffs are estimated to have ranged from 2% to 4% on industrial products and from 6% to 10% for agricultural products (see Table 2.1, Panel A). However, even within the industrial goods category, there were groups of products where EU import duties remained more significant. These included some products where SMCs had sizeable production and appeared to have been internationally competitive, such as, for example, textiles and clothing. This was also the case with respect to many agricultural products.[26] At the same time, while still moderately high in some cases, these preferential tariffs were already providing SMCs a considerable advantage with respect to MFN rates. For example, as far as industrial tariffs were concerned, the tariffs that SMCs were still facing were on average half, or less, than those applied by the EU on an MFN basis (see Table 2.1).

Table 2.1 Overview of evolution of EU and SMC tariffs 1995-2015

Panel A. EU tariffs charged on imports from the SMCs

EU Tariffs	1995						2015					
	AGR			IND			AGR			IND		
partner	AHS	MFN	PRF	AHS	MFN	PRF	AHS	MFN	PRF	AHS	MFN	PRF
MAR	8,0	9,9	8,1	4,0	7,1	4,0	0,1	7,6	0,1	0,0	4,5	0,0
DZA	4,3	5,4	6,4	1,9	5,3	1,8	3,8	9,8	1,9	0,0	3,4	0,0
EGY	8,5	10,2	10,0	3,2	6,5	3,3	0,2	7,5	0,1	0,0	4,3	0,0
JOR	9,1	11,1	9,6	2,6	6,1	2,7	0,0	7,9	0,0	0,0	4,2	0,0
LBN	6,9	8,7	7,7	3,7	7,1	3,9	0,3	7,3	0,2	0,0	4,2	0,0
TUN	6,8	8,6	8,5	3,8	7,1	3,8	3,9	7,3	2,7	0,0	4,5	0,0

[25] At that time, trade in textiles between the EU and developing countries was governed by the Multifibre Arrangement (MFA), under which the US and the EU assigned each developing country signatory assigned quotas of specified items which could be exported to the US and EU.

[26] It is estimated, for example, that in 1995, average EU preferential import duties on imports from the SMCs of products such as fruit and nuts (HS08) were at or higher than 6%, for sugars and sugar confectionery (HS17) at around 5%, on vehicle products (HS87) close to 3% and for articles of apparel and clothing accessories (HS62) above 10%.

Panel B. SMCs tariffs charged on imports from the EU.

MED Tariffs	1995-2000						2015					
	AGR			IND			AGR			IND		
importer	AHS	MFN	PRF	AHS	MFN	PRF	AHS	MFN	PRF	AHS	MFN	PRF
MOR (1997)	32,3	32,3	-	18,7	18,7	-	8,0	20,4	7,6	0,3	9,6	0,2
DZA (1997)	23,2	23,2	-	21,9	21,9	-	19,8	22,3	7,1	6,1	16,8	6,1
EGY (1995)	33,0	33,0	-	21,8	21,8	-	21,7	30,7	2,7	1,3	10,0	1,4
JOR (2000)	34,9	34,9	-	21,9	21,9	-	10,7	21,9	1,7	2,1	10,0	3,3
LBN (1999)	14,4	14,4	-	11,8	11,8	-	6,0	10,0	7,4	2,1	5,0	2,8
TUN (1995)	31,9	31,9	-	29,3	29,3	-	16,6	23,3	3,6	0,1	12,2	0,0

Note: Figures in the table present simple average duties calculated across all tariff lines where non-zero trade flows were observed in the given years for agricultural (AGR) and industrial (IND) products according to the WTO definitions of these categories. MFN rates are the average WTO MFN rates, PRF are the average preferential rates accounting for all the existing preferential tariff rates within preference schemes such as the GSP or the already existing FTAs. AHS denote the effectively applied rates, i.e. a combination of preferential rates and MFN rates whenever imports entered under this treatment even though preferences were available, i.e. accounting in a way for preference utilisation. Note that the case of agricultural products in 1995 imported by the EU from Algeria, where the average MFN rate is lower than the preferential rate (PRF), does not mean that individual MFN rates at the tariff line level were lower than preferential rates but that averages calculated across a range of agricultural products were lower.
Source: Authors' calculations using UN TRAINS data accessed through the World Integrated Trade Solution (WITS).

2.2.2. The Barcelona Declaration and Euro-Med Association Agreements

Despite the EU having had already extended preferential or duty-free access to the SMCs in mid-1990s, there was still some scope for further liberalisation by the EU on the eve of signing of the Barcelona Declaration and establishment of the subsequent Euro-Med FTAs. Indeed, the main gains to trade were expected from the reduction of SMCs' own import duties, which until then were not disciplined by the existing Co-operation Agreements and were therefore relatively high. Indeed, as Table 2.1, Panel B, shows, on the eve of entry into force of the Euro-Med FTAs, average duties on imports from the EU ranged from 12% in Lebanon to 30% in Tunisia on industrial products and from 15% in Lebanon to 35% in Jordan on agricultural products.

The 1995 Barcelona Declaration, signed by the then 15 EU Member States and 12 SMCs, including all the six SMCs considered in this ex-post evaluation, aimed at creating an area of shared prosperity in the Mediterranean region, which, according to the declaration, was to be achieved through sustainable socio-economic development, improved conditions of living, increased employment and closer regional cooperation and integration. The idea was to promote sustainable growth and improve living standards in the Euro-Med partner countries as means to promoting stability and easing migratory pressures on Europe.

A key policy instrument to achieve the objectives of the Barcelona Declaration's objectives was the eventual establishment of a free trade area between the EU and the South Mediterranean partners, including with respect to trade between the Euro-Med partners, through bilateral Euro-Med FTAs and FTAs to be concluded between the Euro-Med partners themselves. It is in this context that the new Association Agreements between each of the six SMCs were signed between 1995 and 2002 and entered into force between 1998 and 2006 (see Table 1.1), replacing the pre-existing Cooperation Agreements.

While the Barcelona Declaration and the subsequent Euro-Med FTAs were signed with political, security, cultural, and human partnerships in mind, in addition to the obvious economic and financial partnerships, following the EU model of integration, strong emphasis was put on economic liberalisation, integration and reforms, with trade to be one of the main forces driving these economic reforms. The trade chapters of the Association Agreements, referred to in this report as the Euro-Med FTAs, were, therefore, important operational and binding commitments.

The first main objective of these FTAs was the promotion and liberalisation of trade between the EU and Mediterranean countries in products directly covered by the agreement. The FTAs aimed at establishing conditions for the gradual liberalisation of trade in other areas not liberalised directly by these agreements but linked through economic ties to the liberalised sectors. The latter included trade in services, as well as foreign direct investment (hereinafter, FDI), and

capital movement in general. The second key objective was, however, to promote intra-regional integration and cooperation in the Southern Mediterranean region.

The provisions of these individual FTAs were similar in objective, scope and approach, but not entirely identical in content, reflecting country specificities and sensitivities, as well as the slightly different periods in which they were negotiated and signed.[27] These agreements belonged to the category of 'traditional' FTAs, focusing their binding commitments mainly on the reduction of remaining tariffs on trade of industrial products and, to a lesser extent, agricultural, fishery and processed food products. They were reciprocal but asymmetric in favour of the SMCs. The EU has liberalised tariffs on all industrial products through these agreements at entry into force and with no transition periods. With respect to agricultural products, the EU has liberalised tariffs on around 80% of products. On the one hand, the SMCs also liberalised duties on industrial products, but benefited from a transition period between 12 to 15 years to do so progressively, which was meant to provide the SMCs with time to adjust. Most of these transition periods have ended, with a few exceptions remaining for Algeria and Morocco. On the other hand, the coverage of agricultural products liberalised by the SMCs under the Association Agreements is much more limited.[28]

These FTAs also referred to some non-tariff measures, such as technical barriers to trade (TBT) or sanitary and phytosanitary measures (SPS), but mainly expressed the need for transparency and cooperation in these areas rather than stipulating concrete commitments. For example, most of these agreements mention that both parties to the agreement are required to take appropriate steps to promote the use by the given SMC of the EU's technical rules and standards for industrial and agri-food products and certification procedures. However, besides declarations of good will to conclude future agreements on these issues, no precise actions or commitments are specified.

These FTAs also address some of the more '*modern*' elements of the current EU trade policy agenda, such as trade in services, investment and regulations, but, again, rather in terms of outlining broad directions for future initiatives and ways of co-operation on these issues than in terms of binding commitments.[29] The agreements also had so-called "rendezvous clauses" to further negotiate on the liberalisation of services. Negotiations were launched with some SMCs, but none have been concluded at the time of finalising this evaluation.

Since the signing and entry into force of these FTAs, the EU and the SMCs agreed several specific Action Plans and Partnership priorities to guide and implement the Association Agreements. For example, in Jordan, in the area of trade, the Action Plan encouraged a review and analysis of the Jordanian laws regarding labelling and the description of goods in order to facilitate a future alignment of the Jordanian legislation in this regard with EU law.

Furthermore, in line with the "rendezvous" clauses for further negotiations on agricultural market access, the EU signed a number of additional agreements (as protocols to the Association Agreements) on further liberalisation of trade in agricultural and fish and fishery products (Jordan signed in 2007 and the Protocol retroactively entered into force in 2006; Egypt signed in 2009 and the Protocol entered into force in 2010; and Morocco signed in 2010 and the Protocol entered into force in 2012). These Protocols increased market opening on both sides, but liberalisation remains asymmetric in favour of the SMCs.

In addition, negotiations were held on dispute settlement mechanisms. Between 2009 and 2011, related Protocols were signed with Tunisia, Egypt, Lebanon, Jordan, and Morocco. All those countries, with the exception of Egypt, ratified the Protocols which have entered into

[27] For example, the Agreements with Algeria and Lebanon, signed in the early 2000s, only briefly mention competition policy and, unlike the ones signed in the 1990s, do not contain provisions on State aid.
[28] For example, in the case of the EU-Tunisia FTA, while Tunisia committed to remove all tariffs on industrial products, in case of the agricultural and fishery products it only committed to maximum customs duties and on quotas to which these apply on a relatively short list of its agricultural products (Protocols 2 and 3) and only made a broad commitment for a gradual removal of remaining agricultural duties in the future.
[29] For example, in the case of Lebanon, a non-WTO/GATS member at the time of signing the agreement, the FTA stipulates that detailed commitments regarding trade in services were to be outlined by the country at a later stage and they were only to take effect following its final accession to the World Trade Organization (which has not happened as of yet).

force. However, in some cases, such as Tunisia or Jordan, the Protocols still need to be operationalised through the exchange of further practical information or through the appointment of the arbitrators.

The Barcelona Declaration also included a commitment to establish a free trade area across the entire Euro-Med region by 2010. Regional agreements, such as the Agadir Agreement (an FTA between Egypt, Jordan, Morocco and Tunisia, which was signed in February 2004 and entered into force in March 2007), contain formal references to the Association Agreements and are seen as building blocks in this process. The Regional Convention on pan-Euro-Mediterranean preferential rules of origin (hereinafter, PEM), signed in 2011 and ratified by all SMCs[30], is another important step forward in promoting greater harmonisation and simplification of rules of origin (RoO) in the region.

As the implementation of the Euro-Med FTAs with SMCs was close to completion, and as some provisions of these FTAs called for additional negotiations on deeper integration (e.g. in the area of services trade and FDI) the EU started the process of negotiating Deep and Comprehensive Free Trade Areas (DCFTAs) with some of them. Currently, negotiations are ongoing with Tunisia (as of 2013) while negotiations with Egypt and Jordan have not been launched yet. With Morocco, negotiations began in 2013, with the most recent round taking place in April 2014, before being suspended in order to accommodate Morocco's objective to carry out additional studies before continuing the negotiations. Exploratory meetings concerning the possibility to relaunch negotiations are currently taking place. With Tunisia, the first full round took place in Tunis in April 2016 and was followed by a technical round in February 2017 in Brussels. The second full round took place in Tunis in May 2018, the third in December 2018 in Brussels and the fourth in May 2019 in Tunisia.[31]

The goal of the DCFTAs is to integrate the economies of partner countries with the EU market as much as this is possible with non-EU Member States in order to create new trade and investment opportunities. This is especially important since, as already mentioned, the Association Agreements did not contain sufficient provisions on topics whose importance for the EU and for international trade has grown in recent decades and only called for additional negotiations in some of these areas in the future. These areas include, *inter alia,* services, investment, regulatory convergence, public procurement, sustainable development or intellectual property rights. Given the reliance of the modern economy on international supply chains, services trade and FDI, deep and comprehensive trade relations are to be achieved in these agreements by virtue of aligning partner country's trade-related legislation with international standards and, when relevant, with the relevant EU rules and regulations, in exchange for positive effects in terms of market access and other economic benefits these create.

2.2.3. Action Plans

As part of the EU's Neighbourhood Policies (hereinafter, ENP), the EU had developed *Action Plans* for the cooperation with its partners in the South (*i.e.*, in the Mediterranean region) and in the East. The Action Plans are political documents providing the strategic objectives of the cooperation between the Mediterranean countries and the EU. Their implementation aims at building solid foundations for further economic integration to enhance trade, investment and growth in line with the objectives of regional economic integration. A number of Actions Plans were adopted in 2005 and covered a five-year timeframe.[32]

2.2.4. Partnership Priorities

More recently, the EU has focused on the definition of Partnership Priorities with the Euro-Med countries for the period from 2017 to 2020. The aim of the partnership priorities is to address

[30] Consilium, Regional Convention on Pan-Euro-Mediterranean Preferential Rules of Origin, overview of available at https://www.consilium.europa.eu/en/documents-publications/treaties-agreements/agreement/?id=2010035&DocLanguage=en (accessed 2 July 2019).
[31] European Commission, Commission reports on latest negotiating round with Tunisia, available at http://trade.ec.europa.eu/doclib/press/index.cfm?id=2023&title=Commission-reports-on-latest-negotiating-round-with-Tunisia (accessed 21 June 2019).
[32] See, for instance, the Action Plans for Morocco and Tunisia, available at: EU-Morocco https://library.euneighbours.eu/content/eu-morocco-enp-action-plan; EU-Tunisia: https://library.euneighbours.eu/content/eu-tunisia-enp-action-plan (accessed 16 February 2019).

common challenges, to promote joint interests and to guarantee long-term stability on both sides of the Mediterranean. So far, such priorities have been agreed with all countries relevant to this ex-post evaluation, except for Morocco, which is in the process of overhauling its partnership with the EU. The new Partnership Priorities were defined by mutual agreement in the context of the revised EU Neighbourhood Policy and the EU Global Strategy for foreign and security policy.

In view of the underlying rationale for the adoption of Partnership Priorities, namely a more targeted and jointly agreed cooperation informed by mutual interests, these priorities might also have important implications for trade between the Parties and the respective rules contained in the agreements. Since fostering economic growth and jobs is a priority common to many countries in the Middle East and North Africa (MENA) region, the Partnership Priorities approach is important to keep in mind when evaluating the effectiveness of the FTAs.

2.2.4.1. Algeria

At the Association Council of 13 March 2017, the EU and Algeria adopted their shared *Partnership Priorities*.[33] The *Partnership Priorities* establish a renewed framework for political engagement and enhanced cooperation.[34]

The *Partnership Priorities* in the context of EU-Algeria relations up to 2020 are:

- Political dialogue, governance, the rule of law and the promotion of fundamental rights;
- Cooperation, socio-economic development, including trade and access to the European single market;
- Energy, the environment and sustainable development;
- Strategic and security dialogue; and
- The human dimension, including cultural and inter-religious dialogue, migration and mobility.[35]

The section on '*Cooperation, socio-economic development, including trade and access to the European single market*', notes that, *inter alia*:

> "*The Association Agreement between the two parties provides a framework for stepping up trade and investment, and the parties should make the most of this agreement to help each other overcome the current economic downturn. The EU and Algeria therefore reaffirm their desire to make optimum use of the 2005 Association Agreement, complying fully with this and seeking to balance their respective interests. Joint evaluation of the Association Agreement is part of this ongoing process. (…)*
>
> *The EU and Algeria will strengthen their dialogue on trade under the Association Agreement with a view to supporting a balanced high-added-value trading relationship and to reducing and progressively eliminating restrictions on trade in goods and services. In this connection, the parties will refrain from introducing any measure, other than those compatible with the provisions and procedures of the Association Agreement that might prove an obstacle to trade. The parties will consolidate their dialogue on trade-defence instruments and industrial cooperation tools (within the framework of Euro-Mediterranean industrial cooperation). The EU and Algeria also agree to use the Association Agreement to establish a dialogue on how best to attract foreign (and particularly European) investment. The EU reiterates its commitment to supporting Algeria's accession to the World Trade Organisation, in particular through the conclusion of a bilateral agreement in this framework*".[36]

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[33] Decision No 1/2017 of the EU-Algeria Association Council of 13 March 2017 agreeing on EU-Algeria partnership priorities, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1591714926666&uri=CELEX:22017D0603 (accessed 12 June 2020).
[34] Council of the EU, The European Union and Algeria adopt their *Partnership Priorities*, 13 March 2017, available at https://www.consilium.europa.eu/en/press/press-releases/2017/03/13/eu-algeria/ (accessed 17 February 2019).
[35] The full text of the EU-Algeria *Partnership Priorities* is available at http://data.consilium.europa.eu/doc/document/ST-3101-2017-ADD-1/en/pdf (accessed 25 April 2019).
[36] EU-Algeria *Partnership Priorities*, pp. 3-6, available at http://data.consilium.europa.eu/doc/document/ST-3101-2017-ADD-1/en/pdf (accessed 25 April 2019).

2.2.4.2. Egypt

On 25 July 2017, the EU-Egypt Association Council endorsed the EU-Egypt *Partnership Priorities* for 2017-2020.[37] The EU-Egypt *Partnership Priorities* are guided by a shared commitment to the universal values of democracy, the rule of law and respect for human rights.

The *Partnership Priorities* cover three main areas:

- Egypt's sustainable modern economy and social development;
- Partners in foreign policy; and
- Enhancing stability.[38]

In the section on '*Egypt's sustainable modern economy and social development*', the Partnership Priorities notes that:

> "*The EU and Egypt are important trading partners. They are committed to strengthening the existing trade and investment relationship and to ensuring that the trade provisions of the EU-Egypt Association Agreement establishing a free trade area (FTA) are implemented in a manner that enables it to reach its full potential. While the EU has previously put forward the idea of a comprehensive Deep and Comprehensive Free Trade Agreement (DCFTA) initiative to both deepen and widen the existing FTA, the EU and Egypt will also jointly identify other suitable approaches to enhance trade relations*".[39]

2.2.4.3. Jordan

On 19 December 2016, the EU-Jordan Association Council adopted the *Partnership Priorities* and *Compact* adopted by written procedure.[40] In 2018, the EU and Jordan agreed on a two-year extension of the *Partnership Priorities*.[41]

The *Partnership Priorities* for EU-Jordan relations for the coming years include:

- Strengthening cooperation on regional stability and security, including counter-terrorism;
- Promoting economic stability, sustainable and knowledge-based growth, quality education and job creation; and
- Strengthening democratic governance, the rule of law and human rights.

More specifically, the EU-Jordan *Partnership Priorities* notes, *inter alia*:

> "*A strong and stable Jordanian economy supported by an additional relaxation of the trade regime between Jordan and the EU and an enhanced investment climate (through business environment reforms) will act as powerful incentives for job creation for Jordanians; and Syrian refugees where applicable. The modernisation and*

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[37] Council of the EU, EU and Egypt adopt their partnership priorities, 25 July 2017, available at https://www.consilium.europa.eu/en/press/press-releases/2017/07/25/eu-egypt-adopt-partnership-priorities/ (accessed 17 February 2019). Recommendation No 1/2017 of the EU-Egypt Association Council of 25 July 2017 agreeing on the EU-Egypt Partnership Priorities, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1591787233180&uri=CELEX:22017D1786 (accessed 12 June 2020).

[38] The full text of the EU-Egypt *Partnership Priorities* is available at https://www.consilium.europa.eu/media/23942/eu-egypt.pdf (accessed 17 February 2019).

[39] EU-Egypt *Partnership Priorities*, p. 3, available at https://www.consilium.europa.eu/media/23942/eu-egypt.pdf (accessed 17 February 2019). Recommendation No 1/2017 of the EU-Egypt Association Council of 25 July 2017 agreeing on the EU-Egypt Partnership Priorities, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1591787233180&uri=CELEX:22017D1544 (accessed 12 June 2020). See also Corrigendum to Recommendation No 1/2017 of the EU-Egypt Association Council of 25 July 2017 agreeing on the EU-Egypt Partnership Priorities, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1591787233180&uri=CELEX:22017D1544R(01) (accessed 12 June 2020).

[40] Council of the EU, EU and Jordan adopted partnership priorities and compact, 19 December 2016, available at https://www.consilium.europa.eu/en/press/press-releases/2016/12/20/eu-jordan-partnership-priorities-and-compact/ (accessed 17 February 2019).

[41] Decision No 1/2018 of the EU-Jordan Association Council of 12 December 2018 agreeing on a two-year extension of the EU-Jordan Partnership Priorities, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1591793817783&uri=CELEX:22019D0030 (accessed 12 June 2020).

diversification of the economy will be further enhanced by support to innovation-driven growth and knowledge sharing. In the same context, cooperation will intensify on improving employability, skills development and related educational reform, to promote the role of youth in the economy and society.

Enhancement of the existing Association Agreement through negotiation of a Deep and Comprehensive Free Trade Area (DCFTA) that includes addressing all market access challenges that hinder Jordan from fully benefiting from the opportunities under the Association Agreement, will also enhance Jordan's integration into the EU market and create new opportunities for trade, investment and development".[42]

The *Compact* provides for mutual commitments by which the EU and Jordan will fulfil the pledges they made at the London Conference in February 2016 on supporting Syria and the region. The objective is to improve the living conditions both of Syrian refugees in Jordan as well as vulnerable host communities.[43]

2.2.4.4. Lebanon

On 11 November 2016, the EU and Lebanon adopted their *Partnership Priorities* for the period from 2016 to 2020, as well as a *Compact*.[44] The *Partnership Priorities* set up a renewed framework for political engagement and enhanced cooperation.

The *Partnership Priorities* in EU-Lebanon relations for the coming years include:

- Security and countering terrorism;
- Governance and the rule of law;
- Fostering growth and job opportunities; and
- Migration and mobility.[45]

More specifically, the section on '*Fostering growth and job opportunities*' describes that, *inter alia*:

"*Lebanon and the EU also aim to strengthen their trade relationship. To this end, Lebanon and the EU will establish and regularly convene a joint working group to further facilitate trade and reduce existing non-tariff barriers for goods and services. This working group will start convening at the earliest.*

There is a mutual interest in boosting the trade relationship by increasing the competitiveness of the industrial products, the services sector, and the agricultural and agro-food sector, including by improving the quality standards of Lebanese agricultural products, while mainstreaming the notion of sustainable consumption and production.

Work in this area will also help to mitigate the impact of the Syrian crisis on trade, as well as helping promoting investment in labour-intensive sectors, such as agriculture and industry. Opportunities provided by the Association Agreement should be thoroughly optimised with a view to ensuring benefits for both sides, and efforts will be made to further facilitate market access for Lebanese products to the EU and other markets. An enhanced cooperation and technical assistance on sanitary and phytosanitary standards will be instituted, including in cooperation with the Lebanese

[42] EU-Jordan *Partnership Priorities*, pp. 6-7, available at http://data.consilium.europa.eu/doc/document/ST-12384-2016-ADD-1/en/pdf (accessed 25 April 2019). Decision No 1/2016 of the EU-Jordan Association Council of 19 December 2016 agreeing on EU-Jordan Partnership Priorities, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1591793817783&uri=CELEX:22016D2388 (accessed 12 June 2020).
[43] The full text of the EU-Jordan *Partnership Priorities* and the *Compact* is available at http://data.consilium.europa.eu/doc/document/ST-12384-2016-ADD-1/en/pdf (accessed 17 February 2019).
[44] Council of the EU, EU and Lebanon adopt partnership priorities and compact, 15 November 2016, available at https://www.consilium.europa.eu/en/press/press-releases/2016/11/15/eu-lebanon-partnership/ (accessed 17 February 2019).
[45] The full text of the EU-Lebanon *Partnership Priorities* and the *Compact* is available at https://www.consilium.europa.eu/media/24224/st03001en16docx.pdf (accessed 17 February 2019).

private sector, in order to adequately address these issues. In this way, Lebanon can increase exports of agricultural products and maximise benefits from existing market access opportunities, which includes fulfilling agricultural tariff-rate quotas (TRQs) in the Association Agreement.

The EU will continue to encourage and support Lebanon towards membership of the World Trade Organisation (WTO) as well as to beneficial participation in the Agadir Agreement".[46]

2.2.4.5. Morocco

Partnership Priorities have not been agreed with Morocco as of yet. Discussions are underway to overhaul the EU-Morocco partnership and establish the future framework of the relations, based on the priority areas identified in the Joint declaration of June 2019.

2.2.4.6. Tunisia

On 15 May 2018, the EU and Tunisia agreed on their *Strategic Priorities* for 2018-2020,[47] which were adopted by the EU-Tunisia Association Council on 9 November 2018.[48]

The EU and Tunisia will focus on:

- Inclusive and sustainable socio-economic development;
- Democracy, good governance and human rights;
- Bringing peoples together;
- Mobility and migration;
- Security and the fight against terrorism; and
- A special emphasis on youth as a transversal priority.

More specifically, the Strategic Priorities

"*translate the privileged partnership into practical terms for the period 2018 to 2020. The creation of future prospects for young people will be at the core of the actions of both sides. The focus will be placed on speeding up socioeconomic reforms including improvement of the business environment, and the conclusion of a deep and comprehensive free trade agreement (DCFTA)*. (…)

Both sides remain fully committed to the process of negotiations towards a Deep and Comprehensive Free Trade Agreement (DCFTA) and have agreed on a concrete action plan for 2018 to enable progress to be made with a view to accelerating the negotiations with a view to concluding them as soon as possible. The EU and Tunisia will continue to promote the modernisation of the Tunisian economy for the benefit of all, including the most disadvantaged regions and communities, and to boost job creation, particularly for young people. Both sides undertake to increase Tunisia's economic integration in the European market as well as in the Maghreb region".

2.3. Content and formal implementation of trade chapters of the Euro-Med Association Agreements

2.3.1. Overview of the trade chapters of the Association Agreements

Annex C presents the formal structure of the Euro-Med Association Agreements as extracted from the actual legal texts of each of these agreements, highlighting in colour the titles which can be considered the 'trade chapters' as well as relevant Annexes and Protocols. This section provides a summary of the overall content of the Euro-Med Association Agreements, referring to

[46] EU-Lebanon Partnership Priorities, p. 8, available at https://www.consilium.europa.eu/media/24224/st03001en16docx.pdf (accessed 25 April 2019).
[47] Council of the EU, EU-Tunisia Association Council, 15/05/2018, available at https://www.consilium.europa.eu/en/meetings/international-ministerial-meetings/2018/05/15/tunisia/ (accessed 17 February 2019).
[48] Decision No 1/2018 of the EU-Tunisia Association Council of 9 November 2018 adopting the EU-Tunisia strategic priorities for the period 2018-2020 [2018/1792], ST/2604/2018/REV/1, OJ L 293, 20.11.2018, p. 39-45, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=uriserv:OJ.L_.2018.293.01.0039.01.ENG (accessed 25 April 2019).

the most important provisions in the trade chapters and relevant Annexes and Protocols. First, the features that are common to all trade chapters of the relevant Euro-Med FTAs are provided and assessed in this section.[49] Obvious differences and specificities are already highlighted in this section. The following section then describes the specificities of the trade chapters of each respective Euro-Med Association Agreement.

2.3.2. Structure and content

The trade chapters of the Association Agreements between the EU and the Southern Mediterranean partner countries were conceptualised before the EU's more recent initiatives on comprehensive trade agreements. Therefore, the scope of the trade chapters has been rather limited. It mostly concerned tariff reductions for industrial goods and, albeit to a more limited degree, agricultural, fisheries and processed agricultural products. With Egypt, Jordan, and Morocco, agreements extending tariff dismantling for agricultural, fisheries and processed agricultural product were concluded. These agreements amend the original Association Agreements and certain Protocols thereof. The trade chapters only contain limited commitments on trade in services and FDI.

In general terms, all trade chapters of the six Euro-Med FTAs assessed as part of this ex-post evaluation have the same overall structure. Title II of the Agreements provides the rules concerning the *free movement of goods* with a number of *Basic principles* and Chapters on *Industrial Products*, *Agricultural, fisheries and processed agricultural products*, and *Common provisions*. Title III then provides the rules concerning the *Right of establishment and services* (see also Annex C).

The additional agreements with Egypt, Jordan, and Morocco on amending the provisions on agricultural, processed agricultural and fisheries products provide for a limited number of articles that modify the original Association Agreements. They also include Annexes, which list the relevant HS codes of the products that are subject to further liberalisation.

2.3.2.1. Basic principles

With respect to the *Basic principles*[50], all agreements aim at establishing a free-trade area over a transitional period of time, lasting a maximum of 12 years starting from the date of entry into force of the respective agreements.

2.3.2.2. Free movement of goods

Industrial products

In Article 7 of all the six Association Agreements, the scope is defined, using two slightly different approaches. The Association Agreements with Jordan and Tunisia provide that the chapter on industrial goods applies to products originating in the EU and in Jordan/Tunisia "*with the exception of the products referred to in Annex II to the Treaty establishing the European Community*". Annex II to the *Treaty establishing the European Community* listed the agricultural products subject to the Common Customs Tariff and is now contained in Annex I to the Treaty of the Functioning of the EU. The other Association Agreements (*i.e.*, those with Algeria, Egypt, Lebanon, and Morocco) state that the provisions of the chapter on industrial goods apply to products originating in the EU and the respective Mediterranean country that fall within Chapters 25 to 97 (thereby also excluding the agricultural products listed in Chapters 1 to 24) of the EU Combined Nomenclature and of the respective Mediterranean country's Customs Tariff with the exception of the products listed in an annex.

Article 8 addresses the issue of imports into the EU. Four out of the six agreements provide that imports into the EU of products originating in the respective Euro-Med country are to be allowed

[49] An informative side-by-side comparison of the relevant Association Agreements was prepared by the Commission in 2004: Euro-Med Association Agreements, Implementation Guide, Relex F, available at http://www.eeas.europa.eu/archives/docs/euromed/docs/asso_agree_guide_en.pdf (accessed 17 February 2019).

[50] Article 6 of the EU-Algeria Association Agreement, the EU-Egypt Association Agreement, the EU-Jordan Association Agreement, the EU-Lebanon Association Agreement, the EU-Morocco Association Agreement, and the EU-Tunisia Association Agreement.

free of customs duties and of any other charge having equivalent effect. Only the Agreements with Jordan and Tunisia stipulate that products originating in those countries are also to be without quantitative restrictions or measures having equivalent effect.

All the agreements provide for a provision detailing the process of tariff liberalisation for industrial goods, first noting the products that are subject to full tariff liberalisation (with references to the respective Annexes of the Association Agreements that provide the list of products) and then providing for the time schedule of tariff liberalisation.[51] This time schedule varies from agreement to agreement, taking account of the different needs and sensitivities of the partner countries. With respect to tariff liberalisation for the industrial goods listed in Annex 3, the EU-Algeria Association Agreement provides for a liberalisation over seven years after the agreement's entry into force. This is shortened to three years after entry into force for the EU-Morocco Association Agreement. The Euro-Med FTAs also provide for a review clause concerning the timetable for tariff liberalisation.

Agricultural, processed agricultural and fishery products

While additional *Agreements on further reciprocal liberalisation on trade of agricultural, processed agricultural and fisheries products* were only concluded with three of the six relevant Euro-Med countries (*i.e.*, Egypt, Jordan, and Morocco) that are subjects of this study,[52] all Euro-Med FTAs already contain provisions on agricultural, processed agricultural and fisheries products.

With respect to processed agricultural products, the agreements show a varying degree of regulation and liberalisation, in particular providing rules on differentiation between agricultural components and industrial elements. Agreements with Jordan, Morocco and Tunisia have much more detailed rules, while those with Algeria, Egypt, and Lebanon only provide limited guidance in their respective texts. However, they provide more detailed rules and the list of applicable products in respective Protocols annexed to them.

Turning to agricultural and fisheries products, all Euro-Med FTAs state that the EU and the Euro-Med countries are to progressively establish a greater liberalisation of their reciprocal trade in agricultural and fisheries. For those agreements with less detailed rules on processed agricultural products (*i.e.*, Algeria, Egypt, and Jordan), reference is also made to greater liberalisation of processed agricultural products, referring again to the respective Protocol.

Common provisions

In terms of common provisions, all Euro-Med Association Agreements provide for a certain number of important principles and clauses aimed at ensuring the well-functioning and implementation of the Agreements:

- Standstill clause

This clause enshrines that no new customs duties on imports or exports or charges having an equivalent effect are to be introduced in trade between the EU and the respective SMC, nor are those already applied upon entry into force of this particular agreement to be increased.

- Quantitative restrictions

Those agreements that have not yet referred to the prohibition of new quantitative restrictions provide for such a prohibition in the common provisions.

- Bound rate

[51] Article 9 of the EU-Algeria Association Agreement, Article 9 of the EU-Egypt Association Agreement, Article 11 of the EU-Jordan Association Agreement, Article 11 of the EU-Lebanon Association Agreement, Article 10 of the EU-Morocco Association Agreement, and Article 10 of the EU-Tunisia Association Agreement.
[52] Article 10 of the EU-Egypt Association Agreement, the EU-Jordan Association Agreement, and the EU-Morocco Association Agreement.

All Euro-Med FTAs also provide for the binding of tariff rates at a certain level. They differentiate between the partner countries that were WTO Members at the time of the negotiations and conclusion of the agreements and those that were not yet WTO Members. Algeria and Lebanon are not yet Members of the WTO but are conducting accession negotiations.

- No more favourable treatment

All agreements provide that products originating in the respective Euro-Med country are not to enjoy more favourable treatment when imported into the EU than that applied by EU Member States among themselves.

- Non-discrimination of a fiscal nature

All agreements provide for identical rules on the non-discrimination of a fiscal nature, stipulating that the Parties are to refrain from any measure or practice of an internal fiscal nature establishing, whether directly or indirectly, discrimination between the products of one Party and like products originating in the territory of the other Party. The provisions further stipulate that products exported to the territory of one of the Parties may not benefit from repayment of indirect internal taxation in excess of the amount of indirect taxation imposed on them directly or indirectly.

- Customs Union / Free Trade Areas

The agreements note that they are not to preclude the maintenance or establishment of customs unions, free trade areas or arrangements for frontier trade, except insofar as they alter the trade arrangements provided for in the respective agreement, but provide that consultations are to be held regarding such issues.

- Dumping / Subsidies and Countervailing measures

All agreements contain provisions on dumping and implications thereof, again differentiating slightly between the Mediterranean countries that were WTO Members at the time of conclusion and those that were not. Therefore, they are referring either to the WTO and the WTO Agreement on Subsidies and Countervailing or to relevant GATT rules.

- Safeguards

With respect to safeguards, two types of provisions are present in the six Euro-Med FTAs relevant for this ex-post evaluation. The agreements with Jordan, Morocco, and Tunisia provide for rather short provisions, noting that in cases when "*any product is being imported in such increased quantities and under such conditions so as to cause or threaten to cause: - serious injury to domestic producers or like or directly competitive products in the territory of one of the parties, or - serious disturbances in any sector of the economy, or - difficulties which could bring about serious deterioration in the economic situation of a region*", the issue is to be referred to the respective Association Council of the Association Agreement. The agreements with Algeria, Egypt, and Lebanon refer first to Article XIX of the GATT 1994 and the WTO Agreement on Safeguards, whose provisions are applicable except where otherwise stated. The Parties resort to the respective Association Committee set up under each of the six Euro-Med FTA for the notification of safeguard investigations and for the examination of the situation with a view to finding a mutually acceptable solution, ahead of the decision to impose the definitive safeguard measures.

- Re-export

All agreements provide identical rules on issues related to (1) re-export towards a third country against which the exporting party maintains, for the product concerned, quantitative export restrictions, export duties, or measures having equivalent effect, or (2) a serious shortage, or threat thereof, of a product essential to the exporting party, noting that appropriate measures may be taken, but in accordance with the rules on consultations.

- Consultation clause

All Agreements provide for a detailed consultation clause with dedicated rules relating to the various commitments contained in the provisions on trade in goods.

- Justification of certain measures / Non-discrimination

All Agreements underline that nothing in the Agreements is to *"preclude prohibitions or restrictions on imports, exports or goods in transit justified on grounds of public morality, public policy or public security, of the protection of health and life of humans, animals or plants, of the protection of national treasures possessing artistic, historic or archaeological value, of the protection of intellectual property or of regulations concerning gold and silver", but that such prohibitions or restrictions are, however, not to "constitute a means of arbitrary discrimination or disguised restriction on trade between the Parties"*.

- Customs classification

All agreements refer to the rules for customs classification. While the agreements with Tunisia and Morocco[53] note that the Combined Nomenclature is to be used for the classification of goods in trade between the two Parties, the agreements with Algeria, Egypt, Jordan, and Lebanon provide that the Combined Nomenclature of goods shall only be applied to the classification of goods for imports into the EU. Moreover, they state that the respective customs tariff of the Euro-Med country is to be applied to the classification of goods for imports into the respective Euro-Med country.

- Originating products

Finally, all agreements provide that specific rules on originating products are contained in the respective Protocols.

2.3.2.3. Right of establishment and services

With respect to the *Right of establishment and services* trade, the agreements show a greater degree of deviation, depending of the country's WTO membership of WTO accession status. While the agreements with Algeria, Jordan and Lebanon provide detailed rules on a multitude of issues, the other agreements mostly provide general outlines and references to the GATS. In addition to the brief description of the key provisions below, the significance of provisions on right of establishment and services is elaborated in more detail in this evaluation's Chapter 3, Section 3.5.3 *Role of FDI and services trade.*

- Reciprocal commitments

The reciprocal commitments largely refer to the MFN principle.

- Right of establishment

With regards to the right of establishment, the agreements vary. The agreement with Algeria and Jordan largely refers to MFN treatment (in the case of Algeria, however, the more favourable principle of national treatment applies to the so-called "post-establishment" of EU branch and subsidiaries). The agreements with Egypt, Morocco, and Tunisia, respectively, provide that the respective Parties would *"consider"* or "*agree to*" *extending the scope of the Agreement to include the right of establishment of companies of one Party in the territory on another Party and the liberalisation of the supply of services by companies of one Party to service consumers in another Party*" and that the respective Association Council would make recommendations in that regard. With respect to Lebanon, Article 30 of the EU-Lebanon Association Agreement directly refers to the respective GATS commitments, noting that the provision would only take effect on the date of the final accession of Lebanon to the WTO.

- Cross-border supply of services

[53] It is noted that the Combined Nomenclature is not used for the classification of goods in trade between the EU and Morocco.

The agreement with Algeria refers to most-favoured nation treatment. The agreements with Egypt, Morocco and Tunisia only provide for a general reference to the GATS: The agreement with Jordan notes that the Parties are to "*use their best endeavours to allow progressively the supply of services by Community or Jordanian companies which are established in the territory of a Party other than that of the person for whom the services are intended*". The agreement with Lebanon notes that the Parties are not, between the date of entry into force of the agreement and Lebanon's accession to the WTO, to take any measures or actions which render the conditions for the supply of services by the EU or Lebanese service suppliers more discriminatory than those existing on the date of entry into force of the agreement.

- Temporary presence of natural persons

A provision on this issue only exists in the agreements with Algeria and Jordan.

- Air transport, inland waterways and maritime sport

Provisions on these issues only exist in the agreements with Algeria and Jordan. The agreement with Tunisia only notes that the Association Council is to, once the agreement is in force, examine the international maritime transport sector with a view to making appropriate recommendations for liberalisation measures.

- Domestic regulation

Provisions on these issues only exist in the agreements with Algeria and Jordan.

- Definitions relevant for the title on services

An article with definitions relevant for the title on services is only provided in the agreements with Algeria, Jordan, and Lebanon.

2.3.2.4. Payments, capital, competition and other economic provisions

- Current payments and movements of capital

All agreements contain identical Articles on *Current payments and movements of capital*, providing that Parties are to allow that all current payments for current transactions are to be made in a freely convertible currency and that capital relating to direct investments in the Euro-Med country in companies formed in accordance with current laws can move freely. The agreements also provide that the Parties are to consult each other with a view to facilitating, and fully liberalising when the time is right, the movement of the capital between the EU and the respective Euro-Med country. Finally, the agreements provide that where one or more EU Member State or the respective partner country is in serious balance of payments difficulties, restrictions on current transactions may be adopted under a number of conditions.

- Competition

All agreements provide for a detailed provision on competition, defining prohibited anti-competitive behaviour, including State aid, but tasking the respective Association Councils with adopting the necessary rules for the implementation. However, the agreements also allow the Parties to take appropriate measures in cases of anti-competitive behaviour.

- State monopolies and public enterprises

The agreements contain identical provisions on State monopolies and public enterprises, aimed at limiting their anti-competitive influence, providing a time-limit for necessary adjustments of the fifth year following the entry into force.

- Intellectual, industrial and commercial property

The agreements contain identical provisions on the issues of intellectual, industrial and commercial property and Parties are to grant and ensure adequate and effective protection of intellectual property rights in accordance with the prevailing international standards, including

effective means of enforcing such rights. The agreements expressly provide that the implementation of these provisions is to be regularly assessed by the respective Parties.

- Public procurement

Finally, all agreements provide for a clause committing to the objective of a reciprocal and gradual liberalisation of public procurement contracts.

2.3.2.5. Social, environmental and human rights issues

The Trade Chapters of the Association Agreements do not contain any provisions explicitly related to social, environmental or human rights issues. They do not provide for detailed chapters on trade and sustainable development, which have become standard in modern EU trade agreements that clearly indicate social and environmental commitments by the Parties. However, those issues are clearly referred to in the sections on cooperation of the Association Agreements and are subject to discussions in the Committees and Sub-Committees. The indirect impact of the trade chapters of the agreements on social, environmental and human rights through the impact on trade flows is addressed in Chapter 5.

With respect to human rights, it must be noted that all six Association Agreements contain a clause defining respect for democratic principles and fundamental human rights as "*an essential element*" of the agreement. The clause reads: "*Respect for the democratic principles and fundamental human rights established by the Universal Declaration of Human Rights shall inspire the domestic and international policies of the Parties and shall constitute an essential element of this Agreement*". This is significant because the consideration of the reference to human rights as an '*essential element*' allows all Parties to suspend the provisions of the agreements and take countermeasures when human rights violations occur.[54]

2.3.2.6. Country-specific features

Country-specific features of the agreements are described in Annex C, Section C.2.

2.3.3. Tariff dismantling

2.3.3.1. Algeria

With respect to the EU's tariff liberalisation for industrial goods, Article 8 of the EU-Algeria Association Agreement provides that "*Products originating in Algeria shall be imported into the Community free of customs duties and charges having equivalent effect*".

With respect to Algeria's tariff liberalisation for industrial goods, Article 9 of the EU-Algeria Association Agreement provides for a progressive dismantling of Algeria's tariffs beginning with certain products for which customs duties and charges having equivalent effect were abolished upon the entry into force of the Agreement (Annex 1), followed by further tariff dismantling progressively over a period of twelve years after the entry into force (Annexes 2 and 3). The originally planned end date for the liberalisation of industrial products by Algeria was 1 September 2017, but, in 2012, the EU and Algeria agreed to extend the transitional period for certain industrial products from 12 to 15 years, moving the end date to 2020.

More specifically, on the basis of Article 9(1) of the EU-Algeria Association Agreement, Algeria committed to liberalise tariffs for most industrial goods (listed in Annex 2 of the Agreement) upon the entry into force of the Agreement. On the basis of Article 9(2) of the EU-Algeria Association Agreement, Algeria committed to liberalise tariffs for certain industrial goods listed in Annex 3 (such as mineral fuels and mineral oils, pharmaceutical products, certain metals, machinery and mechanical appliance and a range of vehicles, aircraft and transport equipment) over a period of seven years. On the basis of Article 9(3) of the EU-Algeria Association

[54] In this regard, see Tobias Dolle, Human Rights Clauses in EU Trade Agreements: The New European Strategy in Free Trade Agreement Negotiations Focuses on Human Rights – Advantages and Disadvantages, The Influence of Human Rights on International Law, Springer, 2015.

Agreement, Algeria committed to liberalise tariffs for industrial goods not listed in Annex 2 or 3 (such as steel, textile, electronics, and automobiles) over a period of twelve years. In 2012, the EU and Algeria agreed to extend the transitional period for those products from 12 to 15 years. The tariff liberalisation for industrial goods under the EU-Algeria Association Agreement is currently scheduled to be completed by September 2020.[55]

In 2012, the EU and Algeria agreed within the EU-Algeria Association Committee to extend the transitional period for certain products (i.e., steel, textile, electronics, and automobiles) from 12 to 15 years.[56] The relevant Decision of the Council of the EU notes that "*Following the difficulties experienced by Algeria when applying the tariff dismantling schedule for industrial products, set out in Article 9(2) and (3) of the Agreement, an expert group of the Commission and of Algeria met eight times between September 2010 and June 2012*".[57] On the basis of this extension, the EU-Algeria free trade area is currently scheduled to be completed by 1 September 2020.[58]

Additionally, Article 11 of the EU-Algeria Association Agreement allows Algeria to take exceptional measures of limited duration in the form of an increase or reintroduction of customs duties, but which "*may concern only infant industries, or certain sectors undergoing restructuring or facing serious difficulties, particularly where these difficulties produce major social problems*". These exceptional measures derogate from the dismantling requirements of Article 9. Moreover, Article 11(1), subparagraph 4 of the EU-Algeria Association Agreement provides that such exceptional measures are to cease to apply at the latest on expiry of the maximum transitional period referred to in Article 6, which was to last 12 years starting from the date of the entry into force. However, Article 11(2) provides that the Association Committee "*may exceptionally, in order to take account of the difficulties involved in setting up a new industry, authorise Algeria to maintain the measures already taken pursuant to paragraph 1 for a maximum period of three years beyond the transitional period referred to in Article 6*", which effectively allows a period of 15 years.

With respect to agricultural products, only a limited number of tariff lines are already subject to full liberalisation, to TRQs or to a reduction of MFN rates on both sides. However, market access granted by the EU on the basis of Article 14(1) and Protocol No. 1 (for agricultural products) and Article 14(3) and Protocol No. 3 (for fisheries products) already covers a wide range of tariff lines since the entry force of the agreement.[59]

Concerning the tariff dismantling, Articles 12 to 16 of the EU-Algeria Association Agreement provide the applicable rules, largely referring to the Protocols annexed to the Agreement. According to Article 14(1) and (2) of the Agreement, with respect to agricultural products originating in Algeria and the EU, Protocols No 1 and 2, respectively, provide the relevant

[55] Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2018 - 31 December 2018, SWD(2019) 370 final, available at https://€-lex.europa.eu/legal-content/da/ALL/?uri=CELEX:52019SC0370 (accessed 10 April 2020).

[56] The Decision of the Council of the EU for its position in the EU-Algeria Association Committee: COUNCIL DECISION concerning the position of the European Union within the EU-Algeria Association Committee on the implementation of the provisions concerning the industrial products set out in Articles 9 and 11 of the Euro-Mediterranean Agreement establishing an Association between the European Community and its Member States, of the one part, and the People's Democratic Republic of Algeria, of the other part, available at https://data.consilium.europa.eu/doc/document/ST-7561-2013-INIT/en/pdf (accessed 28 August 2019). The draft decision of the Association Committee is available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52012PC0700&qid=1567006076448 (accessed 28 August 2019).

[57] Recital 4 of COUNCIL DECISION concerning the position of the European Union within the EU-Algeria Association Committee on the implementation of the provisions concerning the industrial products set out in Articles 9 and 11 of the Euro-Mediterranean Agreement establishing an Association between the European Community and its Member States, of the one part, and the People's Democratic Republic of Algeria, of the other part.

[58] Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2018 - 31 December 2018, SWD(2019) 370 final, available at https://€-lex.europa.eu/legal-content/da/ALL/?uri=CELEX:52019SC0370 (accessed 10 April 2020).

[59] For a detailed overview, see Annex 1 of Protocol 1 of the EU-Algeria Association Agreement.

arrangements and lists of products. Protocol 2 on imports into Algeria of agricultural products originating in the EU provides a long list of relevant products and CN codes, referring, inter alia, to certain meat products, dairy products, fruits and vegetables, and vegetable oils. Protocol 2 notes the applied tariff, the reduction of the customs duty, and the amount of customs duties (e.g., for *Poultry meat not cut in pieces, fresh or chilled or frozen*, the applied duty amounts to 30%, the customs duty is reduced by 50%, and the liberalisation applies to a quota of 2,500 metric tonnes).

According to Article 14(3) and (4) of the Agreement, with respect to fisheries products originating in Algeria and the EU, Protocols No 3 and 4, respectively, provide the relevant arrangements and lists of products. Regarding fisheries products originating in Algeria, these concerns, *inter alia*, a limited number of *Prepared or preserved fish* (e.g., sardines, mackerel, anchovies) and regarding fisheries products originating in the EU, this concern, inter alia, certain *Fish, fresh or chilled* and certain *Fish, frozen* (e.g., trout, pacific salmon, halibut, tuna, cod, and sole). According to Article 14(5) of the Agreement, with respect to processed agricultural products, Protocol No 5 provides the relevant arrangements. According to Article 12 of the Agreement, the rules apply to products falling within Chapters 1 to 24 of the Combined Nomenclature and of the Algerian Customs tariff and to certain agricultural and processed agricultural products falling under Chapters 25 to 97 of the Harmonised System and listed in Annex 1 to the Agreement.

Largely in parallel to the negotiations on the modification of the schedule of tariff dismantling regarding industrial products, a group of experts from the European Commission and Algeria met six times between September 2010 and July 2011 to discuss the dismantling of the customs duties for agricultural products and processed agricultural products established in accordance with the conditions laid down in Protocols Nos 2 and 5 to the EU-Algeria Associations Agreement. In view of the difficulties faced by Algeria in dismantling the customs duties for such products, the EU-Algeria Association Council decided a modification of the conditions of application of the preferential tariffs for agricultural products and processed agricultural products set out in Article 14 of the EU-Algeria Association Agreement.[60] However, the EU and Algeria did not yet negotiate an additional agreement on agricultural, processed agricultural and fisheries products.

On its websites, the Government of Algeria provides lists of the products covered by the dismantling of tariffs.[61] It appears that Algeria generally followed the progressive liberalisation of customs duties and charges having equivalent effect.
However, in 2018, Algeria introduced a significant import prohibition regarding 877 products across all sectors. As from January 2019, the ban applies only to cars. Still, a large part of the 877 products is now subject to a set of new additional duties that range from 30 to 200% and which concern goods that fall under the liberalisation requirements of the EU-Algeria Association Agreement.[62] The issue has been a subject of increased dialogue between the EU and Algeria (see below), as it clearly contravenes the Association Agreement.

[60] Decision No 1/2018 of the EU-Algeria Association Committee of 27 December 2018 regarding the modification of the conditions of application of the preferential tariffs for agricultural products and processed agricultural products set out in Article 14 of the Euro-Mediterranean Agreement establishing an Association between the European Community and its Member States, of the one part, and the People's Democratic Republic of Algeria, of the other part [2019/74], available at https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1567005786001&uri=CELEX:22019D0074 (accessed 28 August 2019). The corresponding decision of the Council of the EU: Council Decision (EU) 2018/641 of 17 April 2018 on the position to be adopted on the behalf of the European Union within the EU-Algeria Association Committee as regards the modification of the conditions of application of the preferential tariffs for agricultural products and processed agricultural products set out in Article 14 of the Euro-Mediterranean Agreement establishing an Association between the European Community and its Member States, of the one part, and the People's Democratic Republic of Algeria, of the other part, OJ L 106, 26.4.2018, p. 17–22, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32018D0641&qid=1567005521785 (accessed 28 August 2019).
[61] See https://www.commerce.gov.dz/c-produits-concernes-par-le-demantelement-tarifaire (accessed 19 August 2019).
[62] See the official statement of the Government of Algeria: Communiqué relatif aux mécanismes d'encadrement des opérations d'importation de marchandises, 29 January 2019, available at https://www.commerce.gov.dz/avis/communique-relatif-aux-mecanismes-d-encadrement-des-operations-d-importation-de-marchandises-2 (accessed 23 August 2019). Products subject to the additional duties: White and red meat (except frozen beef), dried fruit, fresh fruit (except bananas), fresh vegetables, meat

2.3.3.2. Egypt

With respect to the EU's tariff liberalisation for industrial goods, Article 8 of the EU-Egypt Association Agreement provides that "*products originating in Egypt shall be allowed free of customs duties and of any other charge having equivalent effect and free of quantitative restrictions and of any other restriction having equivalent effect*".

With respect to Egypt's tariff liberalisation for industrial goods, Article 9 of the EU-Egypt Association Agreement provides for a progressive dismantling of Egypt's tariffs over a period of fifteen years after entry into force (Annexes I to V of the Agreement). Tariffs applied to all industrial products have now been removed by Egypt. In January 2019, the transitional period for certain automotive imports expired.

On the basis of Article 9(1) of the EU-Egypt Association Agreement, Egypt committed to successively liberalise tariffs for most industrial goods (listed in Annex II of the Agreement) over a period of three years after the date of entry into force of the Agreement. On the basis of Article 9(2) of the EU-Egypt Association Agreement, Egypt committed to liberalise tariffs for certain industrial goods listed in Annex III (such as metals, machinery and mechanical appliance and a range of vehicles, aircraft and transport equipment) over a period of nine years. On the basis of Article 9(3) of the EU-Egypt Association Agreement, Egypt committed to liberalise tariffs for industrial goods listed in Annex IV (such as certain textiles and textile articles, certain metals) over a period of twelve years. On the basis of Article 9(4) of the EU-Egypt Association Agreement, Egypt committed to liberalise tariffs for industrial goods listed in Annex V (i.e., vehicles other than railway or tramway rolling-stock, and parts and accessories thereof) over a period of fifteen years.

On the basis of Article 9(5) of the EU-Egypt Association Agreement, customs duties and charges having equivalent effect applicable to imports into Egypt of products originating in the EU, other than those in Annexes II, III, IV and V are to be abolished in accordance with the relevant schedule on the basis of a decision of the Association Committee.

Additionally, Article 11 of the EU-Egypt Association Agreement allows Egypt to take exceptional measures of limited duration in the form of an increase or reintroduction of customs duties, but only concerning "*new and infant industries or to sectors undergoing restructuring or experiencing serious difficulties, particularly where those difficulties entail severe social problems*", and which derogate from the dismantling requirements of Article 9. Article 11(4) of the EU-Egypt Association Agreement provides that such exceptional measures are to cease to apply at the latest on expiry of the maximum transitional period referred to in Article 6, which was to last 12 years starting from the date of the entry into force. However, Article 11(7) provides that the Association Committee "*may exceptionally, in order to take into account, the difficulties involved in setting up new industries, endorse the measures already taken by Egypt pursuant to paragraph 1 for a maximum period of four years beyond the 12 years transitional period*", which effectively allows a period of 16 years from the entry of the Agreement into force, meaning until 1 June 2020.

With respect to the tariff dismantling for agricultural products, Articles 12 to 16 of the EU-Egypt Association Agreement provide for the applicable rules, largely referring to the Protocols annexed to the Agreement. The EU and Egypt negotiated an Additional Agreement on agricultural, processed agricultural and fisheries product.[63] The Agreement was signed on 28

preparations, fish preparations, preserved or prepared fruit, food preparations, soups and soup preparations, cereal derivatives, cement, cosmetics, hygiene paper, plastic products, wooden crates and boxes, carpets and other textile floor coverings, finished marble and granite, finished ceramics, products made of ceramics, glass and glassware, articles of cast iron, aluminium and aluminium work, sanitary tapware, chairs and furniture, chandeliers, appliance machinery and appliances, mobile telephony and miscellaneous works. In this context, see also: Reuters, Hamid Ould Ahmed, Algeria replaces broad import ban with duties up to 200%, available at https://www.reuters.com/article/algeria-imports/update-2-algeria-replaces-broad-import-ban-with-duties-up-to-200-pct-idUSL5N1ZT2FW (accessed 23 August 2019).

[63] Council Decision of 9 October 2009 on the signing and conclusion of the Agreement in the form of an Exchange of Letters between the European Community and the Arab Republic of Egypt concerning reciprocal liberalisation measures on agricultural products, processed agricultural products and fish and fishery products, the replacement of Protocols 1 and 2 and their annexes and amendments to the Euro-Mediterranean Agreement establishing an association between the European Communities and their Member

October 2009 and entered into force on 1 June 2010. This Agreement amended Article 14 of the initial EU-Egypt Association Agreement, as well as the related Protocols 1 and 2, and extended the scope of the two Protocols to now include agricultural products, processed agricultural products and fish and fishery products.

The Annex to Protocol 1 concerns the arrangements applicable to the importation into the EU of agricultural products, processed agricultural products and fish and fishery products originating in the Arab Republic of Egypt. Table 1 of the Annex provides that products not included in the table are duty free (listed in the table are, inter alia, tomatoes, garlic, cucumbers, strawberries, rice, cane or beet sugar). However, Table 2 provides for a preferential treatment for some of the products listed in Table 1, such as for tomatoes, garlic, cucumbers, and courgettes. Importantly, for the fresh agricultural products, the preferential treatment is mostly limited to a certain period of the year, for example, for tomatoes from 1 November to 30 June, and for garlic from 15 January to 30 June.

With respect to agricultural goods, 80% of Egyptian exports currently benefit from duty-free market access.

2.3.3.3. Jordan

With respect to the EU's tariff liberalisation for industrial goods, Article 9 of the EU-Jordan Association Agreement provides that "*products originating in Jordan shall be allowed free of customs duties and of any other charge having equivalent effect and free of quantitative restrictions and of any other measure having equivalent effect*".

Article 10 of the EU-Jordan Association Agreement provides that the provisions of the chapter on industrial goods are not to preclude the retention by the Community of an agricultural component in respect of goods originating in Jordan and listed in Annex I. Such a provision is only included in the EU-Jordan and the EU-Tunisia Association Agreements.

With respect to Jordan's tariff liberalisation for industrial goods, Article 11 of the EU-Jordan Association Agreement provides for a progressive dismantling of Jordan's tariffs from the entry into force over a period of 12 years after the entry into force (Annexes II and III of the Agreement).

On the basis of Article 11(1) of the EU-Jordan Association Agreement, Jordan committed to liberalise tariffs for industrial goods other than those listed in Annexes II, III and IV upon the entry into force of the Agreement. On the basis of Article 11(3) of the EU-Jordan Association Agreement, Jordan committed to liberalise tariffs for certain industrial goods listed in list A of Annex III (such as certain mineral products, certain chemical products, plastics and rubber, and certain metals) over a period of four years. On the basis of Article 11(4) of the EU-Jordan Association Agreement, Jordan committed to liberalise tariffs for industrial goods listed in list B of Annex III (such as organic chemicals, paper and paper board, certain textiles, and certain iron and steel products) over a period of 12 years.

On the basis of Article 11(5) of the EU-Jordan Association Agreement, as regards the products listed in Annex IV, the arrangements to be applied shall be re-examined by the Association Council four years after the date of entry into force of the Agreement. At the time of that re-examination, the Association Council shall establish a tariff dismantling schedule for the products appearing in Annex IV.

In 2006, the EU and Jordan concluded an Agreement on Trade in Agricultural and Processed Agricultural Products that amended the existing Association Agreement.[64] By now, the EU has

States, of the one part, and the Arab Republic of Egypt, of the other part, OJ L 106, 28.4.2010, p. 39–40, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32010D0240 (accessed 28 August 2019).

[64] 2006/67/EC: Council Decision of 20 December 2005 on the conclusion of an Agreement in the form of an Exchange of Letters between the European Community and the Hashemite Kingdom of Jordan concerning reciprocal liberalisation measures and amending the EC-Jordan Association Agreement as well as replacing Annexes I, II, III and IV and Protocols 1 and 2 to that Agreement, Agreement in the form of an Exchange of

granted Jordan duty-free market access for nearly all agricultural products (except virgin olive oil and cut flowers, which are subject to TRQs), while liberalisation by Jordan is substantial, but not complete. On the basis of this additional agreement, an Article 11a was added to the EU-Jordan Association Agreement providing for progressive liberalisation for processed agricultural products and as detailed in Annex III.

Article 13 of the EU-Jordan Association Agreement allows Jordan to take exceptional measures of limited duration in the form of an increase or reintroduction of customs duties, but only concerning "*infant industries, or certain sectors undergoing restructuring or facing serious difficulties, particularly where these difficulties produce major social problems.*", and which derogate from the dismantling requirements of Article 11. Sentence 6 of Article 13(1) of the EU-Jordan Association Agreement provides that such exceptional measures are to cease to apply at the latest on expiry of the maximum transitional period referred to in Article 6, which was to last 12 years starting from the date of the entry into force. However, Article 13(2) provides that the Association Committee "*may exceptionally, in order to take account of the difficulties involved in setting up a new industry and when certain sectors are undergoing restructuring or facing serious difficulties, authorise Jordan to maintain the measures already taken pursuant to paragraph 1 for a maximum period of three years beyond the 12-year transitional period*", which effectively allowed a period of 15 years until 2017.

In November 2011, the Commission received a mandate from the Council of the EU authorising negotiations for a Deep and Comprehensive Free Trade Area (DCFTA) with Jordan, as well as with Egypt, Morocco and Tunisia.[65] Negotiations have not yet been launched with Jordan.

2.3.3.4. Lebanon

With respect to the EU's tariff liberalisation for industrial goods, Article 8 of the EU-Lebanon Association Agreement provides that "*products originating in Lebanon shall be allowed free of customs duties and of any other charge having equivalent effect*". Article 9 of the EU-Lebanon Association Agreement also provides for a progressive dismantling of Lebanon's tariffs over a period of twelve years after the entry into force. Unlike in the other Association Agreements with the Southern Mediterranean partner countries, the Association Agreement with Lebanon does not differentiate further between products and subjects all industrial goods to the same progressive liberalisation and the successive liberalisation of industrial products by Lebanon was completed in 2015.

Additionally, Article 11 of the EU-Lebanon Association Agreement allows Lebanon to take exceptional measures of limited duration in the form of an increase or reintroduction of customs duties, but only concerning "*new and infant industries, or sectors undergoing restructuring or facing serious difficulties, particularly where these difficulties entail major social problems.*", and which derogate from the dismantling requirements of Article 9. Article 11(4) of the EU-Lebanon Association Agreement provides that such exceptional measures shall cease to apply at the latest on the expiry of the maximum transitional period of 12 years. However, Article 11(7) provides that the Association Committee "*may exceptionally, to take account of the difficulties involved in setting up new industries, endorse the measures already taken by Lebanon pursuant to paragraph 1 for a maximum period of three years beyond the 12-year transitional period*", which effectively allows a period of 15 years until 1 April 2021.

With respect to the tariff dismantling for agricultural products, Articles 12 to 17 of the EU-Lebanon Association Agreement provide for the applicable rules, largely referring to the Protocols annexed to the Agreement. According to Article 14(1) and (2) of the Agreement, with

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Letters between the European Community and the Hashemite Kingdom of Jordan concerning reciprocal liberalisation measures and amending the EC-Jordan Association Agreement as well as replacing Annexes I, II, III and IV and Protocols 1 and 2 to that Agreement, OJ L 41, 13.2.2006, p. 1–40, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=uriserv:OJ.L_.2006.041.01.0001.01.ENG (accessed 28 August 2019). As corrected by 2008/637/EC: Council Decision of 18 June 2007 on the conclusion of an Agreement in the form of an Exchange of Letters between the European Community and the Hashemite Kingdom of Jordan amending the EC-Jordan Association Agreement, Agreement in the form of an Exchange of Letters between the European Community and the Hashemite Kingdom of Jordan amending the EC-Jordan Association Agreement, OJ L 207, 5.8.2008, p. 16–23.

[65] See: European Commission, EU agrees to start trade negotiations with Egypt, Jordan, Morocco and Tunisia, 14 December 2011, http://trade.ec.europa.eu/doclib/press/index.cfm?id=766 (accessed 19 August 2019).

respect to agricultural products originating in Lebanon and the EU, Protocols No 1 and 2, respectively, provide the relevant arrangements and lists of products. According to Article 14(3) of the Agreement, with respect to processed agricultural products originating in Lebanon and the EU, respectively, Protocol No 3 provides the relevant arrangements. According to Article 12 of the Agreement, the rules apply to products falling within Chapters 1 to 24 of the Combined Nomenclature and of the Lebanese Customs tariff and to certain agricultural and processed agricultural products falling under Chapters 25 to 97 of the Harmonised System and listed in Annex 1 to the Agreement.

With respect to agricultural and processed agricultural products, the Agreement directly provided for duty-free market access to the EU for most products originating in Lebanon, as detailed in Protocol 1 (for agricultural products) and Annex 1 to Protocol 3 (for processed agricultural products), with only 27 agricultural products still subject to a specific tariff treatment, mostly in the form of TRQs (e.g., cut flowers, new potatoes, tomatoes, garlic, cucumbers, artichokes, olives, various citrus fruits). The liberalisation of agricultural and processed agricultural products by Lebanon, provided in Protocol 2 and Annex 2 to Protocol 3, is still more limited, but already comprises certain meat and dairy products, a variety of fruits and vegetables, certain nuts. The EU and Lebanon did not yet negotiate an additional agreement on agricultural, processed agricultural and fisheries products.

2.3.3.5. Morocco

The transition period for Morocco to reduce its tariffs on industrial products to zero ended in March 2012. In 2010, the EU and Morocco signed an Agreement on Additional Liberalisation of Trade in Agricultural and Fisheries Products, which entered into force in 2012.[66] Trade for industrial products is now fully liberalised, while market access for agricultural products also covers nearly all products, with only a few categories of products still subject to TRQs for imports from Morocco into the EU (e.g., tomatoes, cucumbers, courgettes). The dismantling period for EU agricultural exports to Morocco runs until the end of September 2021 and a higher number of products will be subject to TRQs at the end of the dismantling phase.

More specifically, with respect to the EU's tariff liberalisation for industrial goods, Article 9 of the EU-Morocco Association Agreement provides that "*Products originating in Morocco shall be imported into the Community free of customs duties and charges having equivalent effect*".

With respect to Morocco's tariff liberalisation for industrial goods, Article 11 of the EU-Morocco Association Agreement provides for a progressive dismantling of Morocco's tariffs over a period of twelve years after the entry into force (Annexes 3 and 4 to the Agreement).

On the basis of Article 11(1) of the EU-Morocco Association Agreement, Morocco committed to liberalise tariffs for industrial goods other than those listed in Annexes 3, 4, 5, and 6 upon the entry into force of the Agreement. On the basis of Article 11(2) of the EU-Morocco Association Agreement, Morocco committed to liberalise tariffs for industrial goods listed in Annex 3 over a period of three years. On the basis of Article 11(3) of the EU-Morocco Association Agreement, Morocco committed to liberalise tariffs for industrial goods listed in Annex 4 over a period of twelve years. Both annexes cover a wide range of tariff lines across the various chapters and CN codes.

[66] 2012/497/EU: Council Decision of 8 March 2012 on the conclusion of an Agreement in the form of an Exchange of Letters between the European Union and the Kingdom of Morocco concerning reciprocal liberalisation measures on agricultural products, processed agricultural products, fish and fishery products, the replacement of Protocols 1, 2 and 3 and their Annexes and amendments to the Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Kingdom of Morocco, of the other part, Agreement in the form of an Exchange of Letters between the European Union and the Kingdom of Morocco concerning reciprocal liberalisation measures on agricultural products, processed agricultural products, fish and fishery products, the replacement of Protocols 1, 2 and 3 and their Annexes and amendments to the Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Kingdom of Morocco, of the other part, OJ L 241, 7.9.2012, p. 2–47, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=uriserv:OJ.L_.2012.241.01.0002.01.ENG (accessed 4 September 2019).

Article 12 of the Agreement required Morocco to eliminate the reference prices applied on 1 July 1995 to the products listed in Annex 5 at the latest three years after the Agreement entered into force.

Additionally, Article 14 of the EU-Morocco Association Agreement allows Morocco to take exceptional measures of limited duration in the form of an increase or reintroduction of customs duties, but only concerning "*infant industries, or certain sectors undergoing restructuring or facing serious difficulties, particularly where these difficulties produce major social problems*", and which derogate from the dismantling requirements of Article 9. Sentence 6 of Article 14(1) of the EU-Morocco Association Agreement provides that such exceptional measures are to cease to apply at the latest on the expiry of the maximum transitional period of 12 years. However, Article 14(2) provides that the Association Committee "*may exceptionally, in order to take account of the difficulties involved in setting up a new industry, authorise Morocco to maintain the measures already taken pursuant to paragraph 1 for a maximum period of three years beyond the 12-year transitional period*", which effectively allowed a period of 15 years.

With respect to the tariff dismantling for agricultural products, Articles 15 to 18 of the EU-Morocco Association Agreement provide the applicable rules, largely referring to the Protocols annexed to the agreement. According to Article 17(1) and (2) of the agreement, with respect to agricultural products, processed agricultural products, fish and fishery products originating in Morocco and the EU, Protocols No 1 and 2, respectively, provide the relevant arrangements and lists of products. Article 17 also provides that the provisions of this chapter are not to preclude the retention by the EU of an agricultural component on imports of fructose (CN code 1702 50 00) originating in Morocco, and are not to preclude the separate specification by Morocco of an agricultural component in the import duties in force on the products listed in subchapter HS 1902 (pasta) and included in list 3 attached to Protocol No 2.

According to Article 15 of the agreement, the expressions 'agricultural products', 'processed agricultural products', and 'fish and fishery products' refer to the products listed in Chapters 1 to 24 of the Combined Nomenclature (CN) and those listed in Annex 1, paragraph 1, (ii) of the WTO Agreement on Agriculture.

2.3.3.6. Tunisia

Prior to its entry into force, Tunisia began implementing the Association Agreement in 1996. All tariffs referred to in the Association Agreement were entirely dismantled by 2008 and the EU-Tunisia free trade area was already entirely implemented two years ahead of the envisaged date in 2010.[67] In 2008, the trade of industrial products was entirely liberalised, while market access for agricultural products remains more limited.

With respect to the EU's tariff liberalisation for industrial goods, Article 9 of the EU-Tunisia Association Agreement provides that "*Products originating in Tunisia shall be imported into the Community free of customs duties and charges having equivalent effect and without quantitative restrictions or measures having equivalent effect*".

Article 10 of the EU-Tunisia Association Agreement provides the that the Chapter on Industrial Goods is not to preclude the retention by the Community of an agricultural component on imports of the goods originating in Tunisia listed in Annex 1.
With respect to Tunisia's tariff liberalisation for industrial goods, Article 1 of the EU-Tunisia Association Agreement provides for a progressive dismantling of Tunisia's tariffs over a period of twelve years after the entry into force (Annexes 3 to 5 of the Agreement).

On the basis of Article 11(1) of the EU-Tunisia Association Agreement, Tunisia committed to liberalise tariffs for industrial goods other than those listed in Annexes 3 to 6 upon the entry into force of the agreement. On the basis of Article 11(2) of the EU-Tunisia Association Agreement, Tunisia committed to liberalise tariffs for industrial goods listed in Annex 3 over a

[67] See Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2018 - 31 December 2018, SWD(2019) 370 final, p. 168, available at https://€-lex.europa.eu/legal-content/da/ALL/?uri=CELEX:52019SC0370 (accessed 5 February 2020).

period of three years. On the basis of Article 11(3) of the EU-Tunisia Association Agreement, Tunisia committed to liberalise tariffs for industrial goods listed in Annexes 4 and 5, respectively, over a period of twelve years. All three annexes cover a wide range of tariff lines across the various chapters and CN codes.

Additionally, Article 14 of the EU-Tunisia Association Agreement allows Tunisia to take exceptional measures of limited duration in the form of an increase or reintroduction of customs duties, but only concerning "*infant industries, or certain sectors undergoing restructuring or facing serious difficulties, particularly where these difficulties produce major social problems*", and which derogate from the dismantling requirements of Article 11. Sentence 6 of Article 14(1) of the EU-Tunisia Association Agreement provides that such exceptional measures are to cease to apply at the latest on expiry of the maximum transitional period referred to in Article 6, which was to last 12 years starting from the date of the entry into force. However, Article 14(2) provides that the Association Committee "*may exceptionally, in order to take account of the difficulties involved in setting up a new industry, authorise Tunisia to maintain the measures already taken pursuant to paragraph 1 for a maximum period of three years beyond the twelve-year transitional period*", which effectively allowed a period of 15 years, thereby until 2013.

With respect to the tariff dismantling for agricultural and fishery products, Articles 15 to 18 of the EU-Tunisia Association Agreement provide the applicable rules, largely referring to the Protocols 1, 2, and 3 annexed to the Agreement. According to Article 12 of the agreement, the rules apply to products originating in the EU and Tunisia listed in Annex II to the Treaty establishing the European Community. The EU and Tunisia did not negotiate an additional agreement on agricultural, processed agricultural and fisheries products but are currently negotiating new concessions on these products within the framework of the EU-Tunisia DCFTA.

With respect to fishery products, on the basis of Protocol 2, the EU is granting Tunisia duty-free market access for most fisheries products, only sardines are still subject to a tariff-rate quota. Tunisia has not yet liberalised market access for fisheries.

2.3.4. Dismantling of non-tariff measures

As documented in Chapter 3, NTMs, because of their lesser transparency and potentially higher trade restrictiveness, are still a major factor constraining the realisation of gains from the Euro-Med tariff liberalisation.

Despite the commitments contained in the trade chapters of the Association Agreements, the EU and the six Southern Mediterranean partner countries have introduced or maintained measures contrary to the spirit of fostering trade, which was enshrined in the respective agreements they concluded.

Compared to recent comprehensive trade agreements concluded by the EU, the trade chapters of the Association Agreements with the six Southern Mediterranean partner countries do not provide for any specific commitments on non-tariff measures, such as SPS or TBT. Several types of non-tariff measures are referred to in the texts of the agreements under the Title *Payments, Capital, Competition and Other Economic Provisions*. Most of these NTM provisions can however be described as directional or best endeavour type of provisions; the agreements do not contain specific or enforceable commitments in these areas but rather express broad intensions of the trading parties regarding NTMs and outline the institutional frameworks for addressing the related concerns. With respect to technical measures and standards, the Association Agreements require the Parties to "*take appropriate steps to promote the use by Tunisia of Community technical rules and European standards for industrial and agri-food products and certification procedures*".[68]

The Sub-Committees responsible with issues related to trade and investment are typically tasked with discussing the implementation of the Association Agreement in the specific areas, including, for instance, "*trade matters, access to markets; liberalisation of trade in industrial products and in agricultural products, processed agricultural products and fishery products*" and

[68] For example, Article 40(1) of the EU-Tunisia Association Agreement.

"*technical regulations, metrology, accreditation, standardisation, normalisation, certification, conformity assessment and market surveillance*".[69]

The EU's Report on Trade and Investment Barriers covering the calendar year 2018 notes that, in 2017 and 2018, there had been a "*trend of growing protectionism*" in the Mediterranean region.[70] Overall, the report refers to 30 trade and investment barriers in Algeria, Egypt, Lebanon, Morocco and Tunisia. Of these, Algeria maintains the largest number of barriers (10), closely followed by Egypt with 8 barriers.[71] For a more detailed discussion of the impact of non-tariff measures on effects of the FTAs see also Section 3.5.2 *The role of non-tariff measures* in Chapter 3.

2.3.4.1. Algeria

According to the EU's report on the EU-Algeria Association Agreement in the European Commission's accompanying document to the EU's FTA Implementation Report, a number of specific market access issues exist:

- In 2018, Algeria introduced an import prohibition regarding 877 products (across all sectors). As from January 2019, the ban applies only to cars, but a large portion of the 877 products is now subject to a set of new additional duties (see below);
- An increase of customs duties for 129 additional products (including agricultural products) starting from January 2018 still applies;
- New additional duties (ranging from 30% to 200%) applied to a list of almost 1,100 products; and
- An import ban regarding medicines for which a locally produced equivalent exists.[72]

An important concern has been Algeria's restrictions on foreign investment, including relatively recent measures, such as the 49% foreign ownership limit which applies to all sectors. The cap remained unchanged in a recent, slightly more business-friendly revision.

Similarly, the EU's Trade and Investment Barriers report for the calendar year 2018 singled out Algeria as one of two countries for which the highest number of new trade barriers was recorded.[73] More specifically, the Commission recorded five new trade barriers, bringing the number of trade barriers listed for Algeria to ten.

While the report does note that one of these issues had already been successfully resolved, the EU underlines that the "*overall impact of these barriers remains very significant, as concerned EU exports are worth up to €2.7bn*".[74] The report first refers to the temporary import ban and the increased custom duties, already noted above. The second issue concerns measures that affect the EU's shipping industry: 1) A VAT obligation for services provided by shipping vessels and relating to their cargo, which are now subject to a VAT rate of 19%. The report notes that

[69] See Article 3 of the Rules of Procedure for the EU-Algeria Subcommittee on Industry, trade and services, provided in 2007/835/EC: Decision No 3/2007 of the EU-Algeria Association Council of 29 November 2007 setting up subcommittees of the Association Committee and a working party on social affairs, OJ L 330, 15.12.2007, p. 31–43, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22007D0835 (accessed 25 October 2019).
[70] European Commission, Report on Trade and Investment Barriers (1 January 2018–31 December 2018), p. 19, available at http://trade.ec.europa.eu/doclib/docs/2019/june/tradoc_157929.pdf (accessed 19 August 2019).
[71] European Commission, Report on Trade and Investment Barriers (1 January 2018–31 December 2018), p. 19, available at http://trade.ec.europa.eu/doclib/docs/2019/june/tradoc_157929.pdf (accessed 19 August 2019).
[72] Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2018 - 31 December 2018, SWD(2019) 370 final, p. 128, available at https://€-lex.europa.eu/legal-content/da/ALL/?uri=CELEX:52019SC0370 (accessed 5 February 2020).
[73] European Commission, Report on Trade and Investment Barriers (1 January 2018–31 December 2018), p. 9, available at http://trade.ec.europa.eu/doclib/docs/2019/june/tradoc_157929.pdf (accessed 19 August 2019).
[74] European Commission, Report on Trade and Investment Barriers (1 January 2018–31 December 2018), p. 19, available at http://trade.ec.europa.eu/doclib/docs/2019/june/tradoc_157929.pdf (accessed 19 August 2019).

while Algerian shipping companies are subject to a 0% VAT rate in the EU Member States, EU shipping companies cannot recover the VAT; and 2) A new measure allowing the Algerian customs authorities to identify, on a random basis, the dry ports where ships are directed to discharge goods in the port of Algiers, which has caused EU shipping companies serious operational, legal and financial issues.[75]

On a more positive note, the report also refers to a trade concern, introduced in 2018, which had already been resolved through dialogue between the EU and Algeria. This issue concerned a requirement for importers to submit an official certificate of free movement issued in the country of origin. It was, however, not consistently applied and was unclear which authority would issue the certificate. The report states that, "*at a meeting of the newly established EU-Algeria Trade Contact Group in Algiers*", the Commission had "*submitted to Algeria a template form that could be issued by all EU Member States Chambers of Commerce*" and, in May 2018, the form was accepted by the Algerian authorities.[76]

With respect to competition policy and State aid, the EU notes that compliance with the relevant obligations of the Agreement still needs to be enhanced.[77]

2.3.4.2. Egypt

Recent EU FTA Implementation Reports makes reference to two Ministerial Decrees that pose problems for traders, namely an exporter registration scheme and pre-shipment inspections imposed on businesses importing goods pertaining to 29 categories into Egypt.[78] The measures have been discussed in the relevant fora, including at the WTO, specifically at the WTO TBT Committee and in the WTO Council for Trade in Goods.[79]

Additionally, the EU's FTA Implementation Report lists the following specific trade issues that the EU has identified with respect to Egypt:

- Arbitrary customs valuations by Egyptian customs authorities;
- The acceptance of origin declarations by importers;
- Labelling requirements in the ceramic tiles sectors;
- Import prohibitions regarding certain motorcycles;
- SPS issues (mainly affecting cereals and beef/live cattle importers); and
- Egypt's envisaged tax incentives scheme for the automobile sector.[80]

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[75] European Commission, Report on Trade and Investment Barriers (1 January 2018–31 December 2018), p. 19, available at http://trade.ec.europa.eu/doclib/docs/2019/june/tradoc_157929.pdf (accessed 19 August 2019).
[76] European Commission, Report on Trade and Investment Barriers (1 January 2018–31 December 2018), pp. 19-20, available at http://trade.ec.europa.eu/doclib/docs/2019/june/tradoc_157929.pdf (accessed 19 August 2019).
[77] Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2018 - 31 December 2018, SWD(2019) 370 final, p. 128, available at https://€-lex.europa.eu/legal-content/da/ALL/?uri=CELEX:52019SC0370 (accessed 5 February 2020).
[78] Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2017 - 31 December 2017, COM(2018) 728 final, pp. 124-125, available at https://ec.europa.eu/transparency/regdoc/rep/1/2018/EN/COM-2018-728-F1-EN-MAIN-PART-1.PDF (accessed 19 August 2019) and Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2018 - 31 December 2018, SWD(2019) 370 final, p. 136, available at https://€-lex.europa.eu/legal-content/da/ALL/?uri=CELEX:52019SC0370 (accessed 5 February 2020).
[79] Ministerial Decree No. 43/2016, Specific Trade Concern IMS ID: 505, WTO, available at http://tbtims.wto.org/en/SpecificTradeConcerns/View/502; and Ministerial Decree No.991 /2015, Specific Trade Concern IMS ID: 505, WTO, available at http://tbtims.wto.org/en/SpecificTradeConcerns/View/502 (accessed on 4 March 2019).
[80] Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament,

The EU's Trade and Investment Barriers report for 2018 does note a high number of trade barriers (eight), including a number of "*long-standing issues*".[81] At the same time, the report notes that, during 2018, three trade barriers were resolved, one in the automotive sector and two in the textiles and leather sector. With respect to the former, the report states that thanks to a high-level dialogue and exchange, Egypt totally eliminated duties on cars originating in the EU, to which Egypt was required under the tariff dismantling schedule agreed in the trade chapter of the Association Agreement.[82] With respect to the latter, Egypt had maintained: 1) Mandatory labelling requirements which resulted in time-consuming and costly operations for producers and were relaxed thanks to bilateral negotiations with the EU; and 2) the handling by the Egyptian customs of mixed invoices containing preferential and non-preferential goods.[83]

Finally, since 2016 Egypt requires foreign manufacturers of certain products to register for export with the Egyptian General Organization for Export and Import Control (hereinafter, GOEIC). Those products are only allowed to enter into Egypt in case they are registered ahead of time by the owner of the manufacturing facility or the legal holder of the trademark.[84] Earlier in 2019, the list of concerned products was extended. The requirement now applies to the following products:

- Milk and milk products for retail sale in packages of 2 kg or less;
- Preserved and dried fruits for retail sale in packages of 2 kg or less;
- Oils and fats for retail sale in packages of 2 kg or less;
- Chocolate and food products containing cocoa for retail sale in packages of 2 kg or less;
- Sugar confectioneries;
- Pastries and food preparations of cereals, bread and bakery products;
- Fruit juices for retail sale in packages of 10 kg or less;
- Natural, mineral and carbonated water;
- Make-up cosmetics, oral and dental care products, deodorants, toiletries and perfume preparations;
- Soap and surfactants intended for use as soap, for retail sale;
- Floor coverings;
- Bathtubs, sinks, wash basins, toilets, toilet seats and covers thereof;
- Toilet paper, cosmetic paper, diapers, and towels;
- Tableware, cutlery and kitchenware;
- Table glassware;
- Reinforced iron;
- Household appliances (stoves, fryers, air-conditioners, fans, washing machines, blenders, heaters);
- Home and office furniture;
- Regular bicycles, motorbikes, motorised bikes;
- Watches;
- Lighting devices for home use;
- Toys;
- Textiles, clothing, furnishing, carpets, blankets and footwear except personal protection equipment and medical use clothes;
- Carpets;
- Bags;

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the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2018 - 31 December 2018, SWD(2019) 370 final, p. 136, available at https://€-lex.europa.eu/legal-content/da/ALL/?uri=CELEX:52019SC0370 (accessed 5 February 2020).

[81] European Commission, Report on Trade and Investment Barriers (1 January 2018–31 December 2018), pp. 29-30, available at http://trade.ec.europa.eu/doclib/docs/2019/june/tradoc_157929.pdf (accessed 19 August 2019).

[82] European Commission, Report on Trade and Investment Barriers (1 January 2018–31 December 2018), p. 30, available at http://trade.ec.europa.eu/doclib/docs/2019/june/tradoc_157929.pdf (accessed 19 August 2019).

[83] European Commission, Report on Trade and Investment Barriers (1 January 2018–31 December 2018), p. 30, available at http://trade.ec.europa.eu/doclib/docs/2019/june/tradoc_157929.pdf (accessed 19 August 2019).

[84] See International Trade Administration / US Department of Commerce, export.gov, Egypt - Trade Barriers, available at https://www.export.gov/apex/article2?id=Egypt-Trade-Barriers (accessed 23 August 2019).

- Items for the transfer and packaging goods (containers, boxes, bags, and similar products);
- Shaving and hair care appliances;
- Mobile phones; and
- Footwear.

The registration appears rather burdensome, requiring, for instance, a certification of the documents by the chamber of commerce at the location of issuance.[85]

For Egypt, the EU's sanitary and phytosanitary requirements remain an important measure that affects exports from Egypt to the EU. The issue was raised at the most recent meeting of the EU-Egypt Sub-Committee on Industry, Trade, Services, and Investment, which took place on 17 June 2019. In this regard, the EU referred to technical and financial assistance that was being provided to Egypt to meet the relevant requirements. From the EU side, agricultural exports have also been affected by Egypt's extensive requirements in sectors like wheat, potatoes, and meat.

With respect to competition policy and State aid, the EU notes that compliance with the relevant obligations of the Agreement still needs to be enhanced.[86]

2.3.4.3. Jordan

The EU's 2018 Implementation Report notes that Jordan was working on approximating its standards to EU standards, including efforts by Jordan's Food and Drug Administration to align its domestic legislation with EU technical regulations and SPS standards in order to ensure compliance with EU rules and facilitate exports to the EU.[87]

The EU's FTA Implementation Report further notes a trend of trade restrictive measures in Jordan, such as a recent ban (or significant reduction) of imports of several categories of dairy products.[88] There also continue to be diverging views on Jordan's commitments regarding the import conditions for alcoholic drinks, which are attributed to a conflict between the original Association Agreement and the later Agreement on trade in agricultural, processed agricultural and fisheries products.[89]

[85] See International Trade Administration / US Department of Commerce, export.gov, Egypt - Trade Barriers, available at https://www.export.gov/apex/article2?id=Egypt-Trade-Barriers (accessed 23 August 2019).
[86] Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2018 - 31 December 2018, SWD(2019) 370 final, p. 136, available at https://€-lex.europa.eu/legal-content/da/ALL/?uri=CELEX:52019SC0370 (accessed 5 February 2020).
[87] See Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2017 - 31 December 2017, COM(2018) 728 final, pp. 135-136, available at https://ec.europa.eu/transparency/regdoc/rep/1/2018/EN/COM-2018-728-F1-EN-MAIN-PART-1.PDF (accessed 19 August 2019).
[88] See Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2018 - 31 December 2018, SWD(2019) 370 final, p. 148, available at https://€-lex.europa.eu/legal-content/da/ALL/?uri=CELEX:52019SC0370 (accessed 5 February 2020).
[89] See Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2018 - 31 December 2018, SWD(2019) 370 final, p. 148, available at https://€-lex.europa.eu/legal-content/da/ALL/?uri=CELEX:52019SC0370 (accessed 5 February 2020).

2.3.4.4. Lebanon

The political and economic situation in Lebanon is strongly impacted by the situation in neighbouring Syria. On 11 November 2016, the EU and Lebanon adopted *Partnership Priorities* for 2016-2020, as well as the *EU-Lebanon Compact*, which is supposed to provide additional opportunities for development.[90]

The Partnership Priorities set up a renewed framework for political engagement and enhanced cooperation. Following the commitments in the Partnership Priorities and Compact, a Joint Working Group (JWG) on Trade and Investment was established to address trade-related issues. As noted in the EU's EU FTA Implementation Report, the work of the Joint Working Group on Trade and Investment focuses on the following issues:

- Facilitating exports of agri-food and industrial goods to the EU;
- Improving competitiveness and productivity of the agro-food sector, as well as services;
- Statistics;
- SPS matters;
- SMEs; and
- Business and investment climate.[91]

For Lebanon, the EU's Sanitary and phytosanitary measures remain an important non-tariff measure that affects its exports to the EU.

Article 35 of the Agreement provides that anti-competitive agreements between undertakings and abuses of a dominant position are incompatible with the agreement if they affect trade between the parties. At the March 2018 meeting of the EU-Lebanon Economic Subcommittee Cluster, Lebanon stated that it was working on a new competition law, after a previous draft law had been withdrawn in 2014, but the law does not appear to be enacted yet.

2.3.4.5. Morocco

According to the EU's FTA Implementation Report, it appears that Moroccan authorities adopted in recent years a number of trade-restrictive measures:

- Safeguard measures or investigations in the steel sector, regarding coated wood boards[92], as well as a safeguard measures on imports of paper reels and reams, which have been applied since 1 January 2017 for a four-year period; and
- The new Moroccan CMIM marking, which was made mandatory for the sale in Morocco of electrical products subject to technical regulations 2573-14 (low voltage) and 2574-14 (electromagnetic compatibility), as well as toys subject to technical regulation 2574-15 on toy safety, which is supposed to be extended to further sectors and corresponds to the EU's CE marking.[93]

With respect to competition policy and State aid, the EU notes that compliance with the relevant obligations of the Agreement still needs to be enhanced.[94] In 2004, the EU-Morocco Association

[90] See Decision No 1/2016 of the EU-Lebanon Association Council agreeing on EU-Lebanon Partnership Priorities, available at https://www.consilium.europa.eu/media/24224/st03001en16docx.pdf (accessed 24 October 2019).
[91] Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2018 - 31 December 2018, SWD(2019) 370 final, pp. 152-153, available at https://€-lex.europa.eu/legal-content/da/ALL/?uri=CELEX:52019SC0370 (accessed 5 February 2020).
[92] Plesae note that the wood sector was not studied in detail in this evaluation.
[93] Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2018 - 31 December 2018, SWD(2019) 370 final, pp. 159-160, available at https://€-lex.europa.eu/legal-content/da/ALL/?uri=CELEX:52019SC0370 (accessed 5 February 2020).
[94] Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on

Council adopted implementing rules for the commitments on competition policy, notably establishing a Mechanism of Cooperation between the Parties' Competition Authorities responsible for the implementation of Competition Rules.[95]

2.3.4.6. Tunisia

The EU's FTA Implementation Report notes that, in recent months, "contentious trade issues" had considerably increased.[96]

Most recently, Tunisia had been an issue with a measure concerning non-automatic import authorisations that also raises concern. On 29 November 2018, and apparently without prior notice to private operators, Tunisia had enforced a new restrictive measure requiring import preauthorisation for a wide range of products which should, *de iure*, be guided by objective technical specifications (i.e., so-called "cahier des charges").[97] However, since the "cahier des charges" are not yet defined, Tunisia's Ministry of Trade reportedly intended to evaluate and decide importation requests on a case-by-case basis. This was in addition to the use of technical controls on a large number of industrial products covered by the agreements which have already been subject to control in Europe. According to the EU, this measure imposed *de facto* non-automatic import licences and appeared to be a violation of Article 19 of the EU-Tunisia Association Agreement, which prohibits quantitative restrictions. The EU noted that this measure had not been notified to the WTO and also appeared to be contrary to WTO provisions. This measure was finally repealed in July 2019.

According to the EU FTA Implementation Report, further open issues relate to, inter alia:

- Technical and administrative regarding pharmaceutical products, ceramic tiles, tyres and cars;
- Export declaration requests; and
- Longstanding SPS issues related to exports of apples.[98]

At the 2019 meeting of the Sub-Committee on Trade, Industry, and Services and the Sub-Committee on the Internal Market, Tunisia underlined that it was seeking to further strengthen market surveillance mechanisms through the requirement for technical controls in order to ensure compliance with consumer protection rules.[99]

At the 2019 meeting of the Sub-Committee on Trade, Industry, and Services and the Sub-Committee on the Internal Market, Tunisia also raised a number of issues regarding its trade with the EU.

Implementation of Free Trade Agreements, 1 January 2018 - 31 December 2018, SWD(2019) 370 final, p. 161, available at https://€-lex.europa.eu/legal-content/da/ALL/?uri=CELEX:52019SC0370 (accessed 5 February 2020).

[95] 2005/466/EC: Decision No 1/2004 of the EU-Morocco Association Council of 19 April 2004 adopting the necessary rules for the implementation of the competition rules, OJ L 165, 25.6.2005, p. 10–13, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22005D0466 (accessed 6 February 2020).

[96] Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2018 - 31 December 2018, SWD(2019) 370 final, pp. 172-173, available at https://€-lex.europa.eu/legal-content/da/ALL/?uri=CELEX:52019SC0370 (accessed 5 February 2020).

[97] See Rapport du Sous comité "Commerce, Industrie et Services" et "Marché intérieur", 28 February 2019, available at https://eeas.europa.eu/sites/eeas/files/rapport_sc_commerce_industrie_services_et_marche_interieur_fev_2019.pdf (accessed 17 September 2019).

[98] Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2018 - 31 December 2018, SWD(2019) 370 final, pp. 172-173, available at https://€-lex.europa.eu/legal-content/da/ALL/?uri=CELEX:52019SC0370 (accessed 5 February 2020).

[99] Rapport du Sous comité "Commerce, Industrie et Services" et "Marché intérieur", 28 February 2019, available at https://eeas.europa.eu/sites/eeas/files/rapport_sc_commerce_industrie_services_et_marche_interieur_fev_2019.pdf (accessed 17 September 2019).

Throughout DCFTA negotiations with Tunisia the issue of olive oil has acquired a strategic importance. Tunisia would like to export more olive oil duty free to the EU. This could be achieved through a revision of the quota for this commodity. Future DCFTA talks will have to address the issue of agricultural liberalisation as a whole, in order to complement current access that Tunisia is enjoying through its Association Agreement with the EU.

With respect to competition policy, the Commission notes that there are still challenges to be overcome for Tunisia to meet all its obligations in the field of competition and State aid, for instance with respect to transparency.[100] In 2015, the EU and Tunisia had agreed at the meeting of the Sub-Committee on the Internal Market, that a meeting via video conference be organised to further develop the cooperation in the area of competition and State aid. The EU is currently supporting Tunisia's efforts with a capacity building project, launched in 2018 and intended to support the DCFTA negotiations. More specifically, the objective of the project is two-fold: is to provide the Tunisian authorities with tools to assess 1) Possible discrepancies between the rules currently in force in Tunisia and the EU's acquis in the areas of competition and State aid; and 2) needs for reconciliation.

2.3.5. Impact on implementation of the agreements of their institutional structures

Overview of existing institutional structures

The respective titles on *Institutional, General and Final Provisions* of the Euro-Med Association Agreements provide the general rules on the institutional framework of the Euro-Med FTAs.[101] In general, terms, the Association Agreements provide for a three-tiered institutional framework:

- Association Council;
- Association Committee; and
- Subcommittees of the Association Committee.

The ***Association Council*** is the most important body established by the Association Agreements and, as prescribed in the agreements, is required to meet at ministerial level once a year and when circumstances it require, on the initiative of its Chairman and in accordance with the conditions laid down in the respective Rules of Procedure.[102] The Association Councils are competent to examine any major issues arising within the framework of the Association Agreements (AAs) and any other bilateral or international issues of mutual interest between the respective Parties. The Association Councils consist of the Members of the Council of the European Union and Members from the European Commission, on the one hand, and of Members of the Government of respective Euro-Med countries, on the other.[103] In accordance with the provisions laid down in the respective Rules of Procedure, Members of the Association Council may arrange to be represented.[104] Those Rules of Procedure are established by the respective Association Councils.[105]

The Association Agreements then provide rules on the functioning and competences of the Association Council.[106] The Association Councils have, for the purpose of attaining the objectives of the AAs, the power to take decisions in the cases provided for. Importantly, the decisions

[100] Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2018 - 31 December 2018, SWD(2019) 370 final, p. 172, available at https://€-lex.europa.eu/legal-content/da/ALL/?uri=CELEX:52019SC0370 (accessed 5 February 2020).
[101] Title VIII of the EU-Egypt, EU-Jordan, EU-Lebanon, EU-Morocco, and EU-Tunisia Association Agreements, and Title IX o the EU-Algeria Association Agreement.
[102] See, for instance, Article 78 of the EU-Morocco Association Agreement.
[103] See, for instance, Article 79 of the EU-Morocco Association Agreement.
[104] See, for instance, Article 79(2) of the EU-Morocco Association Agreement.
[105] See, for instance, the Rules of Procedure established under EU-Morocco Association Agreement: Decision No 1/2000 of the EU-Morocco Association Council of 9 October 2000 adopting its Rules of Procedure - Rules of procedure of the Association Committee, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1550304368266&uri=CELEX:22000D1026(05) (accessed 19 August 2019).
[106] See, for instance, Article 80 of the EU-Morocco Association Agreement.

taken by the Association Councils are binding on the Parties, which are required to take the measures necessary to implement the decisions taken. Furthermore, the Association Councils may also make appropriate recommendations. Finally, the Association Councils are required to draw up their decisions and recommendations by agreement between the two respective Parties.

On the basis of the powers conferred to the Association Council, the AAs establish ***Association Committees***, which are responsible for the implementation of the AAs.[107] The agreements allow the Association Council to delegate to the Association Committee, in full or in part, any of its powers.[108] Decisions by the respective Association Councils on their respective rules of procedure then regulate in greater detail the relationship between the Association Council and the Association Committee, delegating certain responsibilities to the Associations Committees.[109]

The Association Committees meet at the level of senior officials and meetings are attended by staff of the EU's External Action Service, of the European Commission, and of the Council of the EU, on the one hand, and of representatives of the Euro-Med country Governments, on the other. Like the Association Councils, the Association Committees are also required to establish their respective Rules of Procedure. With respect to the functioning of the Association Committees, the AAs provide that the Association Committees have the power to take decisions for their management, as well as in those areas in which the respective Association Council has delegated powers to it. The Association Committees are required to draw up their decisions by agreement between the respective Parties. Again, the decisions are binding on the Parties, which are required to take measures necessary to implement the decisions taken.

The Association Councils also act as the dispute settlement bodies of the various agreements. Parties may refer to the respective Association Council any dispute relating to the application or interpretation of the AAs, which also provide further details on the dispute settlement procedures.[110]

The Association Councils may decide to set up any working group or body necessary for the implementation of the AAs. Most importantly, the Association Councils have established various Sub-Committees to properly implement them.

All Association Agreements have generally established the following Sub-Committees:

- Internal market;[111]

[107] See, for instance, Article 81 of the EU-Morocco Association Agreement.
[108] See, for instance, Article 81(2) of the EU-Morocco Association Agreement or Article 81(2) of the EU-Tunisia Association Agreement.
[109] See, for instance, Article 13 of Decision No 1/98 of the Association Council between the European Communities and their Member States, of the one part, and the Republic of Tunisia, of the other part of 14 July 1998 adopting its rules of procedure - Rules of Procedure of the Association Committee (98/629/EC), OJ L 300, 11.11.1998, p. 20-24, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=uriserv:OJ.L_.1998.300.01.0020.01.ENG (accessed 19 August 2019); Article 13 of Decision No 1/2000 of the EU-Morocco Association Council of 9 October 2000 adopting its Rules of Procedure - Rules of procedure of the Association Committee, (2000/656/EC), OJ L 273, 26.10.2000, p. 36-39, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22000D1026(05)&qid=1556099399778 (accessed 19 August 2019).
[110] See, for instance, Article 86 of the EU-Morocco Association Agreement.
[111] The key decisions on the initial establishment of the Sub-Committees are: 2003/617/EC: 2007/835/EC: Decision No 3/2007 of the EU-Algeria Association Council of 29 November 2007 setting up subcommittees of the Association Committee and a working party on social affairs, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1550308120621&uri=CELEX:22007D0835; 2007/1/EC: Decision No 1/2007 of the EU-Egypt Association Council of 6 March 2007 setting up subcommittees of the Association Committee and a Working Group on Migration, Social and Consular Affairs, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1550309104312&uri=CELEX:22008D0687; Decision No 1/2003 of the EU-Jordan Association Council of 23 August 2003 setting up subcommittees of the Association Committee and a Working Party for Social Affairs, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1550309061276&uri=CELEX:22003D0617; 2012/652/EU: Decision No 2/2012 of the EU-Lebanon Association Council of 17 September 2012 setting up subcommittees of the Association Committee, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1550308628717&uri=CELEX:22012D0652; 2003/208/EC, Decision No 1/2003 of the EU-Morocco Association Council of 24 February 2003 setting up subcommittees of the Association

- Industry, trade and services;
- Transport, environment and energy;
- Research and innovation;
- Agriculture and fisheries;
- Justice and security;
- Human Rights, Democratisation and Governance; and[112]
- Customs Cooperation.

Additionally, some Association Agreements provide for additional sub-committees to be established. For example, the text of the EU-Tunisia Association Agreement already provides for the establishment of sub-committees in the fields of social and cultural affairs, and economic and monetary questions. Some of the Association Agreements also established a *Working Party on Social Affairs. U*nder the EU-Jordan Association Agreement, the Parties established a *Sub-Committee on Regional Cooperation* and, under the EU-Egypt Association Agreement, the Parties established a *Working Group on Migration, Social and Consular Affairs*.

Of particular relevance for this ex-post evaluation are the respective Sub-Committees on *Industry, trade and services*, *Customs Cooperation*, as well as the Sub-Committees on *Agriculture and fisheries*. The minutes and reports of the relevant meetings informed the drafting of this section.[113]

The documentation of the work in the respective Sub-Committees, as well as in discussion groups on issues such as sanitary and phytosanitary (SPS) or technical barriers to trade (TBT) measures, provides important information and insights for the ex-post evaluation of the Euro-Med FTAs.

As can be seen in the review of insights from the most recent Sub-Committees on *Industry, trade and services*, *Customs Cooperation*, as well as the Sub-Committees on *Agriculture and fisheries* Sub-Committee meetings in the Annex C.3, there appear to be significant differences in the functioning of the institutional structures of the various agreements, which is due to a multitude of factors, including the broader status of political relations between the EU and the respective partner country.

Conclusions regarding the functioning of the Sub-Committees

Overall, the institutional frameworks set up by the agreements provide for important and helpful *fora* to monitor the implementation of the agreements and address trade irritants, as well as trade concerns from both parties. The reports and minutes of the meetings show that a multitude of issues is discussed and a follow up on certain issues is possible. Still, the key benefits of these fora can only come to fruition when meetings are held regularly and in relatively short intervals.

However, it appears that, largely due to the broader political situation affecting the EU's partner countries, such regular meetings and short intervals cannot always be achieved, leading to

Committee, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1550304368266&uri=CELEX:22003D0208; 2003/823/EC: Decision No 1/2003 of the EU-Tunisia Association Council of 30 September 2003 setting up subcommittees of the Association Committee, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1550308966483&uri=CELEX:22003D0823 (accessed 19 August 2019).

[112] The Sub-Committee on Human Rights, Democratisation and Governance under the EU-Morocco Association Agreement was established by 2006/672/EC: Decision No 1/2006 of the EU-Morocco Association Council of 26 September 2006 creating a Subcommittee on Human Rights, Democratisation and Governance, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A22006D0672 (accessed 19 August 2019).

[113] See below in Section 2.6.2 a summary of recent developments within the relevant Sub-Committees based on the information provided in the reports of the Sub-Committee meetings, as well as in Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2017 - 31 December 2017, COM(2018) 728 final, available at https://ec.europa.eu/transparency/regdoc/rep/1/2018/EN/COM-2018-728-F1-EN-MAIN-PART-1.PDF (accessed 19 August 2019).

sometimes long periods without a meeting taking place. The example of Morocco, where no meetings of the Sub-Committee on Industry, Trade, and Services and the Sub-Committee on Agricultural and Fisheries Products and the Committee on Customs Cooperation took place since 2013 and 2015, respectively, shows the important impact that the broader political situation and overall (trade) relations can have. At the same time, the example of the Joint Working Group on Trade with Lebanon indicates that a higher frequency, possibly at a more technical level, is also possible, which should contribute to a better follow up and, ultimately, to a better degree of compliance with the obligations under the agreements.

2.4. Interaction with other Euro-Med agreements and initiatives

Apart from the *Agreements on agricultural, processed agricultural and fisheries products*, the other relevant agreements between the EU and the Euro-Med countries are the *Protocols on Dispute Settlement Mechanisms*. They have been concluded with several countries, including all those covered in this study with the exception of Algeria. Nevertheless, none of these Protocols is operational yet. The Dispute Settlement Mechanism (DSM) Protocol would supplement WTO dispute settlement for issues relating to the Association Agreement, notably for issues not covered by WTO rules for which the WTO dispute settlement mechanism is not available. The Protocol provides for an arbitration procedure along the lines of the WTO Dispute Settlement mechanism and as included in more recent EU trade agreements.[114] Certain issues that remain debated under WTO dispute settlement, such as the question of *amicus curiae* briefs, are regulated in the DSM Protocol.

The operationalisation of the DSM Protocols would be an important step forward, in particular as negotiations for a DCFTA continue and lead to significantly broader and deeper agreements. The more these agreements go beyond WTO rules, the greater the relevance (and need) for structured dispute settlement mechanisms.

2.5. Conclusions

Enforcement and implementation of the agreed FTAs are key for the achievement of their objectives and for the realisation of trade benefits. While the content of the six trade chapters of the Euro-Med Association Agreements that are subject to this ex-post evaluation is largely the same, the implementation and status of trade relations vary to some extent. This is due to a multitude of issues, including the overall political situation and external factors affecting the political climate in each of the six SMCs. More specifically, the agreements vary due to the different degree of additional negotiations and amendments to the agreements. In terms of liberalisation, this largely concerns the issue of phased liberalisation for the SMC countries, as well as the additional agreements on agricultural, processed agricultural and fisheries products that are in force with Egypt, Jordan, and Morocco.

The number of non-tariff barriers identified in the SMCs in the European Commission's Reports on Trade and Investment Barriers of last years seems to constitute a major obstacle to trade. It is therefore important to tackle them so that the potential of this trade relationship can be further promoted.

The institutional frameworks set up by the agreements do provide for important and helpful *fora* to monitor the implementation of the agreements and address trade irritants, as well as trade concerns from both parties. The key benefits of these *fora* can only come to fruition when meetings are held regularly and in relatively short intervals, which is sometimes complicated by the broader status of relations and the overarching political situation.

Furthermore, the overall domestic political situation in the six SMCs, as well as the political situation in neighbouring countries, notably Syria, considerably affect each of the partner

[114] See, for instance: 2011/398/EU: Council Decision of 13 May 2011 on the conclusion of an Agreement in the form of a Protocol between the European Union and the Hashemite Kingdom of Jordan establishing a dispute settlement mechanism applicable to disputes under the trade provisions of the Euro-Mediterranean Agreement establishing an Association between the European Communities and their Member States, of the one part, and the Hashemite Kingdom of Jordan, of the other part, Protocol between the European Union and the Hashemite Kingdom of Jordan establishing a dispute settlement mechanism applicable to disputes under the trade provisions of the Euro-Mediterranean Agreement establishing an Association between the European Communities and their Member States, of the one part, and the Hashemite Kingdom of Jordan, of the other part, OJ L 177, 6.7.2011, p. 1–17. Available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ%3AJOL_2011_177_R_0001_01 (accessed 24 October 2019).

countries' trade capability, flows, and respective capacity to deepen trade relations with the EU. Recently, the formulation of *Partnership Priorities*, which also include references to deepening the existing trade agreements, might provide important renewed impulses to the Euro-Med trade relations.

3. ECONOMIC ANALYSIS

Summary

This chapter first briefly reviews the main economic mechanisms and sources of economic gains that would be expected from the Euro-Med FTAs as well as conditions which must be met for these gains to materialise (Section 3.1). Second the literature on the economic effects of Euro-Med FTAs and other literature on trade integration of the six SMCs which is relevant in the context of the Euro-Med FTAs is summarised (Section 3.2). Subsequently, the chapter presents how the observed changes in market access conditions may have affected trade flows between the EU and SMCs and goes on to assess the associated wider economic effects. To do so, using the descriptive statistical analysis, we first look at changes in effective preferential tariff margins and compare them with changes in trade growth rates between the EU and SMCs and with third countries prior to and after the entry into force of the Euro-Med FTAs (Section 3.3). Second, simulations with partial and general equilibrium models are described and interpreted. These simulations have been undertaken by the European Commission to help understand the economic effects of the tariff preferences induced by the FTAs and separate them from all other economic changes which may have occurred considered in the sample progressed as regards facilitation independently (Section 3.4). Third, several factors which may have impeded the realisation of gains from these agreements are analysed in more detail. These include: the potential difficulties associated with meeting rules of origin (RoO) (Section 3.5.1); customs and trade facilitation performance (3.5.2); trade-related assistance (3.5.3); the capacity to comply with EU requirements such as technical standards and sanitary and phyto-sanitary (SPS) requirements (3.5.4); remaining restrictions to and trends in FDI and services trade (3.5.5); institutional and business environment, and deficiencies which may have impeded economic adjustment to new trading conditions (3.5.6); exchange rate policies (3.5.7) and industrial policies (3.5.8) as well as competitiveness (3.5.9), diversification, technology and economic complexity developments (3.5.10) as well as the situation of SMEs (3.5.11). These elements pave the way for sectoral case studies which were undertaken in Chapter 4 in order to take into account sector-specific global and country developments and to assess in more detail the economic effects of the Euro-Med FTAs in these sectors.

Overall, the analysis of the impact on trade and selected other economic indicators considered in this evaluation shows that **the effects of the Euro-Med FTAs on trade, GDP and welfare, consumers and workers have been positive**. Although higher initial and end levels of MFN import tariffs in SMCs meant that liberalisation was asymmetric in favour of the EU, **all SMCs have been estimated to gain in terms of welfare and income.** They also gain relatively more than the EU from the Euro-Med FTA preferences even if the estimated changes are not large. Diversification and economic complexity of exports of SMCs have also recorded improvements since the entry into force of the Euro-Med FTAs although **the EU market is still challenging for SMC producers when it comes to complying with product standards and diversifying their export structures and competing in markets for more complex products**.

The Euro-Med FTAs have resulted in **redirection of some of the intra-SM trade towards the EU and trade among SMCs was somewhat reduced**. The latter changes are relatively small and are expected given the bilateral nature of these trade agreements between the EU and the SMCs. However, they still show that the tariff reductions associated with the Euro-Med FTAs were not as effective in advancing the objective of promotion of intra-Med trade as they were in advancing the Euro-Med trade. However, the regional agreements, such as the Agadir Agreement and the Regional Convention on pan-Euro-Mediterranean preferential rules of origin which was a step in promoting greater harmonisation and simplification of rules of origin (RoO) in the region, were inspired by the Euro-Med FTAs and were building blocks in the process of promoting intra-Med trade.

Both the analysis of historical trade data and the CGE PE model simulations suggest that the Euro-Med FTAs may have contributed to deteriorating bilateral trade balances for SMCs. However, while deteriorating bilateral trade balances are not surprising given the asymmetric nature of the tariff liberalisation due to the Euro-Med FTAs, bilateral balances are not a meaningful indicator of balance of payment adjustment issues. Fiscal, monetary and structural policies are considered primary determinants of the overall balances as they shape national saving-investment relations. Moreover, **historical trade data showed that while the overall trade balances have deteriorated for five SMCs, their bilateral balances**

with the EU either improved or deteriorated less rapidly than the overall balances, suggesting that trade with the EU might have in fact been a mitigating factor.

The estimated impacts of the FTAs on SMCs' import tariff revenue are large. However, these impacts should be considered in the context of relatively small and falling share of customs and other import duties in overall tax revenue in SMCs. In addition, SMCs have shifted to other, more efficient sources of government revenue such as value added, sales and income taxes. The analysis indicates that the overhauling of revenue collection in SMCs worked well as the overall ratio of tax revenue to GDP has remained stable—and even increased in some cases—despite the reduction of import tariff revenue due to the Euro-Med FTAs. The impact of tariff reductions associated with the Euro-Med FTAs on the EU budget is estimated to be much smaller, amounting to the equivalent of 4% of the EU's customs duties collected in 2018. Overall, the impacts on tariff revenue both in SMCs and in the EU have to be seen in the context of the discussed impacts on GDP and welfare, which 'net out' the effect of tariff revenue reductions and which are positive on balance.

The relatively narrow scope of the Euro-Med FTAs has to some extent affected the degree to which SMCs could take advantage of the new market access opportunities. NTMs were not addressed effectively in the agreement and these can be more important for market access than tariffs. Also, other factors related closely to trade in gods such as services and FDI have only been covered to a limited extent. While the EU and the SMCs' governments meet on a bilateral basis to discuss both barriers that violate the agreement or are outside of the strict provisions of the agreement, the problems are often not easily solved. In addition, while RoO associated with the Euro-Med FTAs were not found to be a major barrier for SMC exports in general, in the *Textiles and Clothing* sector the double-transformation rule affects the extent to which SMCs can use imported inputs from outside the Euro-Med region undermining their competitiveness in the EU market vis-à-vis third country producers, notably from Asia.

There were, however, also other factors at play outside of the agreements which influenced the achievement of their objectives. Access to the EU market improved for some competitive third countries suppliers—for example for China after the abolition of the Multi-fibre and Textiles and Clothing agreements—and this effectively undermined the preferences enjoyed by the SMCs. Underperforming business environments and product and factor markets as well as low competitiveness in SMCs impeded adjustments to trade liberalisation and lowered the gains from the Euro-Med FTAs. In some cases, opportunities in third markets related to lower NTMs and less fragmented nature of these markets made them relatively more attractive.

Euro-Med FTAs worked through labour and capital reallocations across some of the sectors and this **emphasised the role of the business environment and the role of national governments' support in facilitating such adjustments**. However, the adjustment costs were also found to be related positively to the size of the overall gains from liberalisation.

Direct costs of compliance of the Euro-Med FTAs have not been found to be a major issue either. This is best exemplified by **preference utilisation rates which show that the take up of preferences by SMCs exporters is widespread** and has generally grown over the last decade. Utilisation rates of Euro-Med FTA tariff preferences used by EU exporters when accessing SMC markets are lower but have also grown. However, **other inefficiencies and remaining regulatory costs in areas covered only partially by the FTAs remain high** and some estimates suggest they may have larger impacts than the tariff liberalisation brought about by the Euro-Med FTAs. This concerns mainly regulatory NTMs—where the estimated ad-valorem tariff equivalents can easily exceed 20%—as well as barriers to FDI, services trade restrictions and inefficient business and institutional environments. This suggest that the **remaining NTMs and other regulations are relevant as they create inefficiencies and costs which affect the functioning of the Euro-Med FTAs.**

3.1. Introduction – the gains from trade

From an economic perspective, similarly to other preferential trade agreements, the Euro-Med FTAs are overall expected to bring about economic and social gains for the following reasons:

- Freer trade results in a better alignment of economic incentives with international price signals. In the context of this report, this allows realisation of SMC economies' and EU's

comparative advantage where productive resources are allocated more efficiently across trading economies (also referred to in the literature as 'allocative efficiency'). This results in higher productivity and higher per capita incomes;
- Trade openness also results in greater competition which also translates into higher productivity and higher per capita incomes;
- With access to larger market greater economies of scale can be realised, lowering average costs of production, boosting productivity and per capita incomes;
- Higher productivity stemming from the above effects helps in attracting more domestic investment and FDI as well as labour (i.e., through migration) boosting further productivity and per capita incomes;
- All of the above effects are expected to combine and reinforce each other and create a more creative and innovation-driven economy, which also boosts productivity and per capita incomes in a more sustainable manner.

However, as is the case with other FTAs, a key reality which is often forgotten in economic analysis of trade policy, is that the above-mentioned effects may not materialise if the structural change does not take place or is impeded. Instead, negative effects, including, for example, output or employment reductions, may appear and persist in time. For the positive effects of trade liberalisation to materialise, the economic agents must be able to act and adjust production, employment and investment levels across the economy in response to the new market access conditions. This involves upscaling economic activity in competitive, and downscaling it in uncompetitive, sectors. A host of factors related to the functioning of product and factor markets and institutions, such as the ability to start or close a business, get credit, register and protect property, hire skilled staff, enforce contacts, etc., determine countries' structural adjustment abilities. Other reasons for why trade-related structural adjustment and the gains from trade may fail to materialise include emergence of other barriers which are either not covered or insufficiently so in the agreements. This is sometimes the case with NTMs which are erected under pressure from interest groups to counterbalance the effects of tariff liberalisation.

The fact that the gains from trade are predicated on relative price changes and structural change means that FTAs may also be associated with certain adjustment costs and distributional effects such as:
- Unequal sectoral effects on output, employment and capital stocks which refers to more pronounced reallocations with potentially negative social implications;
- FTAs may have negative or positive distributional effects as well as environmental effects which may require accompanying policies, often from beyond the traditional 'trade policy toolkit'.

Generally, to maximise the chance that trade liberalisation has positive social and environmental effects, relevant labour and environmental standards need to be in place and be effectively enforced. In the context of trade agreements which do not have advanced provisions in these areas, as is the case with the Euro-Med FTAs (see Chapter 2), these standards are necessarily the relevant national standards as well as any international standards the trading partners may have committed to in other contexts (e.g. the international labour standards of the International Labour Organisation (ILO) and related domestic legislation, see also Chapter 5).

The economic impact analysis presented in Chapter 3 builds on this overview of expected effects of the Euro-Med FTAs and combines the following elements:
- summary of findings from the review of existing studies and reports (Section 3.2);
- analysis of the evolution of Euro-Med market access conditions and trade flows including the analysis of trade developments of the most and the least successful products to assess the direction and magnitude of the allocative effects and other possible efficiency gains arising from the Euro-Med FTAs (see Section 3.3 and 3.4);
- description and interpretation of the computable general equilibrium (CGE) and partial equilibrium (PE) modelling exercises used to separate the trade effects of the Euro-Med FTAs from other influences; assessment of their broader economic effects in terms of welfare, incomes and CO2 emissions (see Section 3.4);
- analysis of factors that can help explain and put in the context the CGE/PE modelling results as well as factors determining the degree to which SMCs could use the opportunities stemming from the FTAs and gain from them (Section 3.5):
  - Rules of origin (Section 3.5.1);
  - Non-tariff measures (Section 3.5.2);

- Role of FDI and services trade (Section 3.5.3);
- Business environment (Section 3.5.4);
- Competitiveness (Section 3.5.5);
- Diversification, technology and economic complexity (Section 3.5.6);
- SMEs (Section 3.5.7).

3.2. Summary of the literature and its key limitations which are addressed by the current study

A review of existing literature on the economic effects of Euro-Med FTAs, on the one hand, and on trade integration of the six SMCs, on the other hand is included in Annex D:

- Firstly, the methodological approaches used most commonly in the economic literature on Euro-Med FTAs and SMCs' trade integration are discussed (Section D.1.2);
- Secondly, results from several empirical papers focused on the region as a whole are discussed (Section D.1.3);
- Thirdly, in an effort to capture the relevant country-level effects, where made possible by the respective authors, the results at the country-level are discussed[115] (Section D.1.4).

All references of the reviewed studies can be found in Annex H. Bibliography.

This section summarises the findings and discusses limitations of the existing literature which can be addressed by the current study.

To date, the empirical investigations assessing the economic importance of the Euro-Med FTAs have applied a **wide range of tools**, ranging from descriptive analysis of statistics, through relatively simple to sophisticated econometric approaches encompassing gravity models and nonparametric methods, to a wide variety of CGE-based approaches. Despite the rich toolkit (or perhaps because of it) **the empirical results provided to date have been mixed**. As with all econometric and CGE modelling excercises the results depend crucially on economic assumptions and their reflection in specific modelllig choices (equation specifications) as well as data used. Many of the reviewed studies were conducted in different years and therefore had access to different data. Some of them concerned only some countries, making in most cases a comprehenesive comparison across the different SMCs impossible.

With this caveat in mind, the two paragraphs below offer a brief summary of some of the most important findings **to highlight the extent to which the modelling outcomes were scattered, divergent, and - at times - contradictory.**

i) The majority of **gravity-based and other econometric** studies argued that the Barcelona Process was less effective than expected as regards the impact on trade between the EU and SMCs[116]. Indeed, it was often argued that these countries likely under-traded with the EU and the outside world, either (or both) in terms of export and (or) imports (e.g. Al-Atrash and Yousef, 2000; Péridy 2005a, 2005c, Ruiz and Vilarrubia 2007, CASE/CEPS 2009, Péridy 2012, Montalbano and Nenci 2014). There emerged several potential reasons for this phenomenon:

- Inability to reap the gains of the FTAs due to institutional insufficiencies (detailed in many studies);
- Inadequate pace of implementation and insufficient market adjustments by the SMCs (e.g. Ruiz and Vilarrubia, 2007);
- the remaining trade barriers between the SMCs themselves and between the EU and the SMCs (e.g. Al-Atrash and Yousef, 2000; Péridy, 2005a);
- greater pace of liberalisation in regions beyond the EU and SMCs, which likely redirected the trade of the SMCs towards economies reporting greater demand for their products (CASE/CEPS 2009);

[115] In cases when one study encompasses several Mediterranean countries, we present the results for each country separately.

[116] Bensassi et al. (2009)'s investigation was one of the very few arguing for positive outcomes of the Euro-Med FTAs on trade between the regions, with a later study by Bensassi et al. (2012) contradicting slightly the initial outcomes. Soderling (2005), too, argued that the dynamic of SMCs' exports exceeded the modelled predictions.

- restrictive rules of origin and lack of cumulation (e.g. Augier et al., 2004, 2007; Brunelin et al., 2018);
- too short a time between the empirical analysis and the FTAs' implementation; and
- investigations which compared shallow and deep integration processes argued for the importance of eliminating NTBs along with cuts in tariffs, with the former bringing greater increases in imports and exports between the EU and SMCs[117].

ii) As for the **CGE-based** approaches, the obtained results varied not only across models (due to differing assumptions), but also across specific economies, thus defusing any attempt at a coherent summary. One common thread across the different studies however is that the effects of trade integration between the SMCs and the EU would be scant for the latter, while small but positive in economic terms for the former region (e.g. EMNES, 2017). However, some negative predictions exist for some countries. Some results for example signal possible negative effects on industrial production in SMCs, due to the asymmetric nature of tariff reductions associated with Euro-Med FTAs (e.g. Augier and Gasiorek, 2003). Many CGE studies, including the Sustainability Impact Assessment (SIA) of the potential future DCFTAs with the region, suggest relative high gains from trade liberalisation going beyond tariffs. There are also indications that potential gains from cutting trade costs in MENA countries as a result of their trade with the EU would likely dwarf the gains stemming from elimination of the costs associated with the intra-MENA trade (e.g. Dennis, 2006).

The above discussion regarding the failures and shortcomings of the FTAs needs to also consider the fact that, whereas the Euro-Med FTAs focused on lowering tariffs of traded goods, they belong to the "old" generation of trade agreements. As such they likely no longer address the current socio-economic needs of producers and consumers functioning in international markets. Baldwin (2016) distinguishes between "old" and "new" global value chains-based globalisation and related processes of economic divergence and convergence between countries at a global level. The emergence of global value chains (GVCs) and their intensification in the late 1990s and 2000s, characterised by ever more complex, multi-directional back-and-forth trade of parts, components, and services as well as cross-border investment and movement of personnel, has been fuelled by reductions in communication and trade costs. **From the perspective of the current study and thinking of lessons we can draw from the evaluated FTAs, it is the "new" globalisation and the socio-economic issues** discussed by Ayadi and Sessa (2017) that come across as more important.

Improving trade integration in the era of global value chains goes far beyond tariff reduction, although low tariffs are certainly a pre-condition to such integration. Reductions in all other trade related costs at borders and within a country's territory, facilitating foreign investment and links between investors and local firms, improving the performance of the services sectors (the backbone of a value chain-based economy), as well as creating an environment conducive for innovation and technology transfer and adoption are the other factors that play a key role in internationally fragmented value chains. Most of these issues have not been addressed in the FTAs studied in this ex-post evaluation. However, in assessing the effects of tariff reductions and elimination of certain non-tariff measures, **this study could focus on how, or whether, alleviation of these non-tariff trade-related costs translated into creation of an economically inclusive, innovative environment and facilitated (or not) participation of the SMCs in the 'new' globalisation**.

Overall, the findings suggest that, to the extent this can be done with available data, considerable **value can be added by taking stock of the Euro-Med FTA-associated tariff reductions, trade developments, and their wider macroeconomic effects in one methodologically consistent framework encompassing public stakeholder consultations, and economic and sustainability analysis, harmonised as much as possible across the six countries and focusing on their relevance in the current context**. Apart from a more rigorous comparison of the FTA-related trade effects, this will allow identifying countries, sectors and sustainable development areas in which the FTAs may have had more pronounced effects, identifying the main obstacles to benefiting from the preferential

[117] Jouini et al. (2016); Péridy and Ghoneim (2013); Ghoneim et al (2012); Péridy (2012).

market conditions (such as remaining NTBs) and drawing lessons for future Euro-Med trade initiatives and beyond.

3.3. Characteristics of Euro-Med FTAs and of subsequent trade developments

As elaborated in Chapters 1 and 2, by the mid-1990s, before signing the Euro-Med FTAs, the EU had already granted duty free access on a wide range of tariff lines to the SMCs. There was still some scope for further gains from the liberalisation by the EU but the main effects were expected in the context of the reduction of SMCs' import duties. The latter were, until then, undisciplined by the existing Cooperation Agreements and were relatively high (see Table 2.1 in Chapter 2). The fact that the actual reduction of import tariffs occurred in the SMCs can be interpreted as being in favour of EU exporters.

Together with the fact that the EU is a much more important trade partner for the SMCs than the other way around, the significant lowering of import tariffs by the SMCs can also be thought of as creating potentially a much vaunted trade-related structural adjustment in these countries than in the EU. In this context, the business environment challenges which persist in SMCs (see Section 3.5) aggravated the risk of a longer, or less than full, adjustment to the trade shock and increased the possibility of only partial gains from the FTAs.

Conceptually, the economic outcomes of preferential market access can be thought of as a combination of two types of effects: *trade creation* and *trade diversion*.[118] To the extent that an FTA effectively lowers import duties, trade creation is the substitution of domestic production for cheaper imports from partner countries. This effect is generally seen as economically beneficial.[119] Trade diversion can be thought of as the reduction in imports from countries that are not members of the FTA and reorientation towards imports from partner countries. To the extent that these imports are diverted from an actual cost-efficient partner to less efficient ones, they generate negative economic effects. However, if preferential liberalisation occurs in the context of other already existing preferential schemes (as is usually the case, e.g. existing FTAs with other regions) redirection of trade towards the members of the new FTA can actually yield positive results (i.e. correction of the existing diversion effects).

The economic efficiency of a given FTA can be thus thought of as the overall balance of these positive and negative effects on prices and quantities of produced, consumed and traded products.

In agreements concentrating on import tariffs, such as is the case with the Euro-Med FTAs, the size of the benefits of an FTA, but also of the required structural change, are expected to reflect:

- The *size of effective preference margins* to which partner countries are entitled as a result of the FTAs, which in turn depend on the bilateral tariffs as well as tariffs charged on imports from third countries and on their evolution over time;
- the amount of *existing trade or the potential for such trade* to be created[120];
- the *presence of any non-tariff measures* (NTMs) and other factors (e.g. institutional or capacity factors) potentially affecting bilateral trade flows and the way they are addressed by the considered agreement, such as, for example, the rules of origin determining eligibility for these preferences or trade-related technical standards,

[118] The concepts of trade creation and trade diversion were originally posited by Viner (1950) and are still a popular conceptual framework for considering the effects of regional economic integration.
[119] This assumes that exports from partner countries are the result of market forces, i.e. are not subsidised or distorted in other ways and does not go in any depth into the distributional issues.
[120] If two countries already trade a lot, an additional reduction in bilateral trade barriers is likely to have a significant impact. Similar may be the case of two countries which do not currently trade a lot (e.g. because of high trade barriers) but which have complementary strengths (comparative advantages) or production structures.

sanitary and phytosanitary measures (SPS)[121] and institutional assistance with respect to dealing with these NTMs;

- the above-mentioned *abilities take the advantage of the created opportunities* and to scale back activities which are performed more efficiently in other countries which are related to the environment for doing business;
- there is also the overall macro and micro-economic context, including macroeconomic growth trends, macroeconomic cycles, crisis periods, and political events which had economic implications or, indeed, microeconomic and structural developments that affect economy-wide competitiveness levels (such e.g. better infrastructure or economic institutions), which may be unrelated directly to the implementation of the FTAs but which, nonetheless, may interact with, or occur at the same time as, the effects of the FTAs and need to be taken into account.

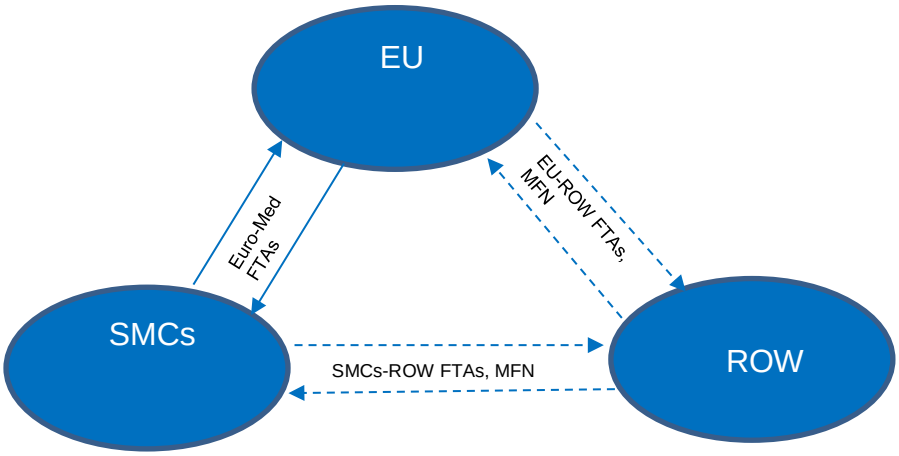
3.3.1. Preferential market access and trade developments

Calculation and analysis of effective preference margins presented in this sub-section takes into account not only the preferential tariffs granted by the Euro-Med FTAs but also tariffs charged on imports from the third countries.

As far the Euro-Med preferential tariffs are concerned, before the FTAs entered into force, these included the tariff concessions granted under the generalised System of Preferences (GSP) and Euro-Med co-operation agreements established in the 1970s. Further tariff reductions, as stipulated in the Euro-Med FTAs, started being applied in stages since their entry into force form the late 1990s to mid-2000s (see Chapter 2).

As far as the third countries are concerned, in the case of the WTO members with whom the EU and SMCs do not have FTAs,[122] market access conditions are determined by the tariffs applied on a most-favoured nation (MFN) basis and, in the case of countries with which the EU or SMCs have FTAs, the preferential rates corresponding to these FTAs (Figure 3.1). Bilateral EU-SMCs trade would also be expected to be influenced indirectly by market access conditions faced by the EU and SMC traders when trading with third countries. Hence the MFN and preferential tariff rates applied by them. Importantly, the levels of all these tariffs evolved over time either in the context of the implementation of the WTO agreements, as a result of unilateral or preferential liberalisation (FTAs) or, as a reflection of protectionist tendencies.[123]

Figure 3.1 Conditions of market access in the context of the Euro-Med and other FTAs



Source: own elaboration.

The context of the many other FTAs signed by the EU and SMCs with third countries is particularly important. These FTAs determine preferential market access conditions for third country exporters. Consequently, they also affect the attractiveness of preferences granted within the Euro-Med FTAs to EU and SMCs' exporters. As discussed above, they also influence

[121] See e.g. Inama and Jachia (2013).
[122] Algeria and Lebanon are still not WTO members.
[123] Raising levels of protection may be consistent with the legal WTO commitments if, for example, tariff increases do not exceed the bound levels set by the WTO agreements.

the balance of economic effects of Euro-Med FTAs as they shape the balance of trade creation and diversion. A number of such agreements were signed by both the EU and SMCs, both before and after the Euro-Med FTAs entered into force (see Table 3.1 Figure 3.2 and). Table 3.1 shows clearly that, first, the EU has signed more such agreements since the mid-1990s than all SMCs countries taken together. Second, EU agreements include both those signed with large advanced economies such as, South Korea, Canada or Japan, large emerging economies such South Africa and Turkey, as well as smaller emerging and developing economies in Europe, Africa and Lain America.[124] Third, but perhaps most importantly, Table 3.1 does not reflect a number of EU enlargements, including: the EU accession of Malta, Cyprus, Estonia, Latvia, Lithuania, Poland, Czech Republic, Slovakia, Slovenia, Hungary in 2004; Bulgaria and Romania in 2007; and Croatia in 2013. The accessions meant that the acceding countries, which often had comparative advantages similar to those of SMCs (e.g. in labour-intensive activities), integrated the EU Single Market, where due to regulatory convergence and coverage of a wider range of economic freedoms, access to foreign markets is much less frictionless than in the most comprehensive FTAs. At the same time, EU enlargements also expanded the size of the EU market covered by Euro-Med FTAs as after these enlargements, SMCs could access approximately 140 million consumers more than when the Euro-Med FTAs were signed. Both the entry into force of FTAs with third countries as well as the EU enlargements would be expected to 'erode' the value of tariff preferences the EU and SMCs gave to each other through the Euro-Med FTAs as confirmed by some of the feedback from the public consultations (see also Annex G) and the analysis of preferential tariffs that follows in the next section.

Table 3.1 List of 'other' FTAs signed by the EU and SMC countries since the mid-1990s

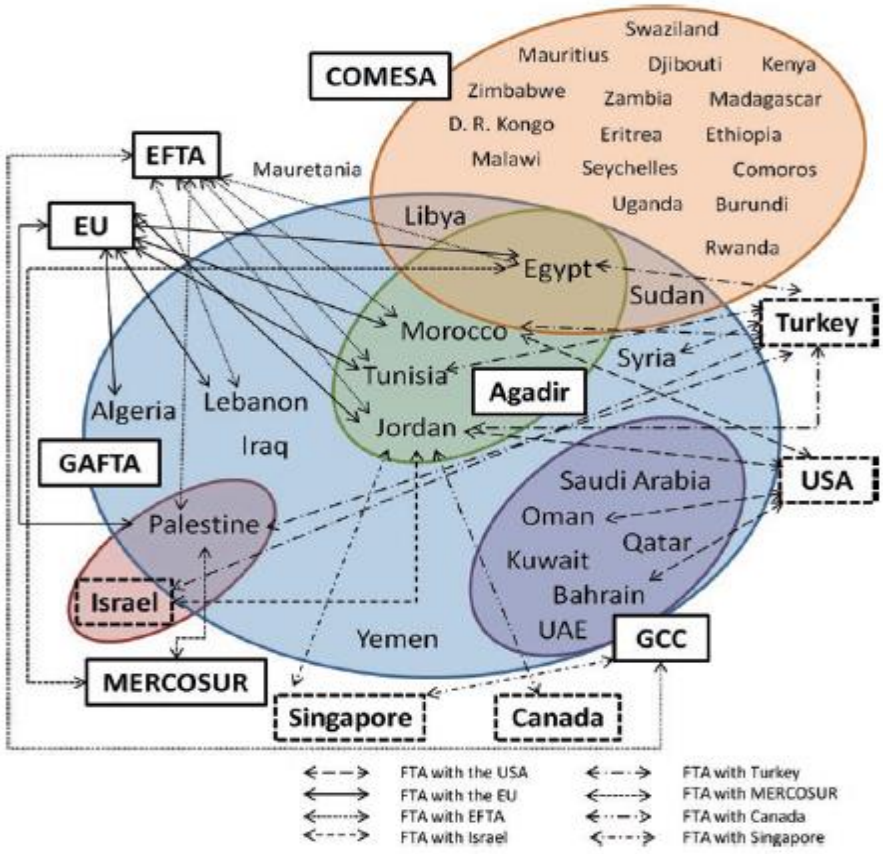
EU's other FTAs		SMCs' other FTAs	
Name	Entry into force	Name	Entry into force
EU – Turkey	1996	FTAs involving multiple SMCs	
EU - Faroe Islands	1997	Pan-Arab Free Trade Area (PAFTA) (Bahrain, Kingdom of; Iraq; Jordan; Kuwait, the State of; Lebanese Republic; Libya; Morocco; Oman; Qatar; Saudi Arabia, Kingdom of; Sudan; Syrian Arab Republic; United Arab Emirates; Tunisia; Egypt; Yemen)	1998
EU - Palestinian Authority	1997	Agadir Agreement (Jordan; Morocco; Tunisia; Egypt)	2007
EU – Israel	2000	Algeria	
EU – Mexico	2000	-	
EU - South Africa	2000	Morocco	
EU - North Macedonia	2001	EFTA - Morocco	1999
EU - San Marino	2002	Morocco - United Arab Emirates	2003
EU – Chile	2003	Turkey - Morocco	2006
EU – Algeria	2005	United States - Morocco	2006
EU – Albania	2006	Tunisia	
EU - Bosnia and Herzegovina	2008	EFTA - Tunisia	2005
EU - CARIFORUM States EPA	2008	Turkey - Tunisia	2005
EU – Montenegro	2008	Egypt	
EU - Papua New Guinea / Fiji	2009	Common Market for Eastern and Southern Africa (COMESA) - Accession of Egypt	1999
EU – Serbia	2010	EFTA - Egypt	2007
EU - Korea, Republic of	2011	Egypt - Turkey	2007
EU - Eastern and Southern Africa States Interim EPA	2012	Southern Common Market (MERCOSUR) - Egypt	2017

[124] There are also qualitative differences across the different agreements and EU's agreements would be expected to be deeper and more comprehensive.

EU's other FTAs		SMCs' other FTAs	
EU - Central America	2013	Jordan	
EU - Colombia and Peru	2013	United States - Jordan	2001
EU – Cameroon	2014	EFTA - Jordan	2002
EU - Colombia and Peru - Accession of Ecuador	2014	Jordan - Singapore	2005
EU – Georgia	2014	Canada - Jordan	2012
EU - Moldova, Republic of	2014	Lebanon	
EU – Ukraine	2014	EFTA - Lebanon	2006
EU - Côte d'Ivoire	2016		
EU – Ghana	2016		
EU – SADC	2016		
EU – Canada	2017		
EU - Japan	2019		

Note: the table covers agreements which entered into force since 1996.
Source: own elaboration using the WTO Regional Trade Agreements database.

Figure 3.2 The "Spaghetti Bowl" of trade agreements in the region



Source: Zorob (2018).

Preferential tariffs

In this subsection, the available tariff and trade data from, respectively, UN TRAINS and UN COMTRADE databases, accessed through the World Integrated Trade Solution (WITS) platform, are used to describe the evolution bilateral import tariffs and effective preferential tariff margins for the aggregate trade and for selected product categories. This is followed by a descriptive analysis of the evolution of the corresponding bilateral trade flows since the beginning of the entry into force of the Euro-Med FTAs in the next subsection.

Three types of tariffs are considered: MFN tariffs which indicate the levels of non-preferential tariff protection can be compared to preferential tariffs (PRF) associated with FTAs and other preferential trade agreements such as for example the GSP, and effectively applied tariffs (AHS) which combine of MFN tariffs with PRF tariffs wherever the latter exist (see also Box 3.1). Throughout the section the analysis refers to simple averages calculated for the aggregated product categories across all relevant Harmonised System (HS) tariff lines at the 6-digit level of aggregation which have positive import values. Hence, the observed differences are a combination of different tariff rates and the composition of trade that actually occurs.

Evolution of effective[125] preferential tariff margins in the EU market – all sectors

The preference margin is typically defined in the applied trade policy literature as the difference between MFN and preferential tariffs. In the case of the SMC's market access to the EU, both have not changed safe for a handful of isolated cases, e.g. due to the implementation of the ITA, and as a consequence, also the preference margins granted to these countries by the EU have not changed. However, given that a large proportion of EU imports is happening under FTAs, and thus no longer subject to MFN treatment, a more relevant indicator of market access is what we define in this evaluation as the *effective preference margin*, which is the difference between the average tariff paid by third countries and the preferential tariff charged on imports from a given Euro-Med FTA partner.

Table 3.2 and Figure 3.3 show the evolution of average tariffs applied by the EU across all tariff lines. In order to be able to compare the market access situation before and after the implementation of the FTAs, the vertical line in Figure 3.3 marks the year of entry into force of each of the Euro-Med FTAs. Figure 3.4 summarises the difference between the import tariffs applied on imports from third countries (the rest of the world) and tariffs applied on imports from each SMC, i.e. the preferential margins enjoyed by SMC exporters in the EU market. Figure 3.5 in turn compares tariffs faced by SMCs in the EU market with tariffs faced by them in third country markets.

Box 3.1 Tariff definitions according to the World Integrated Solution (WITS) portal

MFN Tariffs

MFN are the rates actually applied on imports from other members of the WTO according to their WTO MFN commitments (in cases of countries which are members of the WTO, Algeria and Lebanon are not), unless the country is part of a preferential trade agreement (such as a free trade area or customs union). This means that, in practice, MFN rates are the highest (most restrictive) that WTO members charge one another.

Preferential Tariffs (PRF)

These are the tariffs applied in the context of a preferential agreement. The preferences differ between agreements and partners. In certain agreements (customs union or free trade area), the preferential tariff rate is zero on essentially all products. This type of agreements is reciprocal: all parties agree to give each other the benefits of lower tariffs but reciprocity does not necessarily mean that countries give each other the same preferences on the same products. In other agreements the members receive a percentage reduction from the MFN tariff, but not always zero tariffs. Moreover, the latter preferences are not necessarily reciprocal.

Effectively Applied Tariffs (AHS)

The effectively applied tariff (AHS) is obtained by replacing the MFN tariff by the preferential tariff where this one exists. The AHS tariff is therefore the simple average of the tariffs, which are either preferential tariffs or MFN tariffs when there is no preferential tariff on a HS line. Consequently, deviations between preferential tariffs and effectively applied tariffs mean that there are no preferential tariffs for each HS line (or for each disaggregated product category).

Note: Whatever the type of tariff, their level always corresponds to the simple average of the tariff lines for which there is trade, which explains why, for example, the average MFN tariffs applied by the EU on imports from each SMC may not be the same between different EU countries.

Customs duties on industrial goods imported by the EU from SMCs have been almost completely eliminated already prior to the entry into force of the FTAs (Table 3.2) and duties applied on imports of agricultural products were estimated at between 0.43% for Lebanon and 3.91% for

[125] Effective preference margins (preference margins thereafter) are defined in this study as differences between average tariffs charged on imports from third countries and average preferential tariffs implied by the Euro-Med FTAs.

Algeria and Egypt. Following the implementation of the FTAs and the Additional Protocols on Agricultural Products by Egypt, Jordan, Lebanon and Morocco (see Chapter 2), by 2018, these tariffs had fallen to close. Since Lebanon's agricultural exports enjoyed low tariffs already at the time of entry into force of the EU-Lebanon FTA, the Euro-Med FTAs had tangible impact on agricultural market access only for Egypt, Jordan and Morocco. For Algeria and Tunisia, which did not negotiate equivalent additional protocols on agricultural products, tariffs imposed on the agricultural products they export to the EU actually increased somewhat: from 3.9% in 2005 to 4.6% in 2018 for Algeria; and from 3.8% in 1996 to 4.1% in 2018 for Tunisia.

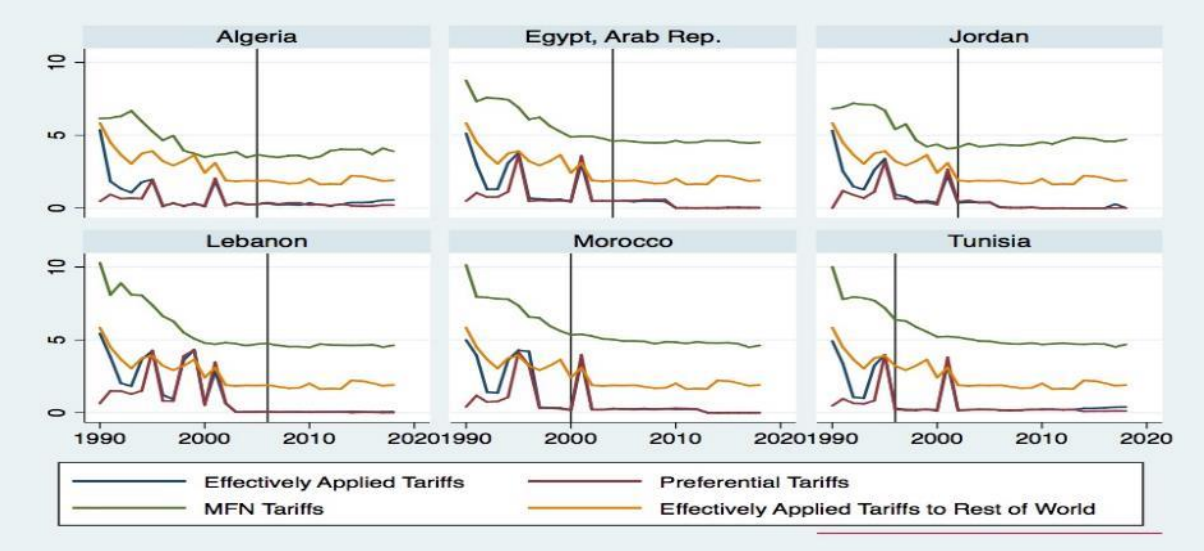
Table 3.2 EU tariffs charged on imports from the SMCs (by agricultural and industrial sectors, simple average tariffs)

	Year of entry into force of AA		2018		Difference in percentage points	
Partner	**Agr**	**Ind**	**Agr**	**Ind**	**Agr**	**Ind**
Algeria	3.91	0	4.58	0.01	0.67	0.01
Egypt	3.91	0.05	0.14	0.01	-3.77	-0.04
Jordan	3.86	0.02	0.01	0.01	-3.85	-0.01
Lebanon	0.43	0	0.35	0	-0.08	0
Morocco	2.02	0	0.09	0	-1.93	0
Tunisia	3.85	0.01	4.11	0.01	0.26	0

Note: these simple average tariffs are calculated based on Harmonised System 6-digit tariff data and concern only tariff lines which have positive import values. Hence, the observed differences are a combination of different tariff rates and the composition of trade that actually occurs.
Source: own calculation on the basis of data from UN-Trains Database, extracted from WITS.

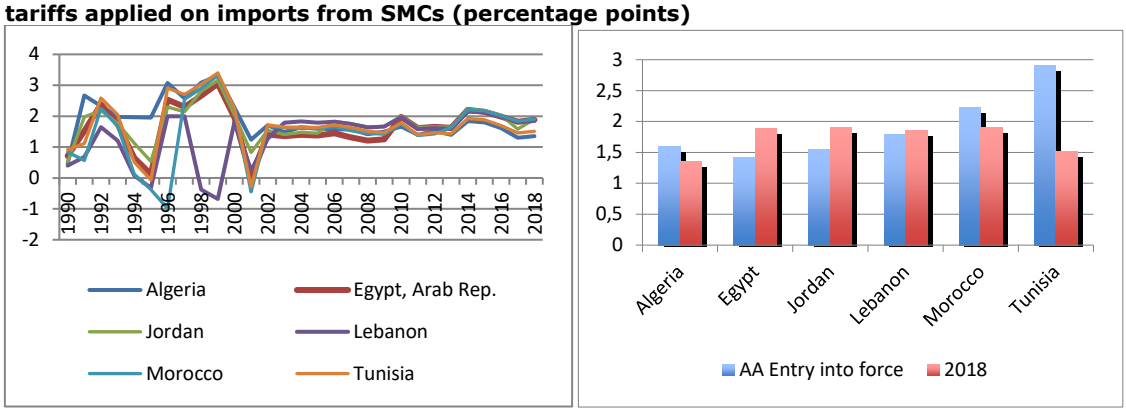
Figures 3.3 and 4.4 show also that the preferential tariffs applied by the EU to SMC imports remained somewhat lower than those applied to imports from the rest of the world. As a result, since the entry into force of the Euro-Med FTAs, SMCs enjoyed relatively small tariff advantages in access to EU markets ranging, on average, from just above 1 pp to 2.5 pp. Importantly however, these effective margins have shrunk since the entry into force of the FTAs for Tunisia (from 2.9 pp in the year of entry into force of the FTA to 1.5 pp in 2018), Morocco (from 2.2 to 1.9 pp, respectively) and Algeria from 1.6 to 1.3 pp). This suggests a positive but small, and also diminishing in time, impact of the Euro-Med FTAs on these countries' exports to the EU. At the same time, the effective preferential margins have increased for Egypt (1.4 to 1.9 pp), Jordan (1.5 to 1.9 pp) and stayed at about 1.8 pp for Lebanon, suggesting in turn an increasing or unchanged positive impact. While these effective margins are not large in absolute terms, even these low levels of tariffs can add up to significant effects when products cross borders multiple times, as is often the case with trade in international supply chains (e.g. OECD, 2013).

Figure 3.3 EU's tariffs on imports from SMCs and the rest of the world



Note: Effectively applied rates. Simple averages calculated based on Harmonised System 6-digit tariff data and concern only tariff lines which have positive import values. Hence, the observed differences are a combination of different tariff rates and the composition of trade that actually occurs. Consequently, the preferential tariffs can change because of the traded products are different depending on the years.
Source: own calculation on the basis of data from UN-Trains Database, extracted from WITS.

Figure 3.4 The gap between the EU tariffs applied on imports from the rest of the world and tariffs applied on imports from SMCs (percentage points)

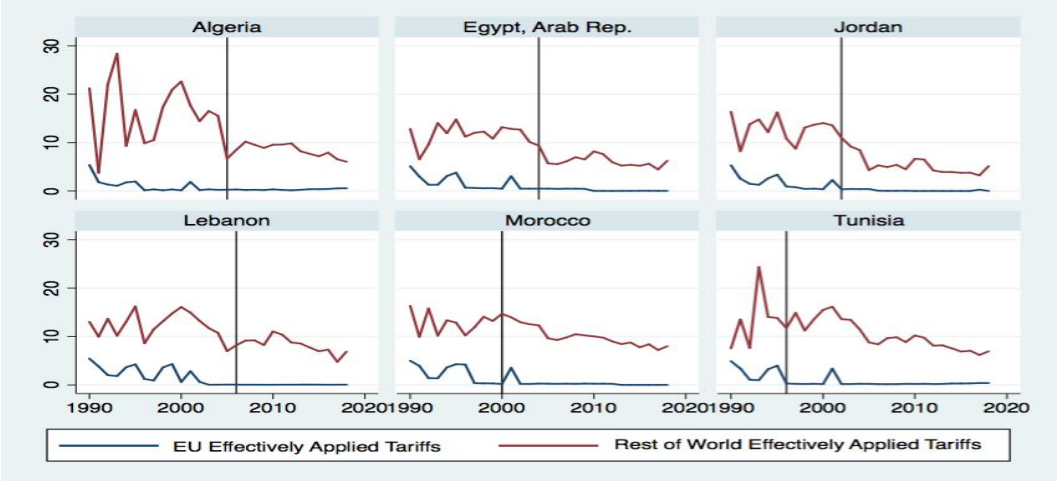


Note: Effectively applied rates. Simple averages calculated based on Harmonised System 6-digit tariff data and concern only tariff lines which have positive import values. Hence, the observed differences are a combination of different tariff rates and the composition of trade that actually occurs. Consequently, the preferential tariffs can change because of the traded products are different depending on the years.
Source: own calculation on the basis of data from UN-Trains Database, extracted from WITS.

Taking the point of view of SMC exporters, while import tariffs applied by the EU remained close to zero since the entry into force of the FTAs, tariffs applied by third countries on imports from SMCs have decreased somewhat in each case (Figure 3.5): by about 8 pp for **Jordan**, 5 for **Morocco**, 4.5 for **Egypt**, 3 for **Tunisia**, 2.5 for **Lebanon** and 1.5 for **Algeria**. This was driven by the generalised decrease of MFN tariffs applied by the third countries (possibly due to the implementation of the Uruguay Round WTO commitments) as well as by lowering of tariffs in the context of the different other FTAs concluded by SMCs and the third countries in this period (recall Table 3.1).

Put together with the above-described changes in the effective preferential margin in the EU market, the diminishing difference between tariffs faced in the EU and other markets, suggest a possible re-orientation of some of the SMC exports towards the other markets, albeit to a different degree for different SMCs. The possibility of reorientation of exports towards third countries in the investigated period seems most likely for **Morocco** and **Tunisia** because these countries experienced both a decrease in the average effective preferential margin in the EU market and the reduction in the effective margin between the tariffs applied by the rest of the world and the tariffs applied by the EU. **Algeria** is a similar case although the decreases in both margins are smaller. **Lebanon**, and, even more markedly **Jordan** and **Egypt,** see increases in the average effective preferential margin in the EU market and reductions in the margin between the tariffs applied by the rest of the world and the tariffs applied by the EU. It is thus difficult to hypothesise about the direction of changes in these latter three cases.

Figure 3.5 EU and rest of world's tariffs applied on imports from SMCs (simple average tariffs)



Note: Effectively applied rates. Simple averages calculated based on Harmonised System 6-digit tariff data and concern only tariff lines which have positive import values. Hence, the observed differences are a combination of different tariff rates and the composition of trade that actually occurs. Consequently, the preferential tariffs can change because of the traded products are different depending on the years.

Source: own calculation on the basis of data from UN-Trains Database, extracted from WITS.

Evolution of effective preferential tariff margins in SMCs' markets – all sectors

Differently from the EU, at the time of entry into force of the Euro-Med FTAs, SMCs were applying high import duties on imports of both agricultural and industrial products from the EU. Average duties applied on imports of agricultural products ranged from some 17% in **Lebanon** to 84% in **Egypt**, while duties applied on imports of industrial products ranged from 6% in **Lebanon** to 29% in **Tunisia** (Table 3.3). During the implementation period of the FTAs, significant, although also quite heterogeneous tariff reductions were observed across the region.

Agricultural tariffs were reduced significantly (and from relatively high levels) in **Egypt**, **Jordan** and **Morocco**. More moderate reductions, but also from lower initial levels, were implemented by Lebanon. **Tunisia** and **Algeria** did not reduce their agricultural tariffs significantly. Currently, EU exports of agricultural products face the highest tariffs in **Egypt** (64%) and **Tunisia** (30%). The lowest tariffs, at around 8-9%, are applied by **Jordan** and **Morocco**.

Industrial tariffs saw a more consistent reduction across the SMCs. **Morocco** implemented the most ambitious cuts reducing its tariffs from some of the highest in the region at the entry into force of the FTA (28%) to zero recently. Industrial tariffs were also reduced to zero in **Egypt**, **Jordan** and **Lebanon** while **Algeria** and **Tunisia** still maintain average tariffs of around 7% and 8% respectively. In this respect, **Tunisia** is the country which achieved the least ambitious cut: the country had the second highest level of industrial tariffs at the time of entry of the FTA and currently, despite reductions, in maintains the highest industrial tariffs on imports for the EU in the region.

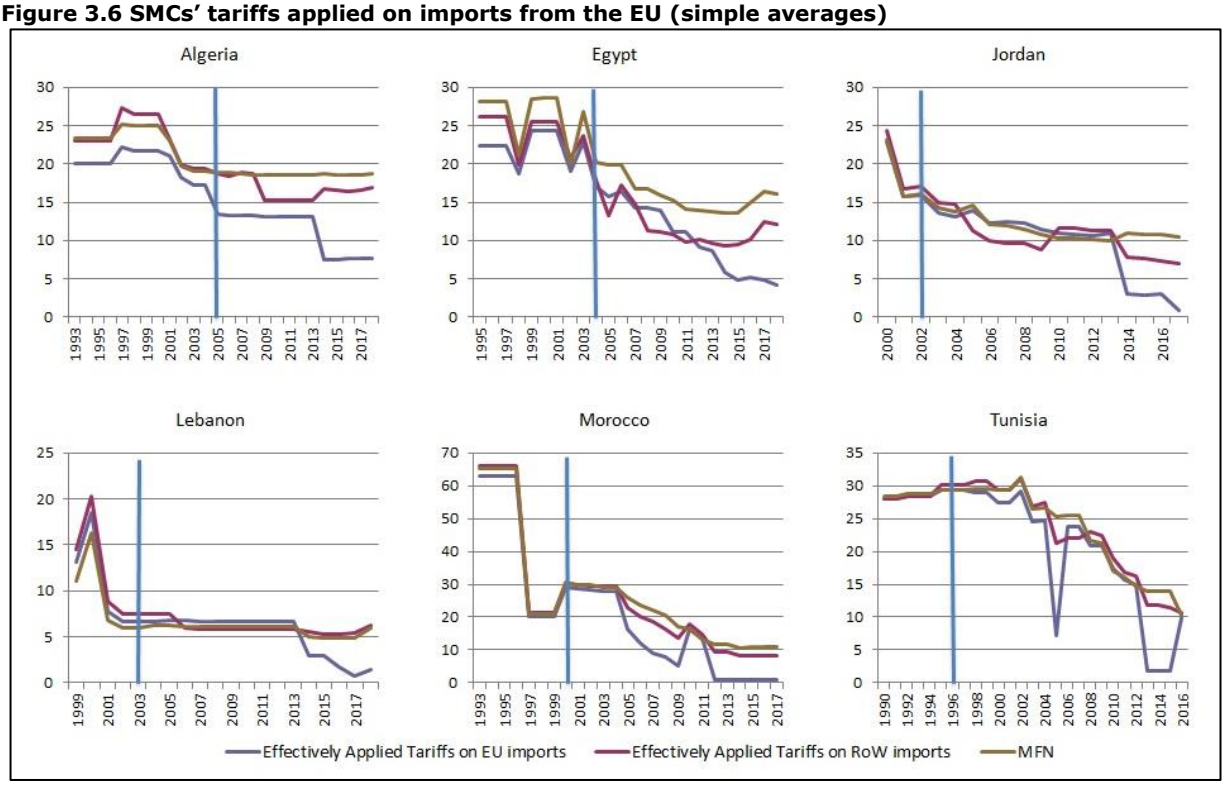
Table 3.3 SMCs tariffs charged on imports from the EU (by agricultural and industrial sectors)

	Year of entry into force of AA		Most recent year		Difference in percentage points	
Importer	**Agr**	**Ind**	**Agr**	**Ind**	**Agr**	**Ind**
Algeria	18.95	13.03	19.02	7.05	0.07	-5.98
Egypt	83.96	12.72	64.19	0.56	-19.77	-12.16
Jordan	27.49	15.01	8.34	0.08	-19.15	-14.93
Lebanon	16.89	5.77	12.21	0.07	-4.68	-5.7
Morocco	45.55	27.99	8.67	0.16	-36.88	-27.83
Tunisia	32.71	29.24	29.76	8.77	-2.95	-20.47

Note: Effectively applied rates. Simple averages calculated based on Harmonised System 6-digit tariff data and concern only tariff lines which have positive import values. Hence, the observed differences are a combination of different tariff rates and the composition of trade that actually occurs.
Source: own calculation on the basis of data from UN-Trains Database, extracted from WITS.

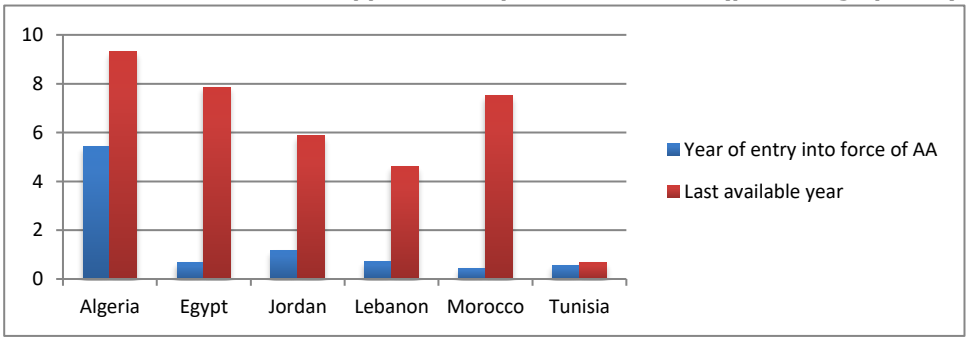
The decreases in tariffs applied by SMCs to imports from the EU coincided with reductions of tariffs applied to imports from third countries, but the latter were not as significant as the former (Figure 3.6). This is confirmed by the calculation of effective margins between tariffs applied by SMCs on imports from the rest of the world and tariffs applied on imports from the EU which increased significantly in most SMCs between the entry into force of the Euro-Med FTAs and currently (Figure 3.7). The largest increases were observed in **Morocco** (from 0.5 to 7.6 pp) and **Egypt** (0.6 to 7.9 pp) while in **Algeria** the effective margin was already high at the beginning of the period (5.4 pp) and it increased to 9.3 pp. In **Tunisia** the effective margin increased marginally from 0.6 to 0.7 pp. It can therefore be expected that these changes in relative tariffs levels may have contributed to increased SMCs imports from the EU in all SMCs, except in **Tunisia**.

Figure 3.6 SMCs' tariffs applied on imports from the EU (simple averages)



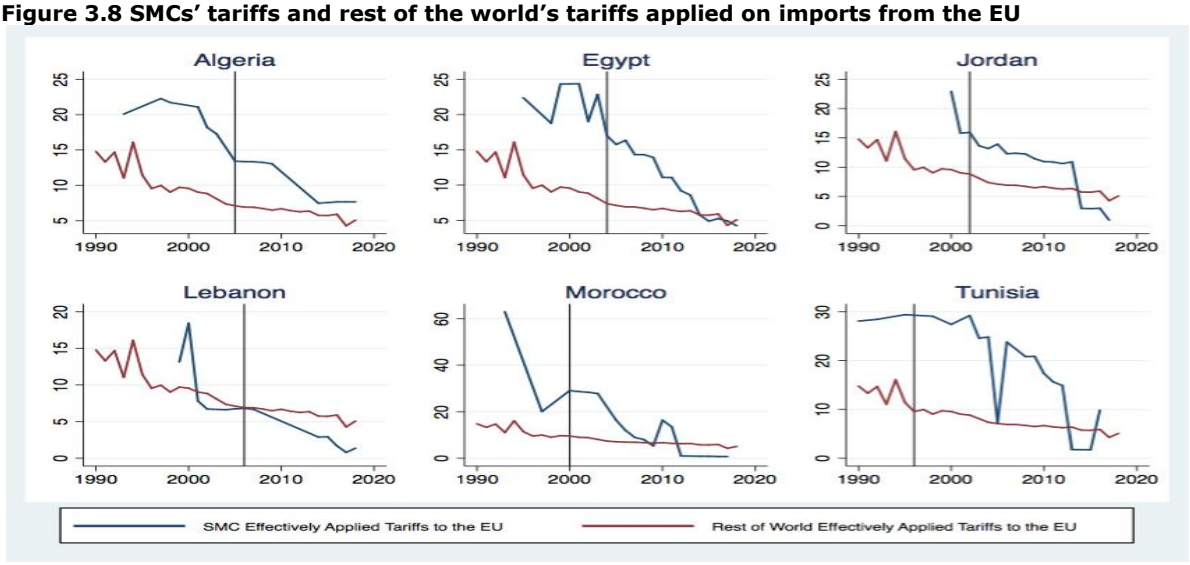
Note: Effectively applied rates. Simple averages calculated based on Harmonised System 6-digit tariff data and concern only tariff lines which have positive import values. Hence, the observed differences are a combination of different tariff rates and the composition of trade that actually occurs. Consequently, the preferential tariffs can change because of the traded products are different depending on the years.
Source: own calculation on the basis of data from UN-Trains Database, extracted from WITS.

Figure 3.7 The effective preference margin between tariffs applied by SMCs on imports from the rest of the world and tariffs applied on imports from the EU (percentage points)



Note: Effectively applied rates. Simple averages calculated based on Harmonised System 6-digit tariff data and concern only tariff lines which have positive import values. Hence, the observed differences are a combination of different tariff rates and the composition of trade that actually occurs.
Source: own calculation on the basis of data from UN-Trains Database, extracted from WITS.

Figure 3.8 SMCs' tariffs and rest of the world's tariffs applied on imports from the EU



Note: Effectively applied rates. Simple averages calculated based on Harmonised System 6-digit tariff data and concern only tariff lines which have positive import values. Hence, the observed differences are a combination of different tariff rates and the composition of trade that actually occurs. Consequently, the preferential tariffs can change because of the traded products are different depending on the years.
Source: own calculation on the basis of data from UN-Trains Database, extracted from WITS.

Overall, the evolution of EU and SMC average tariffs at the aggregated level suggests that, since the time of entry into force of the Euro-Med FTAs, the relative conditions of access to EU markets in terms of import tariffs have not improved significantly for SMCs, suggesting also limited impacts on exports of these countries to the EU. **Lebanon**, and, even more markedly **Jordan** and **Egypt**, saw some increases in the effective preferential margin in the EU market but they also saw reductions in the effective margin between the tariffs applied by the rest of the world and the tariffs applied by the EU. It is thus difficult to assess whether they had enough incentives to increase the orientation of their exports towards the EU market. **Morocco**, **Tunisia** and **Algeria**, on the other hand saw decreasing effective preferential margins in the EU market and more significant lowering of tariffs in third markets, which suggests tariff incentives were in place to re-orient exports towards the third markets. From the EU exporters' point of view, on the other hand, the relative conditions of access to SMCs' markets in terms of import tariffs have improved markedly (except in Tunisia).

Evolution of effective tariff margins by country and broad product category

These findings generally hold when tariffs at broad product category level are considered but there are some important product and country specificities. These are presented in the Annex C Tables D.1 through to D.6 and summarised below for each SMC.

Algeria

In the EU market, industrial tariffs were already at zero or close to zero at the entry into force of the FTA in 2005 (Annex Table D.1.a). In agriculture, the customs duties have actually increased somewhat in the three agricultural product sectors considered here (Animal Products, Vegetable Products and Food Products) between 2005 and 2018 and, in 2018, they were at 0.7%, 5% and 4.3%, respectively.

As far as the evolution of the effective preferential margins in the EU market for Algerian products is concerned (Annex Table D.1.a), overall, in all sectors, the effective preferential margins are low and have changed little between 2005 and 2018. A slight erosion of effective preferences in the EU market has been observed in the Textiles & Clothing sector (from 4.1 pp at the beginning of the period [2005] to 3.6 pp currently [2018]) and in the Food Products sector (from 3.2 to 0.5 pp). For Vegetable Products, the EU average tariffs applied to imports from Algeria were above those applied to imports from the rest of the world in both 2005 and 2018 and the size of this negative effective margin grew in time (from -2.2 to -3 pp). Small increases in preferential margins have been observed in some manufacturing sectors such as Chemicals, Plastic and Rubber Products, or Metals and Machinery and Electrical Equipment.

In the Algerian market, tariffs applied to imports from the EU fell except in the Animal, Vegetable and Food Products, where in 2018 they remained roughly at their 2005 levels, at 19.4%, 20.1% and 23.8%, respectively (Annex Table D.1.b). The sectors where tariff reductions were the most significant (amounting to around 10 pp or more) were Hides and Skins, Textiles & Clothing, Footwear, Machinery and Electrical Equipment and Transport Equipment.

As far as the evolution of the effective preferential margins in the Algerian market for EU products is concerned (Annex Table D.1.b), increases were recorded in almost all sectors. The most significant increases included: Hides and Skins (9.6 pp), Footwear (8 pp), Transport (8 pp), the Miscellaneous Products (7 pp), Machinery and Electrical Equipment (6.7 pp) and Textiles and Clothing (6.3 pp). There were also a number of sectors for which the effective margins decreased somewhat, including Vegetable Products, Minerals and Chemicals. For Vegetable Products the margin decreased from 1.6 pp in 2005 to a negative level of -0.5 pp in 2018. After Tunisia, Algeria was also the country with the second largest number of sectors for which effective preferential margins offered to EU exporters decreased (see also Figure 3.10).

Importantly, compared with other SMCs, Algeria experienced the lowest reductions in import tariffs faced in third markets (Annex Table D.1.c). The largest decreases were observed for Vegetable products (4.6 pp), Transport Equipment (3 pp) and Footwear (19 pp). However, Algeria also experienced increases in tariffs in third markets in Textiles and Clothing (4.8 pp) and Chemicals (1 pp).

Egypt

In the EU market, industrial tariffs were already at zero or close to zero at the entry into force of the FTA in 2004 (Annex Table D.2.a). For agricultural products, tariffs fell from moderate levels in 2004 (7% for Food Products, 3.5% for Vegetable Products and 3.4% for Animal Products) to zero as a as result of the FTA and the signature of the Additional Protocol on Agriculture (see Chapter 3).

As far as the evolution of the effective preferential margins in the EU market for Egyptian products is concerned (Annex Table D.2.a), the improvement in the effective preferential margins observed at aggregate level is verified in all sectors, in particular for agricultural products. From slightly negative at the time of the entry into force of the FTA, margins had increased, and in 2018 were at 4.6 pp for Food Products, 3.1 pp for Animal Products and 1.8 pp for Vegetables. The only sector where the effective preferential margin fell was Textiles and Clothing (from 4.3 pp in 2004 to 3.6 pp in 2018), although in 2018 this sector still had the highest effective preferential margin across industrial sectors.

In the Egyptian market, the tariffs on imports from the EU have fallen significantly. They have almost all been reduced to zero except in the Food Products sector (for which the tariff was 180% in 2004 and was still at the high 149% in 2018) and the Chemicals sector (from 11% in 2004 to 3.4% in 2018). The reductions were the most pronounced in sectors where tariffs were very high in 2004: Footwear (with a decrease of 30 pp since the entry into force of the FTA); Textiles and Clothing (24 pp); Hides and Skins (22 pp); Stone and Glass (16 pp); Miscellaneous products (14 pp); Wood (14 pp); Metals (13 pp); Transport Equipment (12 pp) and Plastic Products (10 pp).

As far as the evolution of effective preferential margins in the Egyptian market for EU products is concerned (Annex Table D.2.b), increases were recorded in almost all sectors. The most significant increases included: Hides and Skins (30 pp); Textiles and Clothing (15 pp); Stone and Glass (13 pp); Miscellaneous Products (11 pp); Wood and Metal (each 9 pp); and Transport Equipment (8 pp). However, for Food Products the large negative margin of -36 pp in 2004 deteriorated further to -59 pp in 2018.

Compared to other SMCs, somewhat similarly to Algeria, Egypt experienced relatively low reductions in import tariffs faced in third markets (Annex Table D.2.c): 5.2 pp for Food Products, 5 pp for Hides and Skins; or 4.8 for Wood Products. Unlike Algeria, Egypt did not experience increases in tariffs faced in third countries in any of the sectors.

Jordan

In the EU market, industrial tariffs were already at zero or close to zero at the entry into force of the FTA in 2002 (Annex Table D.3.a). For agricultural products, tariffs fell from moderate levels in 2002 (4.2% for Food Products, 4.2% for Vegetables and 5.7% for Animal Products) to almost zero in 2018 as a as result of the FTA and the signature of the Additional Protocol on Agriculture (see Section 3).

As far as the evolution of the effective preferential margins in the EU market for Jordanian products is concerned (Annex Table D.3.a), the improvement in the effective preferential margin observed at aggregate level is confirmed in most sectors. Effective preferential margins increased considerably for Animal, Vegetable and Food Products, turning from negative to positive ones for the first two of these sectors. The Textiles and Clothing sector saw its margin fall slightly (from 4.4 pp 2002 to 3.6 pp in 2018). The sector with the highest margin in 2018 was Food Products (4.8 pp), followed by Textiles and Clothing (3.6 pp).

In the Jordanian market, the tariffs on imports from the EU have fallen significantly. They have almost all been reduced to zero except in the Food Products sector (for which the tariff was 40.5% in 2002 and was still at 16.8% in 2018) and the Animal Products (from 14.1% in 2002 to 1.7% in 2018). In sectors where tariffs were very high in 2002, the reduction in customs duties were also very deep (27 pp for Footwear and Hides and Skins, and between 17 and 10 pp in the other industrial sectors).

As far as the evolution of the effective preferential margins in the Jordanian market for EU products is concerned (Annex Table D.3.b), increases were recorded in all sectors. The most significant increases included: Footwear (19 pp); Hides and Skins (14 pp); Food Products (12 pp); and Stone and Glass (9 pp).

Jordan experienced also relatively significant reductions in import tariffs faced in third markets (Annex Table D.3.c) of up to 10 pp for Footwear, 9.2 pp for Plastic and Rubber, 8.5 pp for Wood and 8.4 pp for Metals. Jordan did not experience increases in average tariffs faced in third countries in any of the sectors.

Lebanon

In the EU market, both industrial and agricultural tariffs were already at zero or close to zero at the entry into force of the FTA in 2002 (Annex Table D.4.a).

As far as the evolution of the effective preferential margins in the EU market for Lebanese products is concerned (Annex Table D.4.a), it reflected the already low tariffs Lebanon faced in the EU market and the gradual liberalisation of trade by the EU *vis à vis* third countries. Overall, these sectoral effective preferential margins changed little between 2003 and 2018, but in some sectors, they decreased (Vegetable Products [form 2.2. to 1.5 pp], Food Products [from 6.1 to 4.6 pp] or Textiles and Clothing [from 4.3 to 3.6 pp]). The sector with the highest effective preferential margin in the EU market, both in 2003 and 2018, was *Food products* (4.6 pp), followed by *Textiles and clothing* (3.6 pp).

In the Lebanese market, the tariffs on imports from the EU at the time of entry into force of the FTA were already generally lower than in the other SMCs (Annex Table D.4.b). Notable exceptions were: Footwear (19.9% tariff in 2003); Food Products (19.1%); Hides and skins (17.8%); Vegetables (17.3%), Animal products (10.1%); Stone and glass (8.8%) and Miscellaneous (8.4%) and Wood (7.5%). All tariffs have been reduced to zero or close to zero by 2018, except for Food products (tariff of 10.5% in 2018), Vegetable products (5.5%) and Animal products (4.1%).

As far as the evolution of the effective preferential margins in the Lebanese market for EU products is concerned (Annex Table D.4.b), increases were recorded in all sectors. The largest increases concerned two sectors: Hides and Skins (16.5 pp) and Footwear (9 pp).

Lebanon experienced relatively significant reductions in import tariffs faced in third markets (Annex Table D.4.c) of up to 8.2 pp for Transport Equipment, 7.8 pp for Fuels and 6.9 pp for Food Products. Lebanon did not experience increases in average tariffs faced in third countries in any of the sectors.

Morocco

In the EU market, industrial tariffs were already at zero or close to zero at the entry into force of the FTA in 2000. They were low for agricultural products (3% for Food Products, 1.5% for Vegetables and 0.5% for Animal Products) and fell to zero thanks to the FTA and the Additional Protocol on Agriculture (which entered into force in 2012) (Annex Table D.5.a).

As far as the evolution of the effective preferential margins in the EU market for Moroccan products is concerned (Annex Table D.5.a), it reflected the already low tariffs Morocco faced in the EU market and the gradual liberalisation of trade by the EU *vis à vis* third countries. While at the aggregate level, we have seen that the effective preferential margin for Moroccan products has fallen, at the sectoral level developments were more heterogeneous. One third of the sectors saw their effective preferential margin fall. This was the case in particular for Textiles and Clothing, for which the margin fell from 6 pp in 2000 to 3.6 pp in 2018. For another third of the sectors, which includes the three agricultural sectors in our classification, the margin did not change much while for the remaining third of the sectors it rose moderately (e.g. from 1.5 to 2 pp for Chemicals, from 0.7 pp to 0.8 pp for Machinery and Electrical Equipment). In 2018, the sector with the highest effective preferential margin was Food Products (4.8 pp), followed by Textiles and Clothing (3.6 pp).

In the Moroccan market, the tariffs on imports from the EU at the time of entry into force of the FTA were very high in all sectors. By 2018, they were all reduced to zero or close zero for industrial products. In agriculture, currently the tariffs are still relatively high (11.9% for Food Products, 13.7% for Animal Products and 4.5% for Vegetable Products) but they are much lower than they were in 2000. Overall, Morocco has significantly reduced its tariffs since the entry into force of the FTA. The most significant reductions concerned the sectors which were the most initially protected: Animal Products (49 pp reduction between 2000 and 2018); Footwear (47 pp); Hides and Skins (43 pp); Wood (43 pp); Textiles and Clothing (40 pp), Plastic and Rubber (40 pp); Stone and Glass (37 pp); Vegetable Products (38 pp); Food Products (34 pp); Metals (29 pp); Chemicals (26 pp); Transport equipment (24 pp); Minerals (23 pp); Fuels (21 pp) and Miscellaneous Products (20 pp).

As far as the evolution of the effective preferential margins in the Moroccan market for EU products is concerned (Annex Table D.5.b), these were naturally influenced by the large reductions in bilateral tariffs but in some sectors, they were also influenced by significant reductions in import tariffs applied to imports from the third countries. The largest increases in effective preferential margin for the EU were recorded in Footwear (15 pp), Hides and Skins (13 pp), Textiles and Clothing (11 pp), Wood (11 pp), Vegetable Products (9.5 pp) and Food Products (8 pp).

Compared to other SMCs, Morocco experienced also the most significant reductions in import tariffs faced in third markets (Annex Table D.5.c) of up to 26 pp for Food Products, 12.3 pp for Chemicals, 9.5 pp for Transport Equipment and in increases exceeding 6 pp in further seven sectors. Morocco did not experience increases in average tariffs faced in third countries in any of the sectors.

Tunisia

In the EU market, industrial tariffs were already at zero or close to zero at the entry into force of the FTA in 1996. They were low for agricultural products (4.9% for Food Products, 5.7% for Vegetables and 0% for Animal Products) and stayed at these levels until 2018 (4.7%, 4.6% and 0.4%, respectively) (Annex Table D.6.a). This is due to the fact that, similarly to Algeria, Tunisia did not negotiate an additional protocol on agriculture with the EU.

As far as the evolution of the effective preferential margins in the EU market for Tunisian products is concerned (Annex Table D.6.a), Tunisia had seen its effective preferential margin erode in all sectors, in particular in the Food Products sector (from 5.9 pp in 1996 to 0.2 in 2018), Textiles and Clothing (form 6.9 pp to 3.6 pp). In 2018, sectors with highest effective preferential margins were Textiles and Clothing (margin of 3.6 pp) and Footwear (3 pp).

In the Tunisian market, the tariffs on imports from the EU at the time of entry into force of the FTA were very high in all sectors and, even if they have decreased considerably, in 2018 they still remain at high levels, while also displaying high heterogeneity across sectors (ranging from 0.7% in Fuels to 17.6% in Footwear). Since the entry into force of the FTA, the most significant

tariff decreases were observed in Textiles and Clothing (24 pp), Footwear and Wood (each by 23 pp), Miscellaneous Products (21 pp), Transport Equipment (20 pp), Chemicals, Metals and Hides and Skins (each by 19 pp) and Minerals and Plastic and Rubber (each by 14 pp). In agriculture, tariffs fell the most for Animal Products (5 pp) and Vegetable Products (3 pp).

As far as the evolution of the effective preferential margins in the Tunisian market for EU products is concerned (Annex Table D.6.b), more than was the case for Morocco, the relatively large reductions in bilateral tariffs were counterbalanced by significant reductions in tariffs applied to imports from the third countries. As a result, the only sectors for which the effective preferential margin increased were Hides and Skins sector (2 pp), Wood (2 pp), Textiles and Clothing (2 pp) and the Fuels (1 pp). In other sectors, effective preferential margins have either remained constant or declined, particularly in Vegetable Products (7.5 pp) and Animal Products (6.5 pp). Tunisia is the country with the largest number of sectors for which effective preferential margins offered to EU exporters decreased (see also Figure 3.10).

Compared to other SMCs, Tunisia experienced somewhat more moderate reductions in import tariffs faced in third markets across the board (Annex Table D.6.c) although they were quite pronounced in some specific sectors such as Transport Equipment (20 pp) or Food Products (12.4 pp). Tunisia also experienced small increases in average tariffs faced in third countries in Fuels and Hides and Skins.

Summary from the point of view of SMC exporters

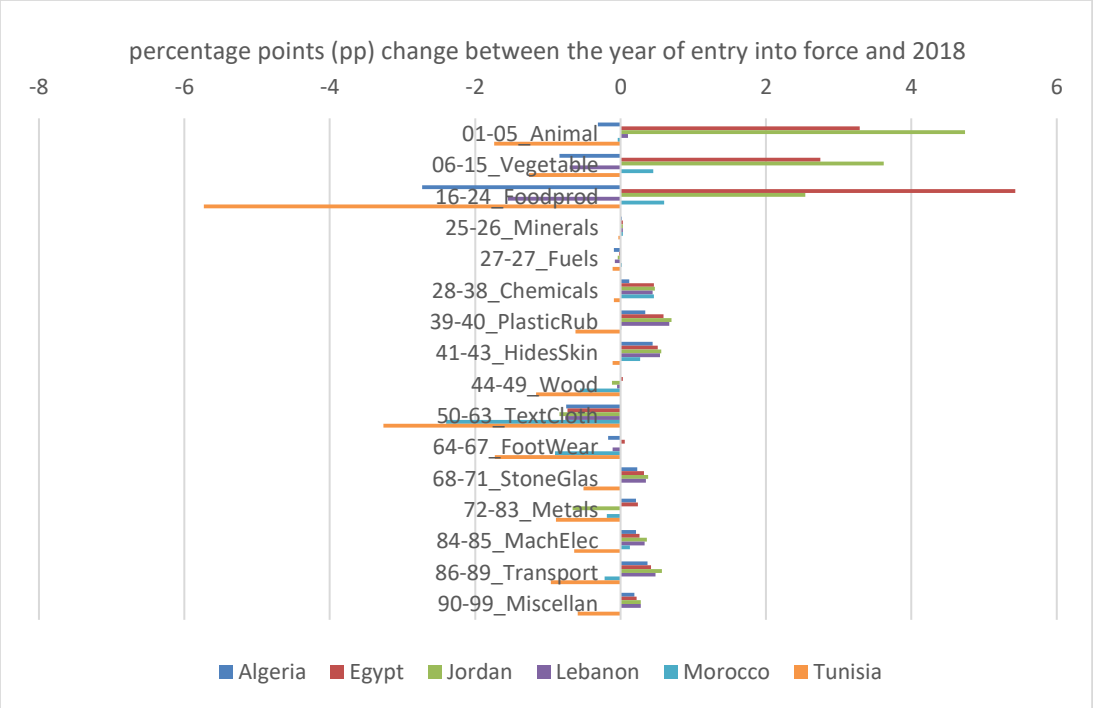
As just discussed above, changes in effective preferential tariff margins have been heterogeneous but there were also certain regularities which are summarised in Figure 3.9. This shows margin changes in the EU market grouped by sector (Panel A) and by individual SMC (Panel B).

Since the entry into force of the Euro-Med FTAs, access to EU markets has improved in the agricultural sectors for Egypt, Jordan and, albeit to a lesser degree, in Morocco (Panel A). Algeria, Lebanon and Tunisia, on the other hand, saw their margins decrease in these sectors. Minerals and Fuels did not see large margin changes. Chemicals, Plastic and Rubber and Hides and Skins recorded small positive changes for all SMCs but Tunisia. Textiles and Clothing and, albeit to a lesser degree, Footwear, recorded effective preferential margin erosion for all SMCs. A certain tendency can also be observed in such industrial sectors such as Stone and Glass, Machinery and Electrical Equipment, Transport Equipment and Miscellaneous Products where small increases in effective preferential margins were recorded for Algeria, Egypt, Jordan and Lebanon, while status quo or small negative changes were recorded for Morocco and Tunisia.

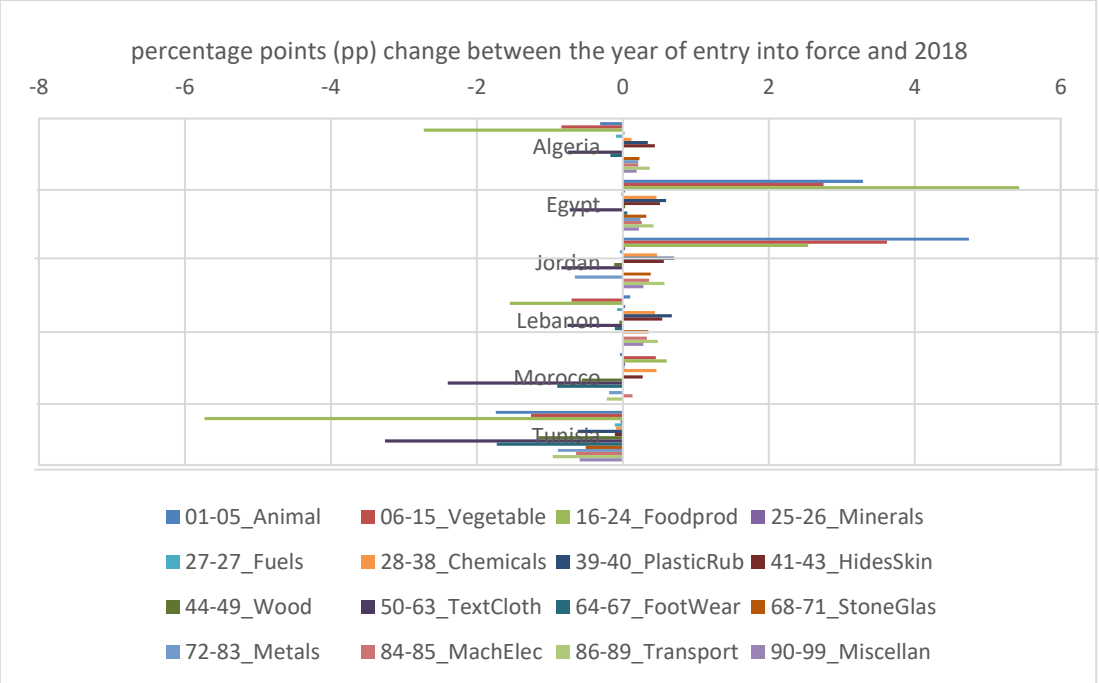
All SMC countries experienced some improvements in access to EU markets in terms of import tariffs but all of them also experienced some deteriorations due to decreases of import duties charged on sectoral imports from third countries (Figure 3.9, Panel B). Egypt, followed by Jordan and Lebanon were the countries with the highest number of sectors where access improved and Tunisia, followed by Algeria and Morocco were the countries with the largest number of sectors where access deteriorated. Tunisia also faced the most pronounced decreases in effective preferential margins.

Figure 3.9 Changes in effective preferential tariff margins in access to the EU market since the entry into force of Euro-Med FTAs

Panel A. Sorted by broad sector



Panel B. Sorted by SM country



Note: the effective preferential margin is calculated as the difference between simple average effectively applied tariffs faced in the sector by third country exporters and tariffs faced by SMCs exporters. Simple averages are calculated based on Harmonised System 6-digit tariff data and concern only tariff lines which have positive import values. Hence, the observed differences are a combination of different tariff rates and the composition of trade that actually occurs. A positive change in the effective preferential margin shown above denotes an improvement in SMC's access to the EU market relative to third countries, while a negative change denotes a deterioration.
Source: own calculation on the basis of data from UN-Trains Database, extracted from WITS.

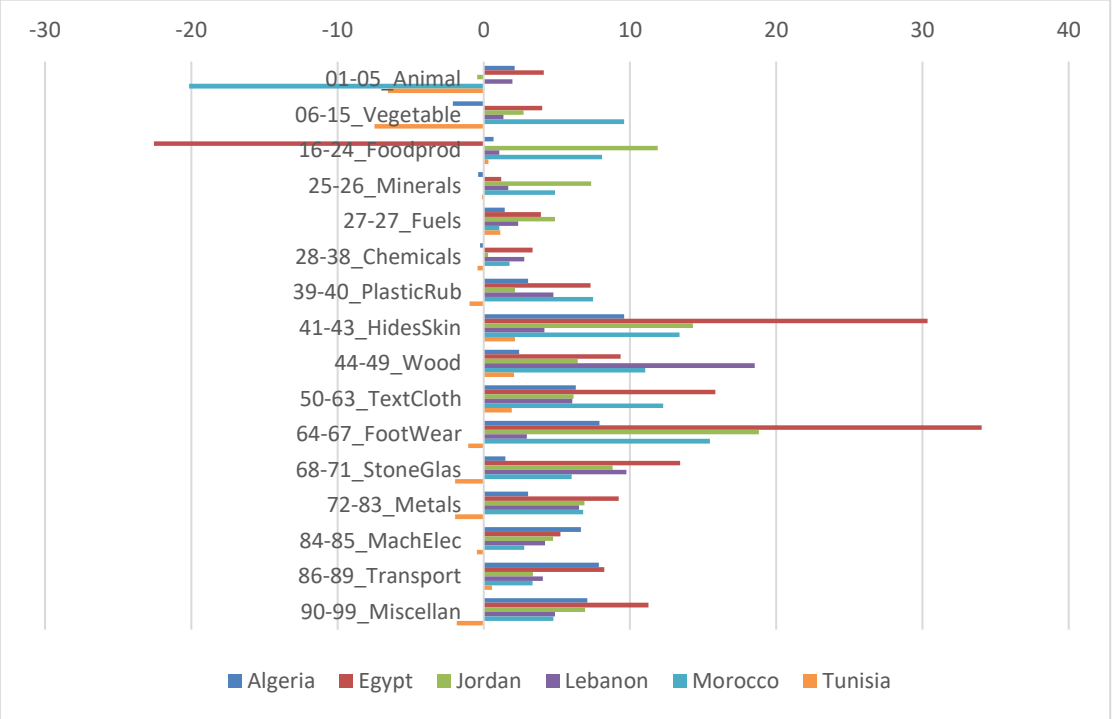
Summary from the point of view of EU exporters

Corresponding changes in effective preferential margins faced by the EU exports in SMC markets are shown in Figure 3.10. In general, there is a higher number of instances of positive changes and both the positive and negative changes are an order of magnitude larger than those observed in the EU market. The three agricultural sectors, Animal products, Vegetable Products and Food Products, see the highest number of negative changes, but these occur in selected SMCs. In other sectors, apart from a few cases concerning Algeria and, even more Tunisia, margins have considerably increased, with the highest positive changes concentrated around traditional industrial sectors such as Hides and Skins, Wood, Textiles and Clothing and Footwear. Improvements in Stone and Glass, Metals, Machinery and Electrical Equipment, Transport Equipment and Miscellaneous Products have been smaller but, again apart from the Tunisian market, positive (Panel A).

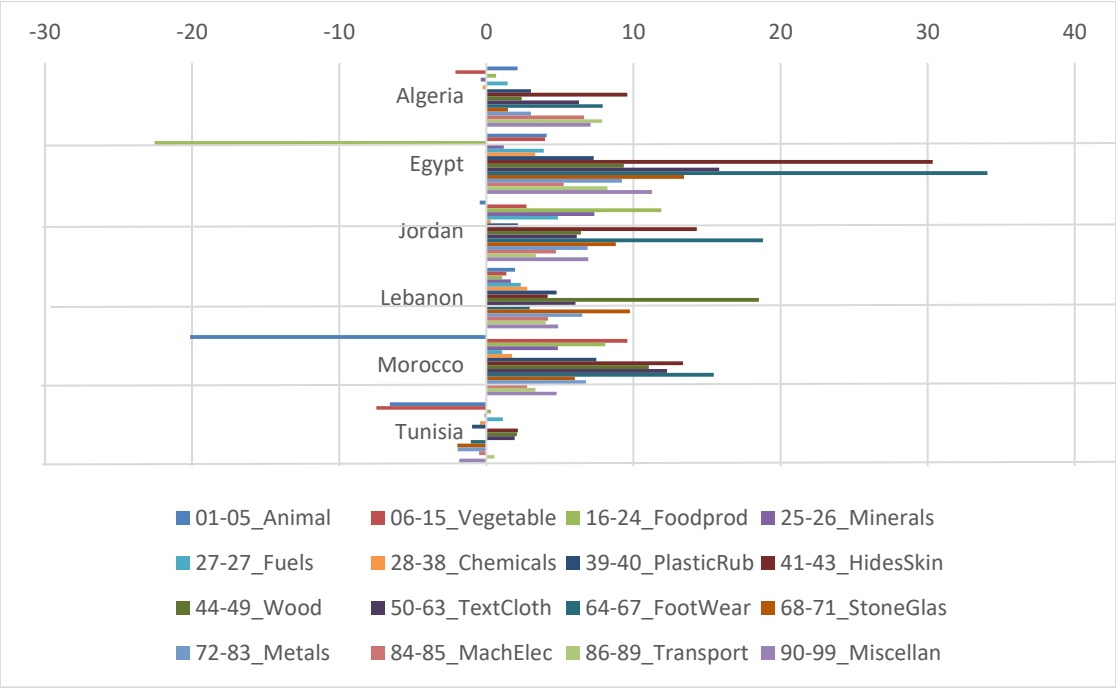
Exports to Egypt, followed by exports to Jordan and Morocco have seen the most numerous and the most pronounced positive changes in terms of effective preferential margins, while exports to Tunisia and, to a much lesser degree, Algeria, the most numerous and the most pronounced negative ones.

Figure 3.10 Changes in effective preferential tariff margins in access to SMC markets since the entry into force of Euro-Med FTAs

Panel A. Sorted by broad sector



Panel B. Sorted by SM country



Note: the effective preferential margin is calculated as the difference between simple average effectively applied tariffs faced in the sector by third country exporters and tariffs faced by SMCs exporters. Simple averages are calculated based on Harmonised System 6-digit tariff data and concern only tariff lines which have positive import values. Hence, the observed differences are a combination of different tariff rates and the composition of trade that actually occurs. A positive change in the effective preferential margin shown above denotes an improvement in SMC's access to the EU market relative to third countries, while a negative change denotes a deterioration.
Source: own calculation on the basis of data from UN-Trains Database, extracted from WITS.

Evolution of aggregate trade flows

This sub-section summarises the main features of the actual evolution of bilateral trade between the EU and the six SMCs. It puts into perspective the changes in tariffs described above and the modelling results obtained with a computable general equilibrium (CGE) and partial equilibrium (PE) models explained in detail in Section 3.4.

Algeria

Figure 3.11, which illustrates bilateral trade developments between Algeria and the EU, shows that Algeria's exports to the EU started to rise before the 2000s and kept increasing until a drop during the 2009 crisis, followed by a quick recovery. They attained a peak at more than €60bn in 2013 before a sharp decline in the following years until a slight increase in 2017. This latter drop was due to a sharp decline in oil prices in international markets, as demonstrated by the part of the figure which shows exports excluding oil products.

Table 3.4 which presents the dynamics of different Algerian trade flows prior and after the entry into force of the FTA, shows that exports of non-oil products to the EU expanded annually more rapidly in the latter period. In contrast, exports of the same category of products to the rest of the world have slowed down. This suggests that the implementation of the FTA has coincided with an expansion of Algeria's exports of non-oil products to the EU. This expansion has resulted in an increase in average share of exports to the EU between the two periods (from 56% of total Algerian exports on average over the period 2004-2006 to about 60% on average over the period 2015-2017, see Figure 3.12). Algeria is thus the only country of the 6 SMCs that has increased its share of exports which are destined for the EU.

These developments find only limited support in the changes in tariffs and effective preferential tariff margins described in the previous section. Algeria was one of the countries for which effective preferential tariff margins in the EU market improved by little and only in selected sectors. However, Algeria was also the country that signed the fewest FTAs with third countries. And it saw the least liberalisation in tariffs in third country markets among SMCs. This could

have resulted in re-orientation of exports towards the EU, an interpretation which would be supported by the falling average annual growth rate of Algerian exports to the rest of the world after the entry into force of the FTA with the EU (Table 3.4).

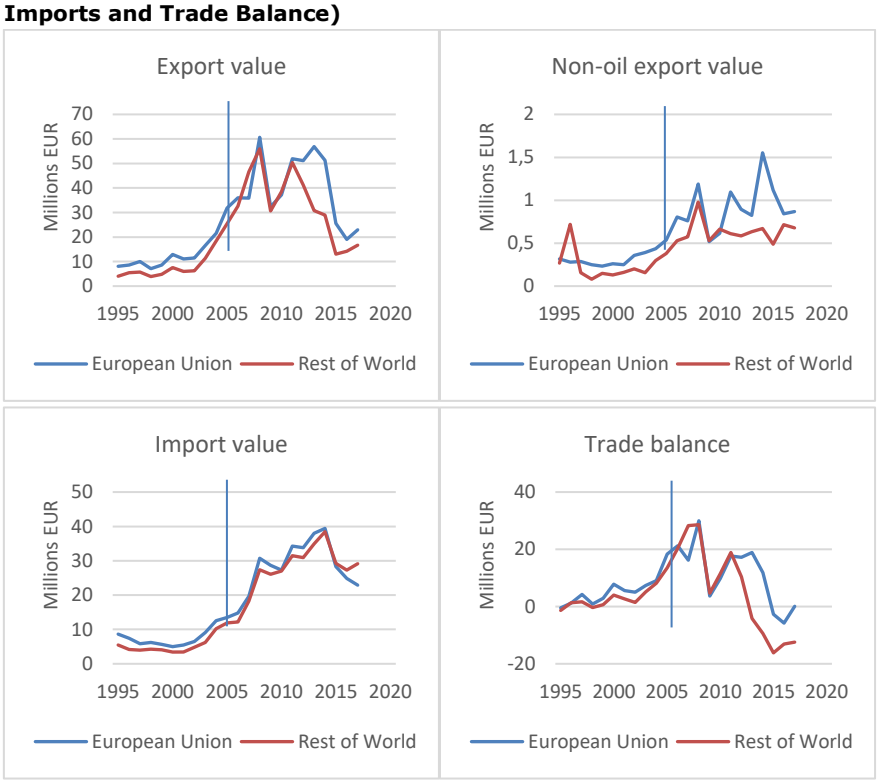
As far as the Algerian imports are concerned, as we have seen previously, the effective preferential margin for European products has remained largely positive since the entry into force of the Euro-Med FTA and it has increased since in most sectors. Moreover, from the point of view of European exporters, even if the tariffs applied by the rest of the world on European imports have remained for a long time lower than the tariffs applied by Algeria, the gap has considerably narrowed in the post-AA period. It would therefore be expected that the evolution of tariffs had a positive impact on Algerian imports from the EU, and more so than on imports from the rest of the world. However, while imports from the EU were growing marginally quicker after the entry into force of the FTA, imports from the rest of the world grew remarkably quicker. As a consequence, the average share of imports from the EU in total Algerian imports decreased between the two periods (from 55% on average over the period 2004-2006 to 47% on average over the period 20015-2017, see Figure 3.12).

Unlike other countries in the region, Algeria has for a long time had a positive trade balance with the EU and the rest of the world, and the balance also followed closely oil price developments. Since 2012, the country has a trade deficit with the rest of the world and largely balanced trade with the EU.

These developments suggest that while the FTA may have had positive influence on bilateral trade, factors unrelated to tariffs, both Algeria, EU and third countries, played an important role and in some cases dwarfed the effects of the FTA.

In the case of Algeria, these developments reflect some circumstances which are specific to this country. First, Algeria is a special case as it did not develop FTAs with other partners, so the trade policy-induced trade expansion mainly focused on the EU, although the country has also engaged with other countries such as China via less formal agreements and initiatives. Second, Algeria's exports to the EU (but also to other countries) have traditionally been concentrated in a handful of hydrocarbon-related products, although it is also noteworthy that the Algeria's non-energy exports to the EU have also increased, even if they still remained marginal. Third, bilateral trade remained balanced with the EU throughout these years (almost an exception in the region). As we discuss in the reminder of this chapter (Section 3.5.6), since 2005 (entry into force of the FTA) the international competitive position of Algeria has deteriorated including in regional comparison which significantly affected the country's export performance as shown also in the evolution of sophistication of its exports (see the sections on competitiveness [3.5.9], concentration and complexity of exports [3.5.10]).

Figure 3.11 Algeria trade flows with the EU and the Rest of World in current 1,000 US$ (Exports, Imports and Trade Balance)



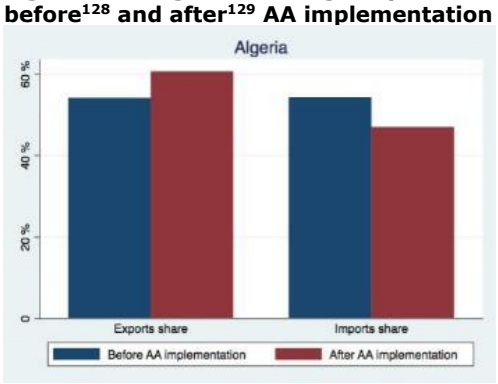
Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Table 3.4 Average annual growth rates (%) of Algeria trade flows

Algeria Trade flows	Before AA implementation[126]	After AA implementation[127]	Difference in percentage points
Exports to the EU **Exports without oil**	13.8 5.3	5.8 13.3	-7.9 8
Exports to the rest of world **Exports without oil**	24.3 26.0	4.4 10.8	-19.9 -15.2
Imports from the EU	6.3	6.5	0.3
Imports from the rest of world	9.6	10.0	0.4

Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure 3.12 Algerian average exports share to the EU and average imports share from the EU before[128] and after[129] AA implementation



[126] From 1995 to 2004.
[127] From 2005 to 2017.
[128] Average share from 2004 to 2006.
[129] Average share from 2015 to 2017.

Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Egypt

Figure 3.13, which illustrates bilateral trade developments, shows that, from the 2000s, Egypt's exports started to increase both towards the EU and the rest of the world. After the FTA came into force, the average annual growth rate of Egypt's exports to the EU increased by 7.2 percentage points against an increase by 2.9 percentage points for exports to the rest of the world. This suggests the FTA has coincided with a relative expansion of Egypt's exports towards the EU. These developments would be consistent with moderately-sized but consistently positive increases in the effective preferential margins extended to Egyptian products in the EU market in the same period.

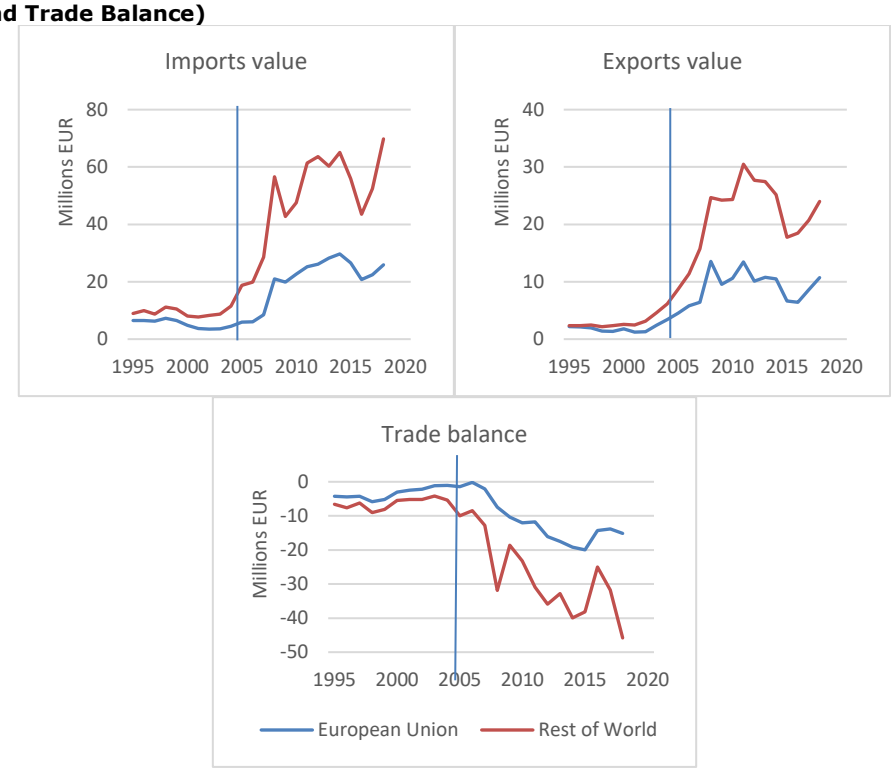
However, as the time of entry into force if the FTA, the EU accounted only for slightly more than one third of Egypt's exports and since the average annual growth rate of Egyptian exports to rest of the world remained relatively high (12.7% against 13.6% for the exports to EU, see Table 3.5) the share of Egyptian exports destined to EU has actually decreased (from the average of 34% in 2004-2006 and 28% in 2015-2017, Figure 3.14).

As far as imports from the EU are concerned, the average annual growth rate of imports from the EU increased by 19 pp after the entry into force of the FTA (compared to about 12.5 pp increase for imports for the rest of the world). This would be consistent with the large increases of effective preferential margins in the EU market as well as with improving access to third country markets. In terms of import duties faced, about 2014, it has become on average cheaper for the European exporters sell their products in Egypt as compared with the rest of the world (recall Figure 3.8). As a result, the share of imports form the EU in Egypt's overall imports increased somewhat since the entry into force of the FTA (Figure 3.14).

Since the entry into force of the FTA, Egypt's trade balance has deteriorated both vis a vis the EU and the rest of the world. Deepening of the deficit with EU was less pronounced, suggesting a possibly mitigating impact of trade relations with the EU.

Overall, in the case of Egypt, the evolution of aggregate trade flows suggests a positive impact of the FTA on bilateral exchange. But, similarly to the case of Algeria, Egypt's dynamically growing exchange with other trade partners suggests that factors unrelated to the lowering of Euro-Med tariffs, were also at work.

Figure 3.13 Egypt trade flows with the EU and the Rest of World in current 1,000 US$ (Exports, Imports and Trade Balance)



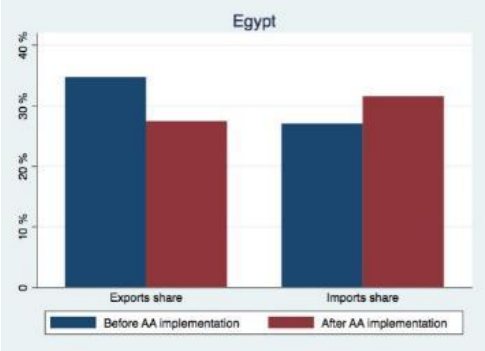
Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Table 3.5 Average annual growth rates (%) of Egypt trade flows

Trade flows	Before entry into force of AA[130]	After entry into force of AA[131]	Difference in percentage points
Exports to the EU	6.4	13.6	7.2
Export to the rest of world	9.7	12.7	2.9
Imports from the EU	-2.0	17.1	19.0
Imports from the rest of world	4.9	17.4	12.5

Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure 3.14 Egyptian average exports share to the EU and average imports share from the EU before[132] and after[133] AA implementation



Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Jordan

Jordan's exports to the EU remained relatively constant during the studied period. Jordan's exports to the rest of the world on the other hand rose significantly since the beginning of the

[130] From 1995 to 2003.
[131] From 2004 to 2018.
[132] Average share from 2004 to 2006.
[133] Average share from 2015 to 2017.

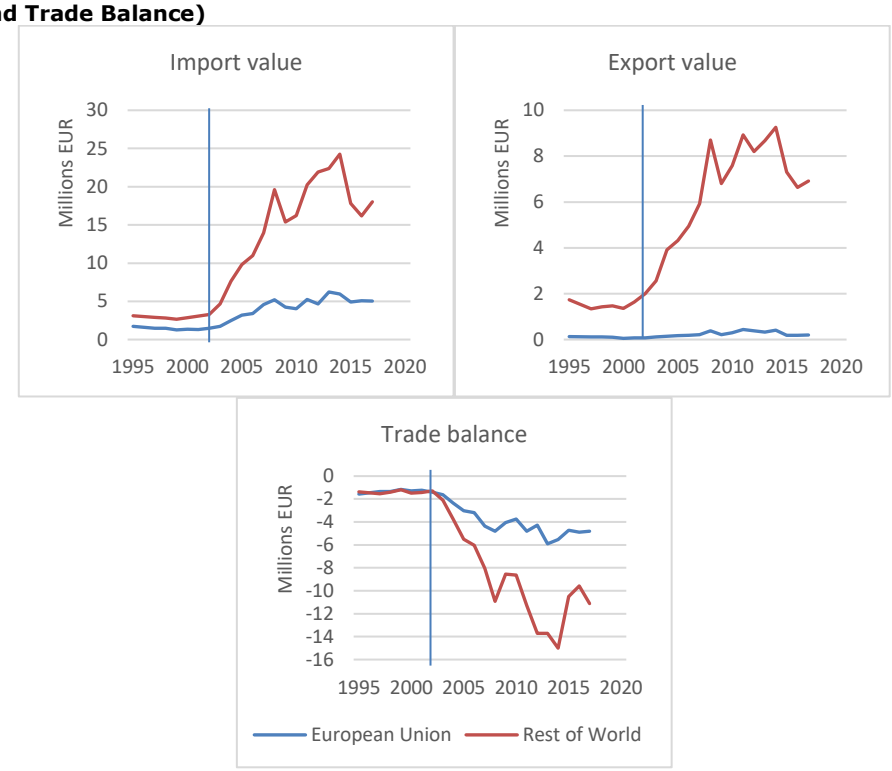
2000s (Figure 3.15, Table 3.6). The average annual growth rate of exports to the EU decreased by 0.2 pp since the entry into force of the FTA while it increased markedly, by 28 pp, for exports to the rest of the world. Jordan's already very low share of exports destined to the EU markets (3% on average in the period 2001-2003) decreased further to 2% on average in the period 2015-17, Figure 3.16).

While the effective preferential tariff margins faced by Jordanian products in the EU markets have increased somewhat across the board, it seems that Jordanian exports have been more responsive to the reduction in tariffs. Possibly, this factor also outweighs other developments (e.g. higher growth rates) in third country markets.

As far as imports from the EU are concerned, they occupied a larger share of Jordanian overall imports, and their average annual rate of growth has increased by more than the rate of growth of imports from the rest of the world (Table 3.6). However, this increase was not sufficient enough to boost the EU share in the country's imports (Figure 3.16). This was despite the significant increases in the effective preferential margins afforded to European products in Jordan's market. The low shares of imports from the EU and the not sufficiently high increases in growth rates may have been related to the fact that tariffs charged on imports from the EU remained above those charged on imports from third countries in several sectors up until around 2014. One factor is Jordan's FTA with the US, which entered into force in 2001 and the fact that imports from the US account for almost half of Jordan's overall imports.

Since the entry into force of the FTA, Jordan's trade balance has deteriorated both *vis-à-vis* the EU and the rest of the world. Deepening of the deficit with EU was less pronounced, suggesting a mitigating impact of trade relations with the EU.

Figure 3.15 Jordan trade flows with the EU and the Rest of World in current 1,000 US$ (Exports, Imports and Trade Balance)



Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Table 3.6 Average annual growth rates (%) of Jordan trade flows

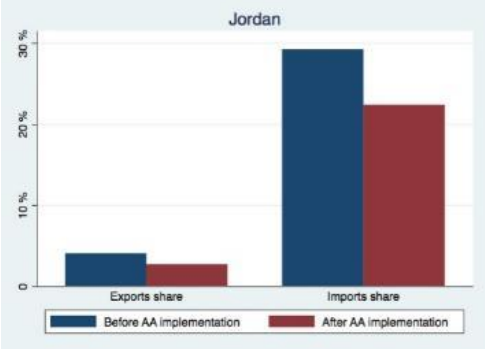
Trade flows	Before entry into force of AA [134]	After entry into force of AA [135]	Difference in percentage points
Exports to the EU	9.6	9.4	-0.2

[134] From 1995 to 2002.
[135] From 2003 to 2017.

Export to the rest of world	14.2	42.1	28.0
Imports from the EU	2.7	8.1	5.4
Imports from the rest of world	9.5	11.3	1.8

Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure 3.16 Jordanian average exports share to the EU and average imports share from the EU before[136] and after[137] AA implementation



Source: CNUCED – COMTRADE Database.

Lebanon

Lebanon's exports to the EU grew faster after the FTA came into force with the average annual growth rate increasing from 4.3% to 9%. A reverse development was observed for exports to the rest of the world with the average annual growth rate decreasing from the high 18% prior to the entry into force of the FTA to 4.5% afterwards (Figure 3.17 and Table 3.7). The latter slowdown reflected a market fall in exports around 2013 which can in turn be explained by the drop in international gold prices during this period and the fact that gold is Lebanon's largest export. Overall, the average annual growth of exports to the rest of the world fell by 13.5 pp between the two periods, while those of exports to the EU actually grew by some 4.8 pp. The pick-up in growth rates of exports to the EU was also not significant enough to increase the share of the EU in Lebanon's exports, which actually decreased, from on average 13% in the period 2004-2007 to less than 10% in 2015-17.

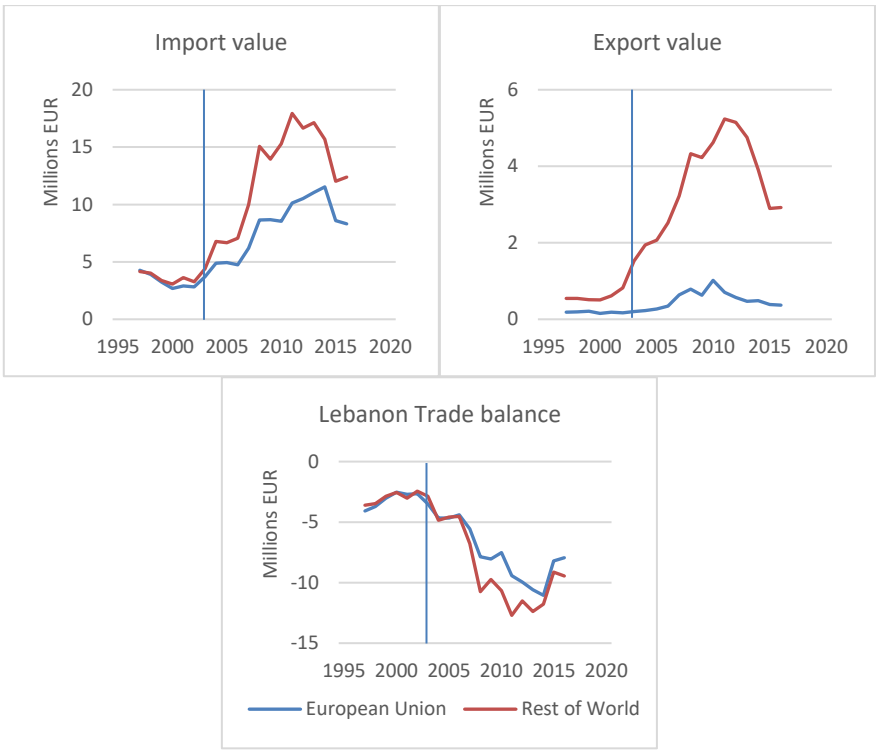
It is not clear to what extent these changes can be attributed to improvements in effective preferential tariff margins enjoyed by the Lebanese exporters in the EU markets. The latter were in fact moderate and scattered around different sectors. Some sectors also experienced declines (recall Figure 3.9).

A greater acceleration was seen for Lebanon's imports from the EU, the rate of which grew from 1.2% on average in the period prior to the entry into force of the FTA to 6.8% afterwards. This was in contrast to the imports from the rest of the world which grew faster prior to the entry of the FTA and accelerated more moderately afterwards: from 6.2% to 7.6%, respectively. The share of imports from the EU increased between the two periods from 40% to 43%, see Figure 3.18).

There are reasons to believe that the acceleration of imports from the EU was helped by the increasing effective preferential margins extended to EU products in the Lebanese market. Moreover, the decline of Lebanese import tariff as compared with tariffs charged on EU exports in third markets played a role as well. Since the entry into force of the FTA, Lebanon's trade balance has deteriorated both *vis-à-vis* the EU and the rest of the world. The deepening of its deficit with the EU was less pronounced, suggesting a mitigating impact of trade relations with the EU.

Figure 3.17 Lebanon trade flows with the EU and the Rest of World, €m (Exports, Imports and Trade Balance)

[136] Average share from 2001 to 2003.
[137] Average share from 2015 to 2017.



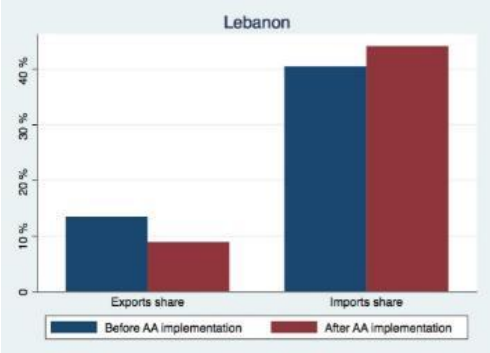
Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Table 3.7 Average annual growth rates of Lebanon trade flows

Trade flows	Before entry into force of AA [138]	After entry into force c AA [139]	Difference in percentage points
Exports to the EU	4.3	9.0	4.7
Export to the rest of world	18.0	4.5	-13.5
Imports from the EU	1.2	6.8	5.6
Imports from the rest of world	6.2	7.6	1.4

Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure 3.18 Lebanese average exports share to the EU and average imports share from the EU before[140] and after[141] AA implementation



Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

[138] From 1995 to 2005.
[139] From 2006 to 2017.
[140] Average share from 2004 to 2006.
[141] Average share from 2015 to 2017.

Morocco

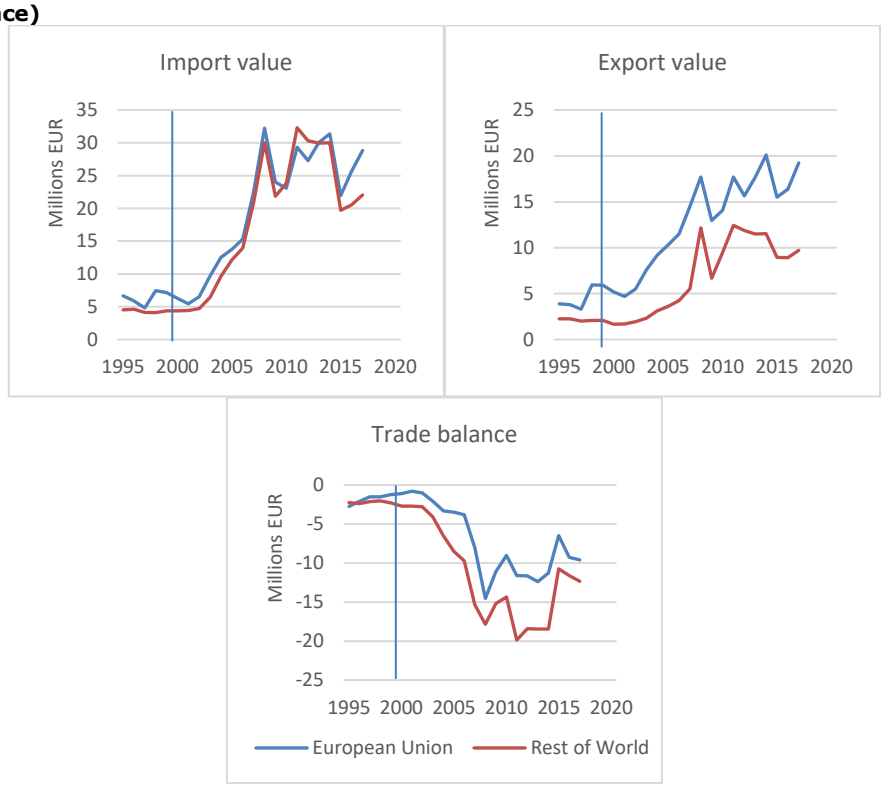
Like Tunisia and Algeria (and contrary to Egypt, Jordan and Lebanon), Moroccan exports to the EU accounted for the bulk of its exports already prior to the entry into force of the FTA, and they continue to do so afterwards (Figure 3.19). After the entry into force of the FTA, however, exports to the EU grew more slowly than before, with the average growth rate decelerating from 20% to 7%. This also contrasted with the acceleration in the growth of exports to the rest of the world, from 7% to 12% (Table 3.8). This resulted also in a decrease in the EU export share, from 76% on average in the period 1999-2001 to 62% in 2015-17 (Figure 3.20).

It is not clear to what extent these changes can be attributed to the evolution of effective preferential tariff margins in the EU market, which declined moderately for Moroccan exporters in a number of sectors (recall Figure 3.9). The directions of these respective changes are however consistent with each other. In addition, Moroccan exporters enjoyed falling import tariffs in third country markets, which could have encouraged a redirection of exports away from the EU market.

Imports from the EU have been growing at higher rates than exports in both periods, but their dynamic has also slowed down since the entry into force of the FTA, from 12% to 9%. This also contrasted with the increasing dynamic of imports from the rest of the world (from 7% to 10%). As a result, the EU share in Moroccan imports decreased from just under 60% on average in the period 1999-2001 to about 58% in the period 2015-2017.

At a face value, these changes in the dynamic of imports are somewhat inconsistent with the considerable increases in effective preferential tariff margins extended to EU exporters in the Moroccan market across all sectors (recall Figure 3.10). This points to other non-tariff factors that must have been at work. Overall, it is observed that since the entry into force of the FTA, Morocco's trade balance has deteriorated both vis-à-vis the EU and the rest of the world. The deepening of its deficit with the EU was less pronounced, suggesting a mitigating impact of trade relations with the EU.

Figure 3.19 Morocco trade flows with the EU and the Rest of World, €m (Exports, Imports and Trade Balance)



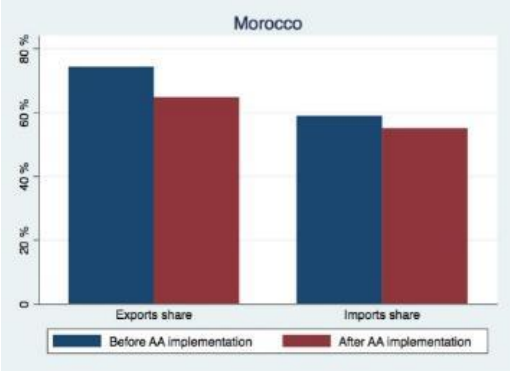
Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Table 3.8 Average annual growth rates of Morocco trade flows

Trade flows	Before entry into force of AA [142]	After entry into force of AA [143]	Difference in percentage points
Exports to the EU	19.7	7.0	-12.7
Export to the rest of world	6.8	11.9	5.0
Imports from the EU	12.1	8.8	-3.3
Imports from the rest of world	6.7	10.5	3.7

Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure 3.20 Moroccan average exports share to the EU and average imports share from the EU before[144] and after[145] AA implementation



Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Tunisia

After the entry into force of the FTA, Tunisian exports to the EU grew more slowly than before, with the average growth rate decelerating from 11% to 5%. This also contrasted with the moderate acceleration in the growth of exports to the rest of the world, from 6% to 8% (Table 3.9). This resulted also in a decrease in the EU export share, from an average of 80% in 1995-97 to 75% in 2015-17 (Figure 3.22).

It is not clear to what extent these changes can be attributed to the evolution of effective preferential tariff margins in the EU market, but these declined for Tunisian exporters more than they did for exporters in other SMCs (recall Figure 3.9). As a result, the directions of these respective changes are consistent with each other. In addition, Tunisian exporters enjoyed falling import tariffs in third country markets, which could have encouraged a redirection of exports away from the EU market. However, Tunisia, after Lebanon, was also the country with the second lowest rate of growth of exports to the rest of the world after the entry into force of the FTA. This suggests that the third country market influence on Tunisian exports may have been less important for Tunisia than for other countries in the region.

As far as imports to the EU are concerned, their rate of growth has also decelerated after the entry into force of the FTA, from 8% to 4%. The slowdown was more pronounced than for imports from the rest of the world that declined from 10% to 9%, respectively (Table 3.9). The EU share in Tunisian imports declined considerably since the entry into force of the FTA, from 75% on average in 1995-97 to 55% in 2015-17.

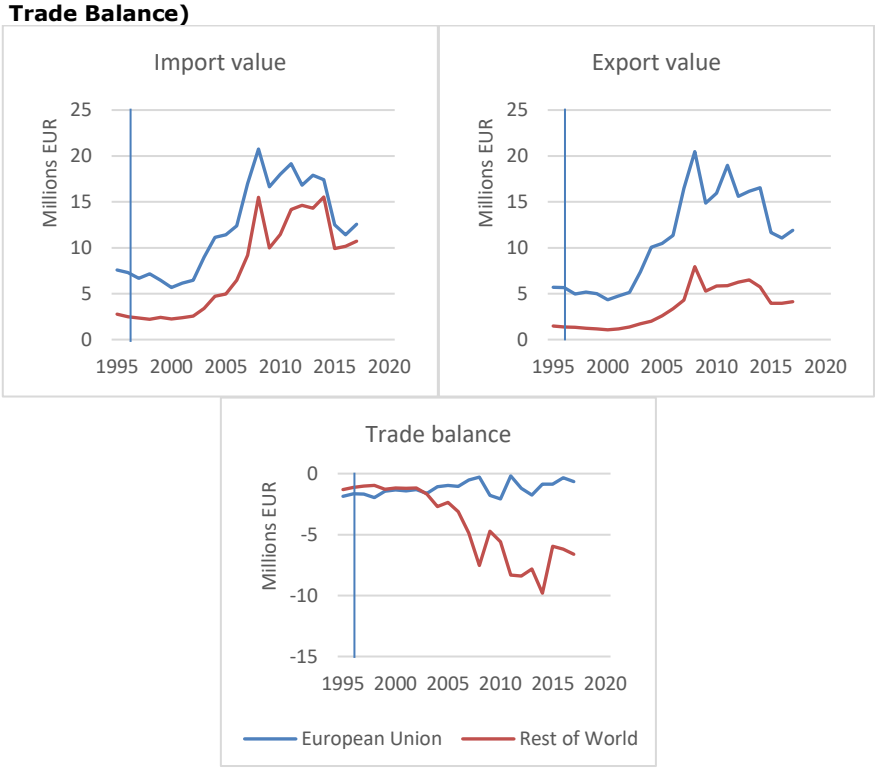
The changes in imports are consistent with the fact that while in the other SMCs, import tariffs applied to imports from the EU have been almost completely reduced (below 15% since 2005 at the latest with Morocco), in Tunisia, they were still at around this level in 2012. They also remain among the highest in the region currently (at 30% on average for agricultural products and at 9% for industrial products, recall Table 3.3). This is reflected in the least attractive effective preferential tariff margin changes *vis-à-vis* EU exporters in the region. These are

[142] From 1995 to 1999.
[143] From 2000 to 2017.
[144] Average share from 1999 to 2001.
[145] Average share from 2015 to 2017.

consistent with the fact that Tunisia's imports from the EU have been less dynamic than in any other SMC.

Stagnant imports from the EU may have had a mitigating impact on the country's bilateral trade balance. The latter nevertheless improved since the entry into force of the FTA. This was in contrast with the severe deterioration of the balance in trade with the rest of the world (Figure 3.21).

Figure 3.21 Tunisia trade flows with the EU and the Rest of World in current 1,000 US$ (Exports, Imports and Trade Balance)



Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

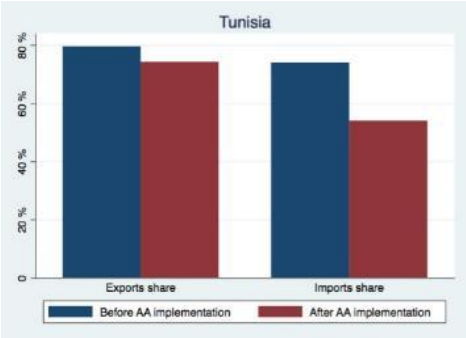
Table 3.9 Average annual growth rates of Tunisia trade flows

Trade flows	Before entry into force of AA	After entry into force of AA	Difference in percentage points
Exports to the EU	11,3	5.0	-6.3
Export to the rest of world	6.5	7.7	1.2
Imports from the EU	8.5	3.7	-4.8
Imports from the rest of world	10.2	9.4	-0.8

Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure 3.22 Tunisian average exports share to the EU and average imports share from the EU before[146] and after[147] AA implementation

[146] Average share from 1994 to 1997.
[147] Average share from 2015 to 2017.



Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Summary across SMCs

Overall, while conclusive comparisons across SMCs are difficult because of the many unobserved factors that may be at work here and because of the different time periods that elapsed since the entry into force of the respective FTAs, a positive picture seems to emerge for two SMCs. For both Egypt and Lebanon increases in growth rates of their exports to and imports from the EU were larger than the increases in their rates of growth of exports to and imports from the rest of the world (Figure 3.23).

Algeria and Jordan can also be seen as partial success cases. The increase in Algeria's rate of growth of exports to the EU (excluding oil exports) was much larger than in that of exports to the rest of the world. As regards imports from both the EU and the rest of the world, they grew at rates similar to the period prior to the entry into force of the FTA. The rate of growth of Jordan's exports to the EU did not change much, which is in stark contrast to the increase in the rate of growth of exports to the rest of the world. But the change in the rate of growth of Jordanian imports from the EU was larger than for imports from the rest of the world.

In Morocco and Tunisia, on the other hand, the rate of growth of exports to the EU decreased after the entry into force of the FTA. Their exports to the rest of the world accelerated. Moreover, imports form the EU have also slowed down and by more so than imports from the rest of the world.

These differences in changes in trade growth rates correspond to the earlier observed changes in effective preferential tariff margins as described in the previous section, albeit only to a certain degree. Egypt and, to a lesser extent, Lebanon have enjoyed improved access in terms of effective preferential tariff margins to the EU market. At the same time, these two SMCs offered to EU exporters substantially improved access in terms of effective preferential tariff margins to their own markets. Jordan was a somewhat similar case but the country faced more margin erosion in the EU market which might explain the lack of more positive change on the side of its exports. However, the effects of Jordan's earlier FTA with the US may have had more impact.[148] As regards Algeria, its tariff situation was more similar to that of Tunisia (the case of 'negative reciprocity' with the EU in tariff margin changes), while Morocco's case was more similar to that of Lebanon (increased margins in own markets and mixed improvements in access to the EU market). In this sense, the relatively less favourable bilateral trade developments in Morocco are less well explained than the qualitatively similar changes in Tunisia.

These findings corroborate the earlier findings that the tariff changes implied by the entry into force of the FTAs can only to some extent explain the actually observed changes in trade flows. As far as trade deficits are concerned, this topic came up frequently in stakeholder consultations, for example in Egypt, Morocco, Tunisia and Jordan. However, in the economic literature, fiscal, monetary and structural policies are considered as primary drivers of trade deficits as they shape national saving-investment imbalances.

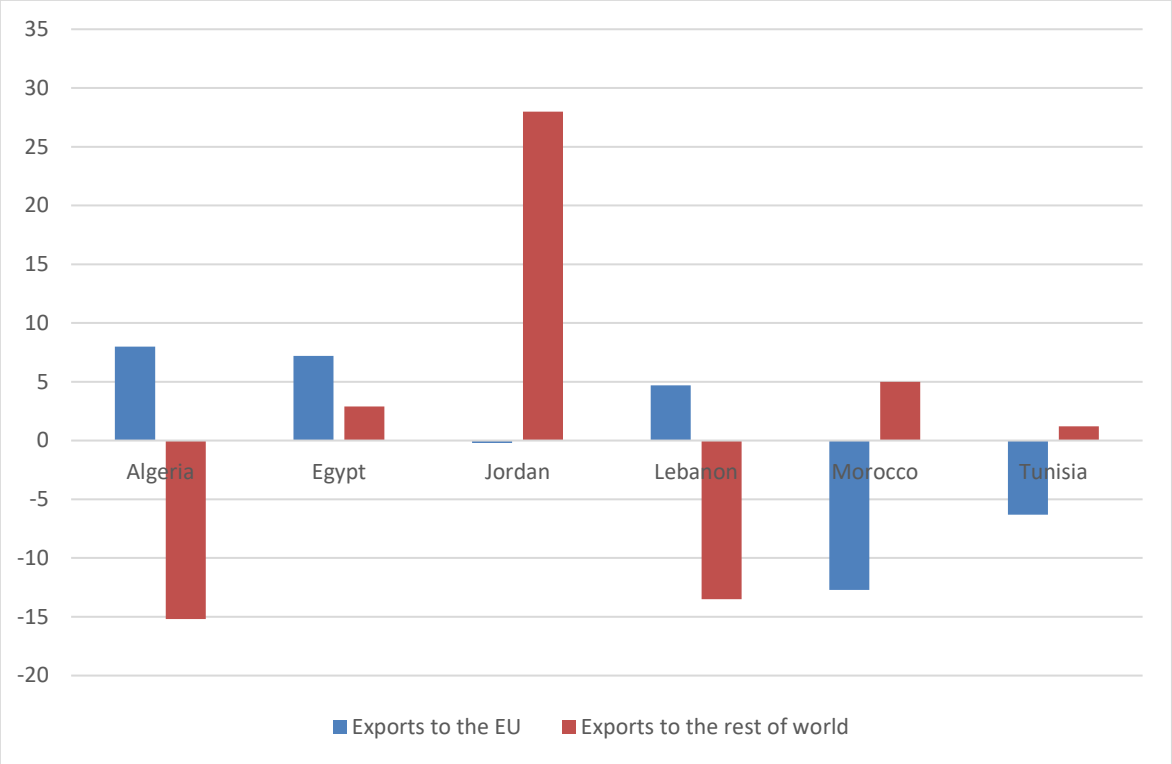
For a given saving-investment imbalance, both comparative advantages and trade barriers determine how a deficit or surplus is distributed across partners and products, but do not

[148] In Jordan, among the sectors which saw margin (Textiles and Clothing, Metals, Wood, Fuels and Footwear) only Metals and Wood experienced a slowdown in export growth, and only Wood experienced a decline in the EU export share (Annex Table D.9.a).

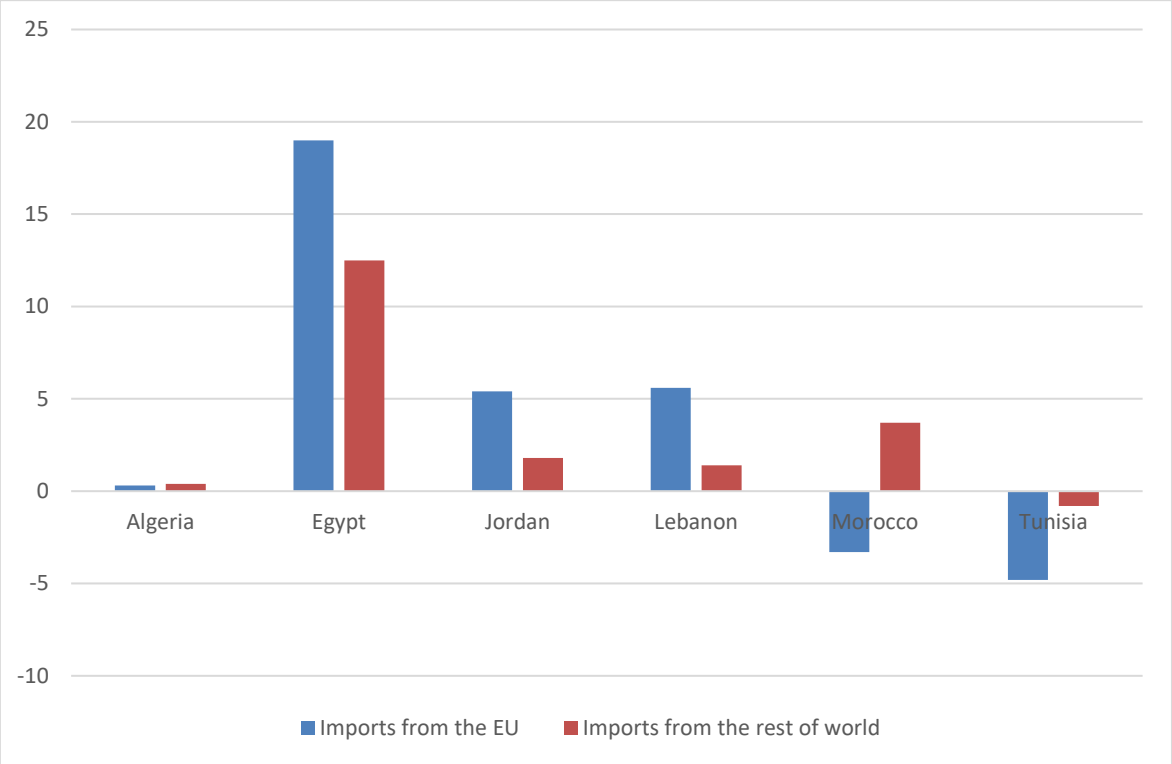
influence the overall balance (see e.g. Flaig et al., 2018). Having said that, in the case of the six SMCs, bilateral balances with the EU either improved (for Tunisia) or deteriorated less rapidly than balances with the rest of the world (for all other SMCs). This suggests that trade with the EU might have been a mitigating factor.

Figure 3.23 Differences between the growth rates of trade of SMCs with the EU and the rest of the world after and prior to the entry into force of the Euro-Med FTAs

Panel A. SMCs' exports (percentage point difference in average growth rates)



Panel B. SMCs' imports (percentage point difference in average growth rates)



Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Evolution of trade flows by country and broad product category

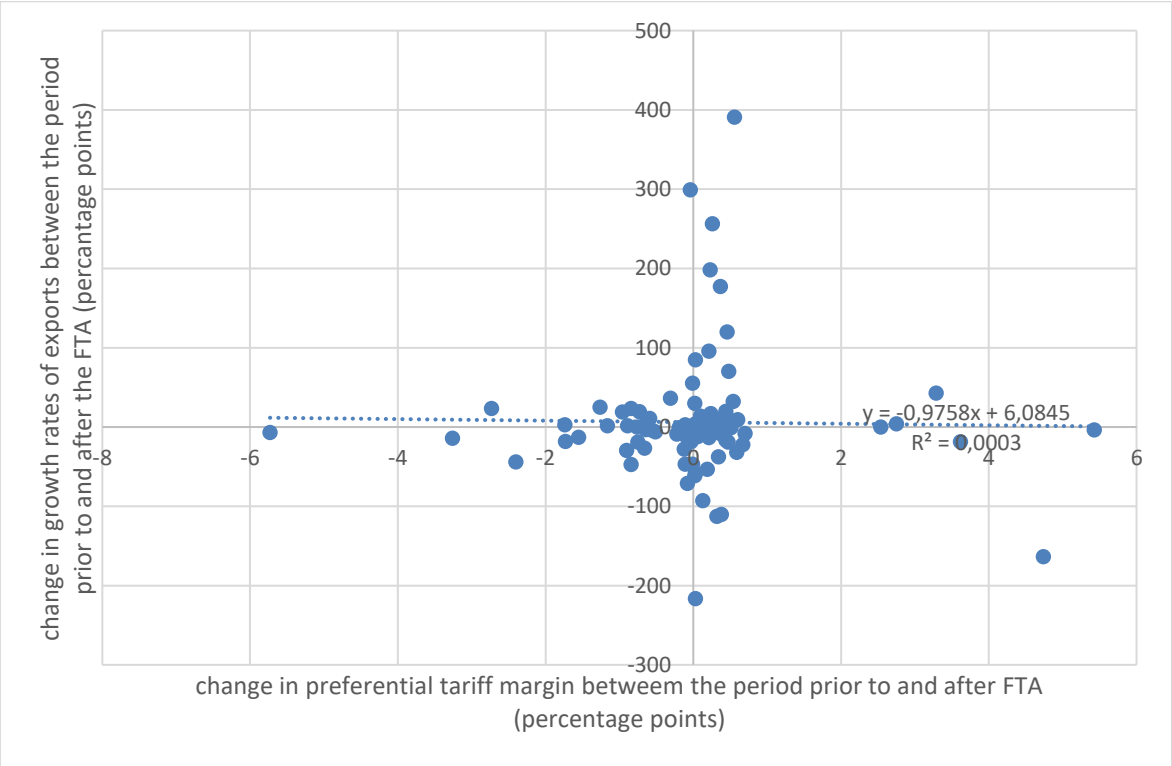
The evolution of exports and imports to the EU by broad product category prior to and after the entry into force of FTAs is presented for each of the SMCs in Annex Tables D.7 through D.12 and the corresponding Annex Figures D.1 to D.12. Even more than in the case of aggregate flows it is difficult to reconcile the observed changes with the effective preferential tariff margin changes described in the previous section. As would be expected, product-level shifts in average annual growth rates between the two periods tend to be more erratic (e.g. sometimes small changes from relatively small starting points register as high growth rates) than those seen for aggregate trade flows. Moreover, they do not show any immediately clear correlation patterns. Developments at the product level also necessarily reflect a more complex range of factors that need to be considered in rationalising the observed effects, including sector specific trends that may be common for all countries or sector-specific competitiveness and comparative advantage developments.

Turning to the observed effects, in cases of some countries, there seems to be a positive relationship between the increases in effective preferential tariff margins and the dynamics of trade flows. But in other cases, the relationship seems negative (see Annex Figures D.1 to D.12). Pooled together across all SMCs and all products, these correlations are presented for reference in Figures 3.24 and 4.25.

Figure 3.24 presents the correlation of effective preferential tariff margin changes with percentage point changes in average growth rates of exports to the EU (Panel A). Moreover, it also shows the correlation of effective preferential tariff margin changes with percentage point changes in shares of specific products in SMCs' overall exports to the EU (Panel B). The fitted linear trend lines are included to help gauge the directions of correlations: while products which experienced positive tariff margin changes in the EU market tended to grow their shares in SMCs' exports to the EU (Panel B), their average rates of growth were not necessarily higher after the entry into force of the FTA (Panel A). In both cases, the fit of the line is very poor, with the R^2 not exceeding 3%

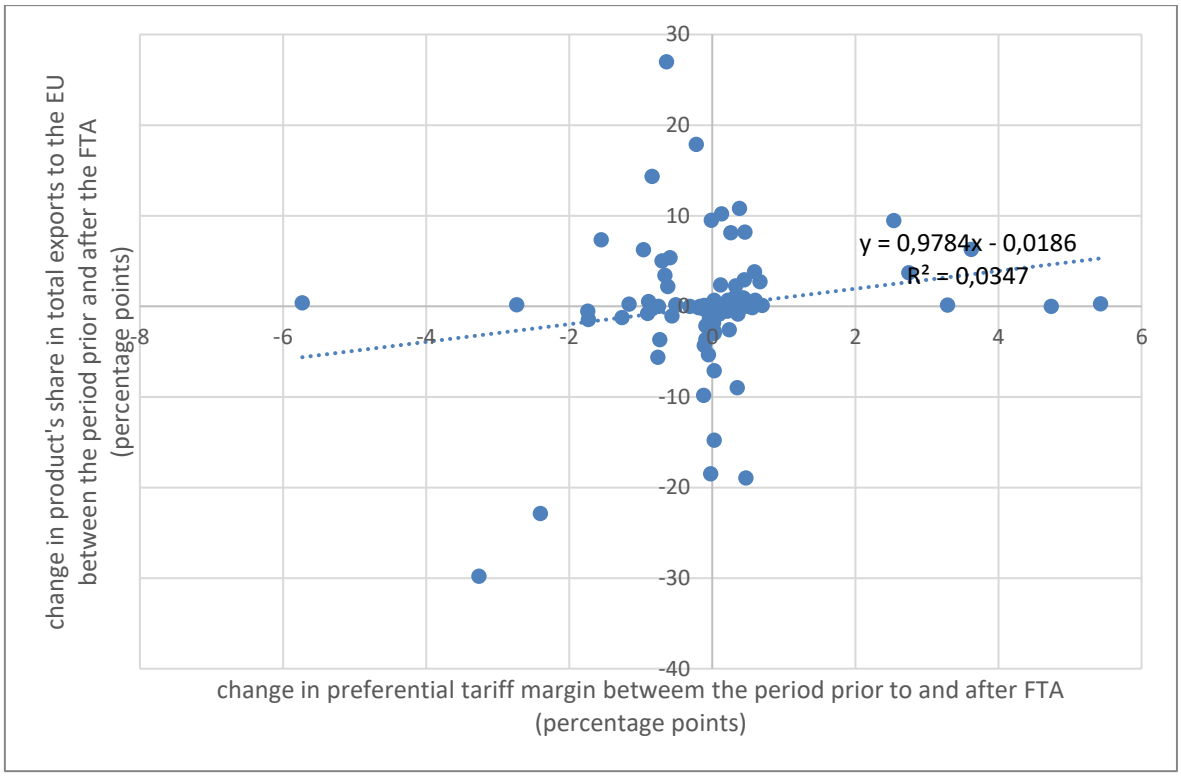
Figure 3.24 Correlation of effective preferential tariff margin changes in the EU market with changes in exports to the EU

Panel A. Changes in average growth rates of exports to the EU



Note: three outlier cases of differences in growth rates exceeding + or - 1000 pp are excluded.

Panel B. Changes in shares of specific products in SMCs' overall exports to the EU



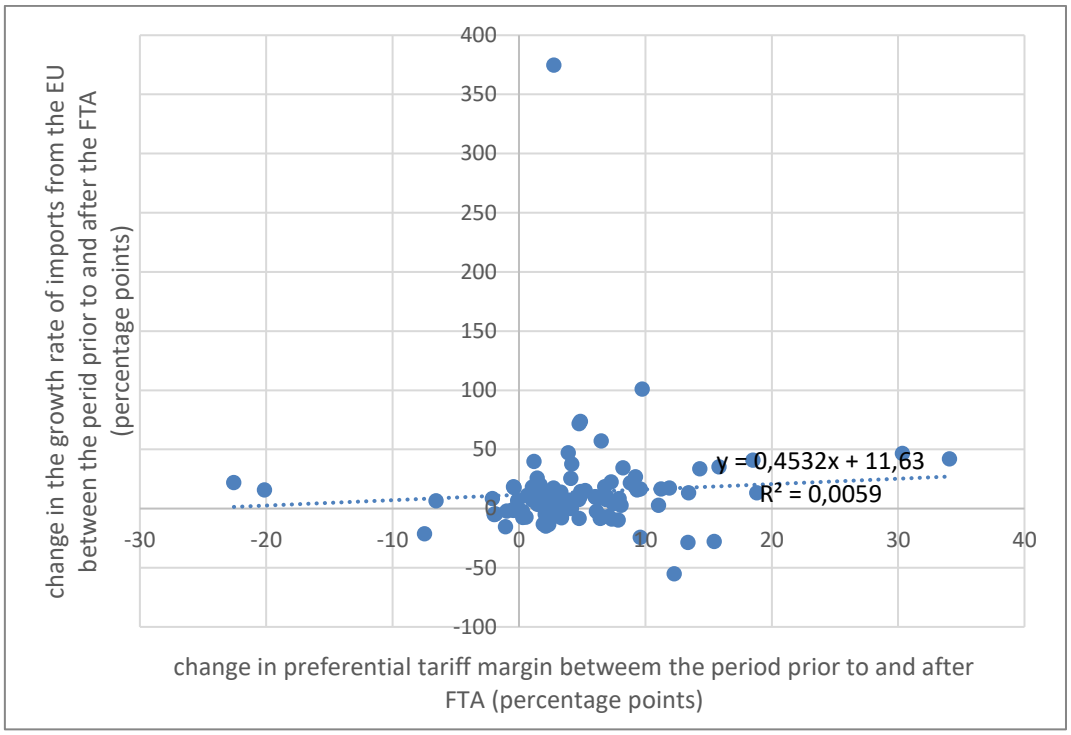
Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure 3.25 shows the corresponding correlations for SMC imports from the EU. Whereas the average rates of growth of imports tended to increase more for products with largest increases in margins, the positive relationship does not hold for changes in export shares. The fit of these regression lines is even poorer, with R^2 not exceeding 1%.

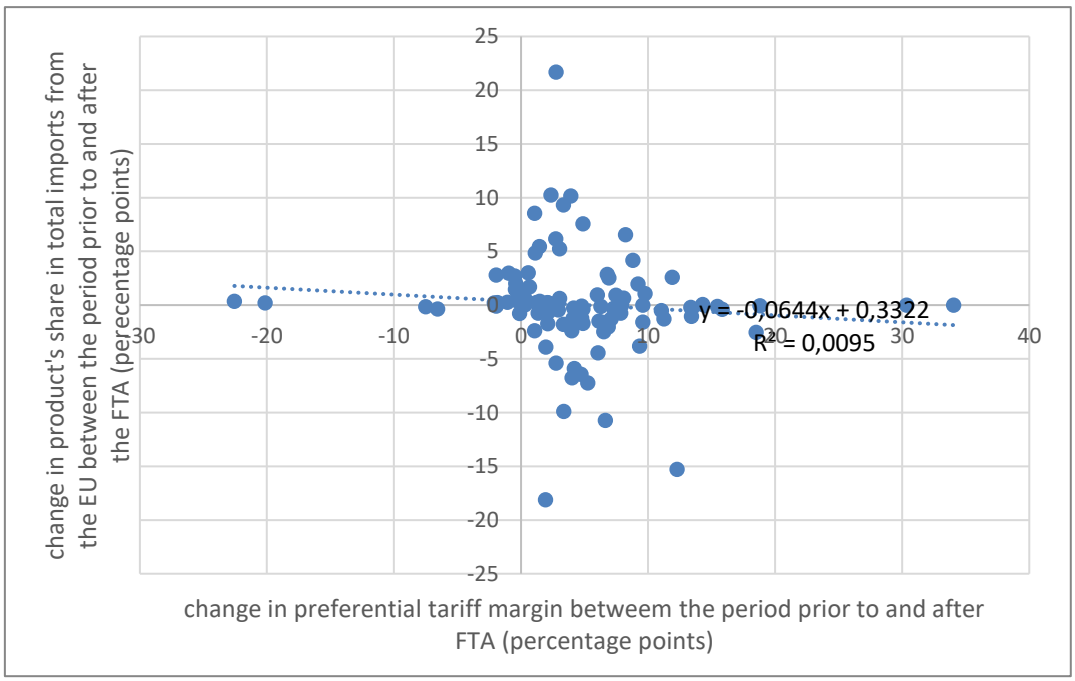
These findings support earlier observations. They confirm that the tariff changes implied by the entry into force of the FTAs can only to some extent explain the actually observed changes in trade flows. This is especially true at the product level.

Figure 3.25 Correlation of effective preferential tariff margin changes in SMC markets with changes in imports from the EU

Panel A. Changes in average growth rates of imports from the EU



Panel B. Changes in shares of specific products in SMCs' overall imports from the EU



Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

3.4. Estimating selected trade and other economic effects of the

Euro-Med FTAs using a CGE and PE analysis

Computable General Equilibrium (CGE) and partial equilibrium (PE) modelling are two related techniques which provide consistent frameworks for separating out the effects strictly related to trade policy changes such as the FTAs from other developments. CGE models have been conceived for studying policy reforms which impact economic relations at the microeconomic level, but which also have economy-wide effects (e.g. an income effect of a trade reform) and have indeed been used extensively for isolating and analysing the effects of tariff changes on trade flows, production, income and welfare. PE models are either separately developed models employing similar methods of analysis to CGE modelling, but focusing on a specific products or markets (e.g. a specific commodity or type of product in a national or global context), or reduced versions of CGE models, where certain simplifying assumptions are made with respect to some economic mechanisms to reduce the complexity or data requirements of the analysis and to focus on a specific market.

As is the case with other economic models, which make simplifying assumptions to clearly show the effects that are deemed of primary importance in a given context, results obtained from CGE and PE models depend on the underlying assumptions. These assumptions can be categorised so as to include:

- the economic theory underpinning the model mechanics, including functional forms assumed for representing different economic relations in the model as well as well as decisions about which variables can be in a given context treated as endogenous (determined within the model) and which can be treated as exogenous (determined outside the model) (i.e. model closure);
- the choice of the underlying data used to calibrate the model;
- elasticities and other parameters determining the magnitudes of adjustments within the model.

A key issue in CGE and PE analysis, and one that is not easily overcome without an extensive sensitivity analysis, is the question which of the assumptions of the model are key for the obtained results and which are not. Such sensitivity analysis can help determine whether the results produced by the model are driven mainly by the nature of the considered policy shock as opposed to model assumptions.

The remainder of this section presents the simulation analysis of the six agreements with a CGE and a PE model, which has been performed by the Directorate General for Trade of the European Commission. Part of the further research in this study is based on the results obtained here. After a technical description of the modelling tools and a cross-regional summary of the results, the section proceeds with a presentation of the results by model type and country and finishes with a conclusion.

3.4.1. The computable general equilibrium (CGE) model

The CGE model used by the Directorate General for Trade of the European Commission to estimate selected effects of the Euro-Med FTAs for the purposes of this ex-post evaluation is the Modelling International Relations in Applied General Equilibrium (MIRAGE) model developed by the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII) (see Decreux and Valin, 2007; Bchir et al., 2002). Since its conception, MIRAGE has been dedicated to trade and related policy analysis and has been used in several trade policy evaluations. The model has been a standard reference for the ex-post and ex-ante evaluations of EU trade policy by the Directorate General for Trade of the European Commission. Modelling results stemming from this model also serve as an important analytical input in the current ex-post evaluation.

MIRAGE is a relatively standard CGE model but, depending on its version, it also incorporates several more advanced features, including elements of dynamics, product differentiation by quality and origin and imperfect competition as well as international capital movements. In here, a static version of MIRAGE with a standard neo-classical closure has been deployed. Capital stocks are assumed as fixed within domestic economies and national labour markets are assumed to clear under the condition of fixed unemployment.[149] The assumption of perfect mobility and capital means that these factors of production are allocated smoothly across the different sectors of the economy in response to changes in relative product prices so as to

[149] But capital and labour reallocations to different sectors of the economy occur in response to changes in factor prices.

equilibrate factor prices (wages and returns to capital). The fixed current account closure means that that the exchange rate is assumed to adjusts so that the overall current account of a country remains unchanged. It is also assumed that markets are perfectly competitive with perfectly smooth market entry and exit and existing firms charging prices equal to marginal costs of production.

In terms of policy data, MIRAGE incorporates measures of bilateral trade protection included in CEPII's MacMap database which is part of the GTAP (Global Trade Analysis Project) Data Base and which provides exhaustive and consistent measures of tariff protection, encompassing ad valorem tariffs as well as ad valorem equivalents of tariff rate quotas (TRQs). The GTAP database 9.2 has been used and the CGE has been applied for Egypt, Jordan, Morocco and Tunisia, as the database does not cover Algeria and Lebanon individually (for these countries the results of a partial equilibrium model are provided, see the next sub-section).

The base year of the version 9.2 of the GTAP database is 2011 (Aguiar et al., 2016). To reflect some of the important economic changes in the EU and SMCs since 2011 the base year has been updated so that key indicators are in line with projections or, where possible, data for 2018. These base adjustments concern: current account balance; population growth; growth of the labour force; savings rates; sectoral technical progress (for some sectors); energy efficiency; capital stocks as well as GDPs. The Gross Domestic Product (GDP) was also adjusted[150] so as to reflect the GDP figures as reported for 2018 by the IMF World Economic Outlook.

The model is aggregated to 13 regions and 26 sectors shown in the Tables 3.10 and 4.11 below. A mapping of the sectors to the original 57 sectors in the GTAP database is shown in Table D.13 in Annex D. Note that sector definitions are different from those presented in the tariff and trade analysis presented in Section 3.3.

Table 3.10 Regional aggregation of the CGE model

Model Aggregate	Remarks
EU 28	
Egypt	
Jordan	
Morocco	
Tunisia	
Israel	
Turkey	
Rest of Northern Africa	As defined in the GTAP database
Rest of Western Asia	As defined in the GTAP database
Gulf Countries	
China	
Least Developed Countries (LDC)	
Rest of the World	

Source: Own Compilation by DG Trade.

[150] This was done by adjustments to the parameter concerning the overall technical progress.

Table 3.11 Sectoral aggregation of the CGE model

CGE sector
Live ruminants and horses
Red Meat
White Meat
Dairy products
Vegetables, fruit and nuts
Vegetable oils
Wheat
Other cereals
Processed food
Beverages and tobacco
Other agri-food products
Fishery and forestry
Fossil fuels
Minerals
Chemical, rubber and plastic products
Textiles
Wearing apparel
Leather products
Metals and metal products
Electronic equipment
Motor vehicles and parts
Other transport equipment
Other Machinery and equipment
Other manufactures
Transport services
Other services

Source: Own Compilation by DG Trade.

For each scenario, each of which considers the policy changes which are associated with a given Euro-Med FTA, the ex-post simulations using the MIRAGE model yielded the changes estimated to be associated with the implementation of the FTAs. These were changes with respect to different trade flows (total, bilateral by sectors), sectoral outputs, consumer prices, different kinds of country-wide wages (e.g. for skilled and unskilled workers), employment across sectors, impact on tariff revenues, and CO2 emissions. These estimated changes also concerned GDP, economic welfare and other macroeconomic variables.

3.4.2. The partial equilibrium (PE) model

The ex-post simulations for Algeria and Lebanon, which are not covered as individual countries in the GTAP database, are carried out in a PE model which is an adaption and extension of the basic four equations, perfect competition framework of Balistreri and Rutherford (2013). These equations are: an isoelastic[151] export supply function; an isoelastic import demand function; an import price aggregation function; and a market clearance function (see Annex Box D.2). The equations have been extended such as to allow classical tariffs as policy instruments.[152] In this partial equilibrium model, the only endogenous variables are bilateral trade flows by sector. The

[151] Isoelastic means that these functions are governed by the same elasticity over their entire course.
[152] The original code only allows so-called iceberg tariffs, which work differently in that they simulate the cost increase by reducing the quantity shipped on a bilateral link – akin to a melting iceberg – rather than adding a monetary cost as is done here and in most other analyses using classical tariffs.

PE model is populated with trade data obtained from importer notifications in the UN COMTRADE database.

The model has been aggregated to the three FTA partners (Algeria, Lebanon and the EU) and the rest of the world. Simulations were carried out at the HS6 level.[153] The various parameters of the model (e.g. own-price, Armington, supply elasticities) are based on a World Bank study and on values found in the specialised economic literature (Kee et al, 2008, Laborde and Lakatos, 2012).

3.4.3. The counterfactual scenarios – the 'value' of the Euro-Med preferences

As far as the ex-post counterfactual assessment of the FTA's effect is concerned, the CGE and PE modelling considers hypothetical scenarios equivalent to a suspension of the Euro-Med FTAs in 2018.[154] In this counterfactual, the EU is treated as an MFN trading partner by all six countries. This means that the tariff rates are increased to those that would apply if these SMC countries treated the EU as a non-preferential MFN partner rather than an FTA partner.[155] The tariff treatment of SMCs by the EU in these ex-post simulations [156] Hence, during the lifetime of the Euro-Med FTAs, the GSP status of these partner countries has evolved but, as explained above, the analysis presented considers how the reformed GSP would apply today as a counterfactual:

- Algeria and Lebanon are both upper-middle-income countries (2019 World Bank update based on 2017 data) and have been so for the last three years, therefore under the current GSP regulation they would not be beneficiaries and would have to export to the EU under MFN terms. The scenarios for Algeria and Lebanon thus consider raising customs tariffs to the MFN level;
- Tunisia, Morocco and Egypt are lower-middle-income countries; and would be able to benefit from the GSP general arrangement. The scenarios for Tunisia, Morocco and Egypt thus consider raising customs tariffs to the GSP level;
- Jordan is an upper-middle-income country based on 2017 data but was a lower-middle-income country in 2016. In order to graduate from GSP, the country would have to be an upper-middle-income country for three consecutive years, which is not the case. Therefore, also for Jordan the scenario considers raising customs tariffs to the GSP level.

As the agreements are legally independent from each other, the simulations are run for each of the FTAs individually. Other trade relations, including those of the Southern Mediterranean partners among each other are left intact. So are the trade relations between the Southern Mediterranean partners and other countries in the region.

Preference margins, which here are the differences between the GSP and FTA tariff rates, used in CGE simulations are presented in Table 3.12. Although the product aggregation differs from that used for comparisons in Section 3.3, we see similar patterns: EU enjoys relatively high preference margins more evenly spread across sectors in SMC markets. These are particularly high in sectors such as Textiles, Wearing Apparel and Leather, but also in some other manufacturing and agricultural sectors, depending of the specific SMC (Panel A). Apart from a few agricultural and food-related products, the effective preferential margins that SMCs enjoy in the EU market are generally lower. With the exception of Textiles, Wearing Apparel and Leather and Motor Vehicles and Parts (except for Tunisia), margins faced by SMC in manufacturing sectors are low.

[153] The Harmonized System is an international nomenclature for the classification of products. It allows participating countries to classify traded goods on a common basis for customs purposes. At the international level, the Harmonized System (HS) for classifying goods is a six-digit code system.
[154] While there is the potential for evolution of the preferential tariff margins over time, a dynamic ex-post analysis with an equilibrium model (both partial and general) is conceptually difficult and would force the modelling to focus on more aggregated data. Furthermore, an evaluation of various regimes or years would inflate the number of results and potentially blur their meaning.
[155] Full preference utilization has been assumed.
[156] Countries eligibility for GSP+ depends on a detailed assessment would need to be undertaken of economic vulnerability criteria would as well as of ratification and implementation of 27 international conventions related to human rights and labour rights, environment and good governance, - the outcome of which cannot be prejudged. Moreover, none of the countries benefited from GSP+ before. Therefore, we this scenario is disregarded in the modelling exercise.

Table 3.12 Preference margins used in the CGE model

Panel A. Tariff margins faced by EU exporters in SMC markets

sector	Egypt	Jordan	Morocco	Tunisia
Other Cereals	0.01%	0.01%	15.73%	0.00%
Wheat	0.00%	0.00%	0.04%	0.58%
Vegetables, fruit and nuts	11.56%	21.86%	10.76%	0.00%
Other Agri-food products	10.84%	5.75%	2.81%	2.54%
Live ruminants and horses	0.32%	0.05%	24.47%	0.00%
Dairy products	2.71%	3.22%	7.38%	0.00%
Fishery and Forestry	2.11%	3.48%	9.51%	0.03%
Fossil fuels	5.54%	10.77%	6.73%	3.34%
Minerals	11.03%	17.56%	15.25%	15.25%
Red Meat	2.12%	0.29%	11.32%	0.00%
White Meat	11.77%	3.46%	12.02%	0.00%
Vegetable oils	7.50%	13.07%	3.86%	2.04%
Processed food	9.83%	12.70%	10.14%	6.91%
Beverages and tobacco	3.72%	3.11%	27.74%	16.93%
Textiles	10.86%	9.08%	9.01%	13.88%
Wearing apparel	38.21%	19.94%	14.44%	22.65%
Leather products	50.75%	25.47%	13.24%	28.40%
Other manufactures	3.56%	5.03%	7.40%	7.86%
Chemical, rubber and plastic products	14.97%	2.32%	8.61%	12.87%
Metals and metal products	6.06%	10.71%	10.00%	11.94%
Motor vehicles and parts	33.52%	5.27%	8.42%	15.93%
Other transport equipment	5.15%	4.75%	2.65%	3.78%
Electronic equipment	7.54%	7.36%	10.11%	17.74%
Other Machinery and equipment	13.78%	11.43%	12.26%	11.40%

Source: Own Compilation by DG Trade.

Panel B. Tariff margins faced by SMC exporters in EU markets

sector	Egypt	Jordan	Morocco	Tunisia
Other Cereals	33.28%	25.22%	0.16%	0.00%
Wheat	0.55%	28.40%	18.99%	0.00%
Vegetables, fruit and nuts	9.30%	9.95%	10.43%	2.74%
Other Agri-food products	0.79%	0.68%	0.70%	1.45%
Live ruminants and horses	2.74%	8.00%	-0.11%	0.07%
Dairy products	61.05%	0.00%	59.62%	0.00%
Fishery and Forestry	6.94%	0.00%	6.57%	8.26%
Fossil fuels	0.00%	0.02%	0.00%	0.00%
Minerals	2.66%	2.43%	0.27%	2.21%
Red Meat	0.00%	58.67%	0.03%	5.75%
White Meat	37.93%	27.57%	60.29%	0.00%
Vegetable oils	10.43%	1.32%	24.40%	29.31%
Processed food	10.42%	9.01%	7.29%	4.72%
Beverages and tobacco	13.90%	51.18%	6.47%	8.45%

sector	Egypt	Jordan	Morocco	Tunisia
Textiles	6.37%	9.15%	8.00%	6.90%
Wearing apparel	9.59%	9.58%	9.42%	9.26%
Leather products	3.67%	2.13%	4.30%	3.54%
Other manufactures	0.00%	0.47%	0.45%	0.27%
Chemical, rubber and plastic products	3.22%	0.47%	1.49%	2.47%
Metals and metal products	2.32%	0.72%	0.89%	0.52%
Motor vehicles and parts	5.80%	4.11%	6.08%	0.02%
Other transport equipment	1.08%	1.11%	1.21%	2.02%
Electronic equipment	1.52%	0.72%	2.42%	1.51%
Other Machinery and equipment	0.01%	0.01%	0.00%	0.04%

Source: Own Compilation by DG Trade.

Interpretation of the counterfactual and the associated results

Simulating the effects of a hypothetical scenario of preference removal is a viable basis for an ex-post CGE analysis of the Euro-Med FTAs, but this cannot be considered as a scenario that attempts to fully quantify the effects of Euro-Med FTAs. There are several reasons for this. First, as we have seen in Section 3.3, the effective preferential margins extended to SMCs by the EU and vice versa, as well as the conditions of access of the EU and SMCs' to third country markets, have evolved considerably over time since the entry into force of these agreements. Second, economic structures have also evolved in time. This means that the effects of the Euro-Med FTAs are also likely to have evolved considerably over time. Third, results of static CGE models like the one employed here, are best thought of as long-term effects: the resulting changes should be seen as those that would prevail in long term when all the adjustments in the economy will have taken place. In reality, those may take several years or even decades.

Consequently, the counterfactual considered in this ex-post evaluation is to be taken as a reverse[157] situation in which any tariff preferences mutually granted by the EU and SMCs in the framework of the Euro-Med FTAs are suppressed. **The results can thus be thought of as the current 'value of Euro-Med FTA preferences'**. The latter can be expressed either in monetary terms, in terms of income or welfare, or in terms of changes in trade flows or CO2 emissions. They cannot however be plausibly considered as the 'effects of Euro-Med FTAs'. For example, it would be incorrect to compare the trade changes predicted by the CGE model to the actual trade changes as described in Section 3.3. This is because the latter changes are a result of cumulative effects of time-varying preferential tariff margins observed in reality, while the results of the CGE model show the reverse of the effects that would be expected in the long term, if the current preference margins were permanently removed with all other exogenous variables in the model remaining intact.

3.4.1. Summary and discussion of CGE modelling results across the countries and regions

Section 3.4.4 provides a summary and comparison of the CGE modelling results across the SM region and with the EU. Where applicable, the results are those of the PE model. Individual country results for each SMC and the EU are described in Section 3.4.5.

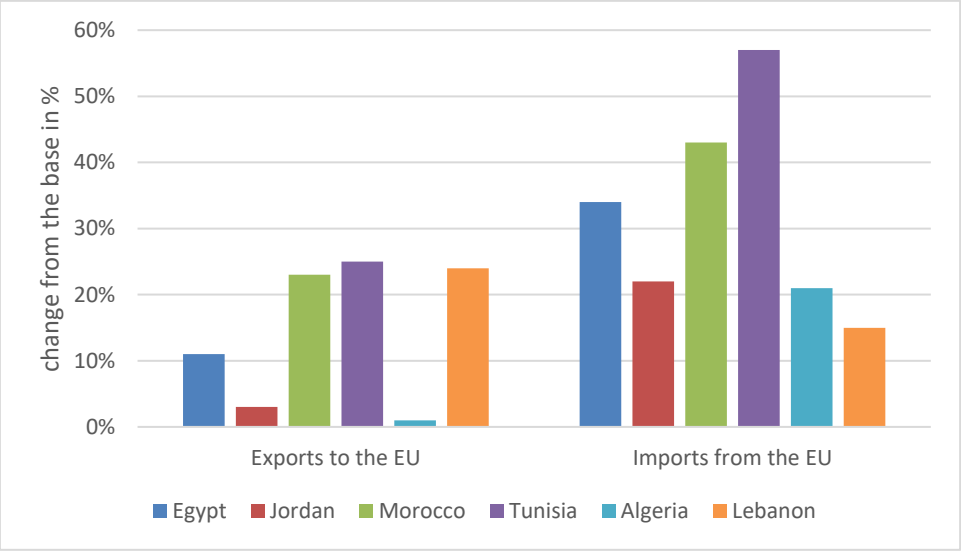
3.4.1.1. Bilateral, regional and overall trade effects

The combined effects on bilateral trade between the EU and each SMC estimated with the CGE and, for Algeria and Lebanon, PE model are summarised in Figure 3.26. The Euro-Med FTAs are found to have trade creation effects between the EU and the SMCs. Both imports and exports are positively impacted, but both in relative and value terms. Moreover, with the exception of Lebanon, the estimated impact on SMC imports from the EU is greater than the impact on exports which yields deteriorating trade balances of SMCs (Figure 3.27).

[157] In fact, all the results from the described scenario of moving towards the GSP or MFN rates were multiplied by -1 for presentational reasons, to show the results as the 'value of preferences' rather than the loss of not having them.

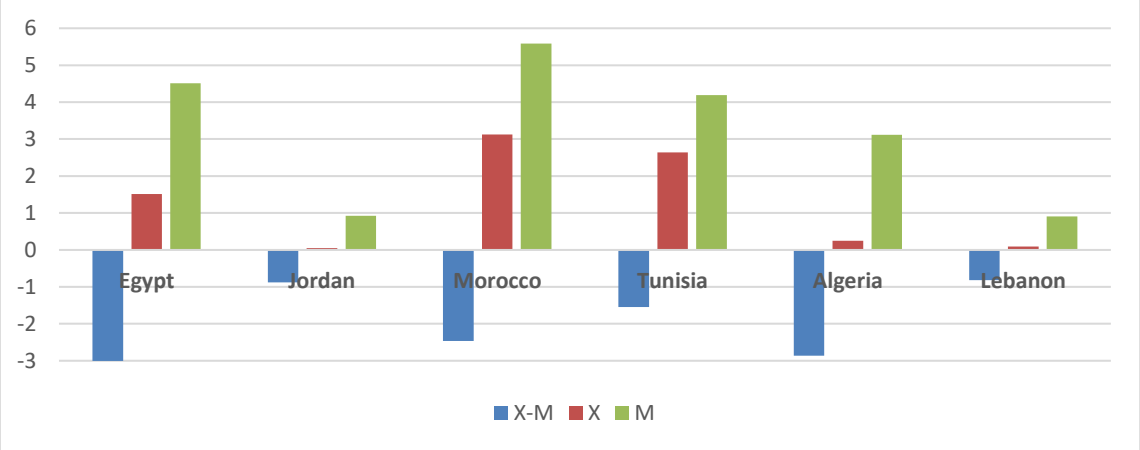
The largest trade effects are therefore estimated for Morocco and Tunisia, which are the two SMCs for which the EU accounts for the largest shares of their exports and imports. The share of exports to the EU has averaged 62% over the last 3 years (compared to 76% at the time of the entry into force of the FTA) for Morocco and 75% (compared to 80% at the time of the entry into force of the FTA) for Tunisia. Although lower, the share of imports from the EU by these two countries is also very high: at 58% in recent years (compared to 60% at the time of entry into force of the FTA) for Morocco and at 55% (compared to 75% at the time of the entry into force of the FTA) for Tunisia (See Section 3.3).

Figure 3.26 The simulated effects of Euro-med preferences on bilateral trade between the EU and SMCs



Sources: DG Trade, European Commission using the MIRAGE model.

Figure 3.27 The simulated effects of Euro-Med FTAs on bilateral trade balances between EU and SMCs (€bn)



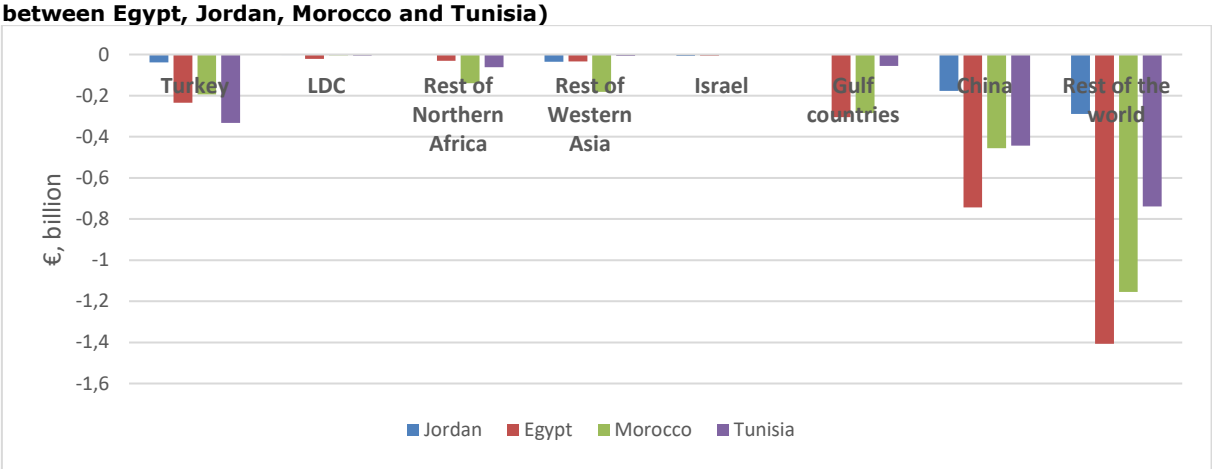
Note: X - exports to EU M - imports from EU and X-M - trade balance.
Sources: DG Trade, European Commission using the MIRAGE model.

The positive effects of trade creation with the EU can in principle be offset by the negative effects of trade diversion. While decreases in imports from other sources cannot be equated with trade diversion[158], the results from the CGE analysis suggest that the Euro-med FTAs would

[158] Trade diversion refers to increased imports from more expensive producers as a result of the FTA. The cost aspect cannot be easily seen in the results pertaining to trade flows, although they are reflected in the results concerning welfare, which are, on balance, positive for all countries, indicating that the positive effects of trade creation outweigh trade diversion.

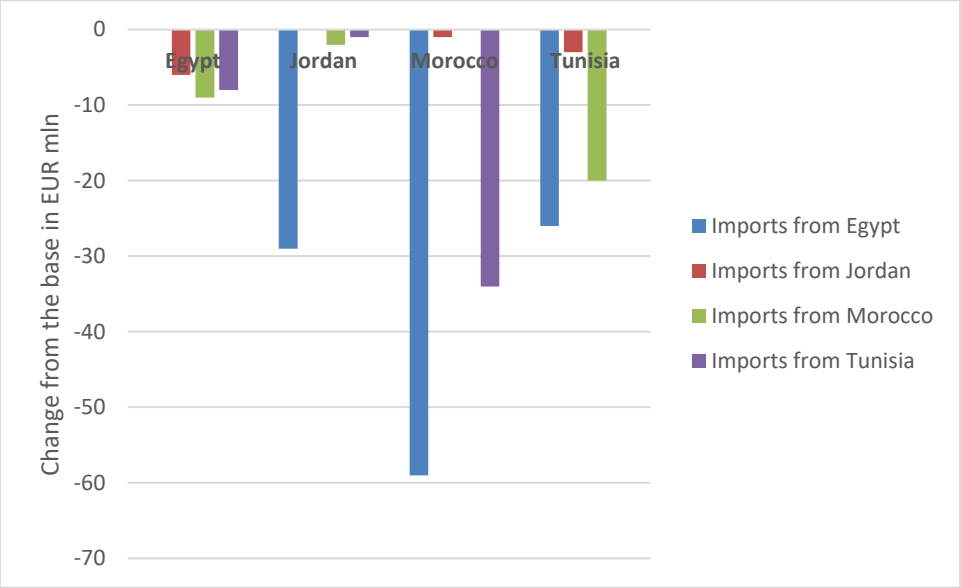
have negatively affected the SMCs' imports from almost all their partners other than EU (Figure 3.28). Some, but not all, of this trade would possibly be diverted from sources that would be cheaper than the EU had they not faced high tariffs in SMC markets. Trade among SMCs is also reduced by the Euro-med FTAs (Figure 3.29), as would be expected by the bilateral nature of these trade agreements. Although the magnitudes are not large, this suggests that the design of these agreements was not suited for advancing one of the objectives of the Barcelona process, namely the one focused on supporting intra-regional trade integration in the SM region (See Section 1). This is however expected with the bilateral agreements between the SMCs and EU considered here. The intra-regional trade integration goals have been addressed directly by FTAs between SMCs, which were also envisaged in the Barcelona process, and these latter FTAs are not modelled here.

Figure 3.28 Absolute simulated effects of Euro-med FTAs on the SMCs' imports (other than between Egypt, Jordan, Morocco and Tunisia)



Sources: DG Trade, European Commission using the MIRAGE model.

Figure 3.29 Absolute simulated effects of Euro-med FTAs on imports between the four SMCs



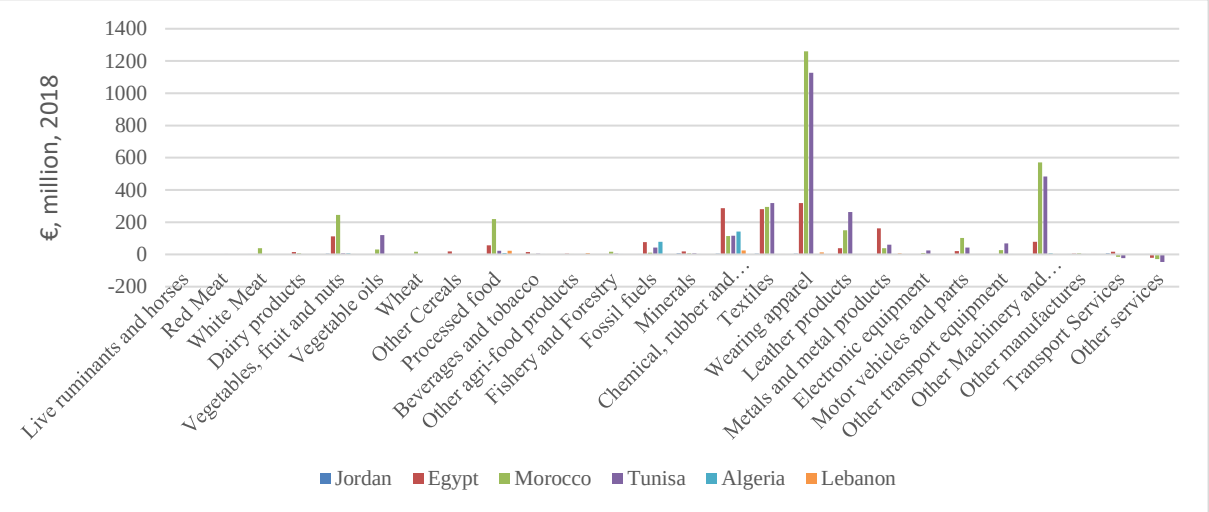
Sources: DG Trade, European Commission using the MIRAGE model.

3.4.1.2. Sectoral trade effects

The bilateral trade between SMCs and EU is mostly of inter-industry nature with exports of SMC concentrated in lower value-added products of the following sectors: Minerals; Textiles and Clothing; Base metals; Chemicals, Animal Products, Vegetable. Only in selected cases doe they significantly export in higher value-added categories such as Machinery and Electrical Equipment (Egypt, Morocco, Tunisia) or Transport Equipment (Morocco) and these categories of products, together with Chemicals and Fuels tend to be imports form the EU (see Section 3.4.5).

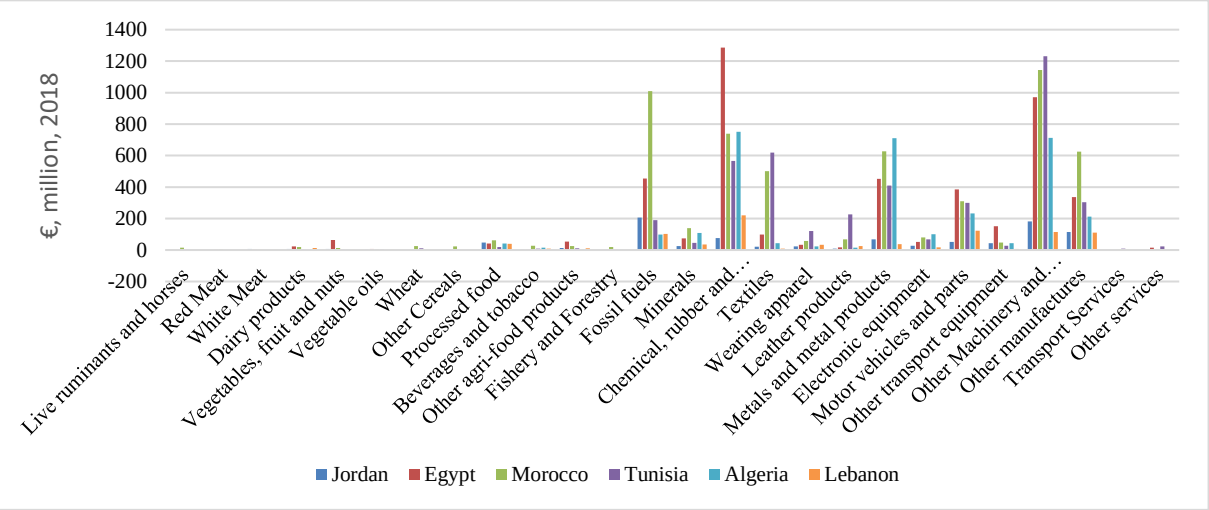
According to the sectoral results from the CGE and PE modelling, some of these are also the sectors experiencing the highest absolute increases in trade values between SMC and the EU. As far as SMCs' exports are concerned, this concerns Textiles and Clothing, Chemicals and Machinery products for Tunisia and Morocco. However, setting aside some insignificant exceptions in Egypt, Morocco and Tunisia, exports do not increase by a lot in other comparative advantage sectors for SMCs, such as Animal Products, Vegetable Products. (Figure 3.30). On the import side, we see a clearer pattern of increases concentrated in sectors of EU's comparative advantage (Figure 3.31). Overall, the pattern of predicted sectoral changes suggested by the modelling exercise suggests deepening of exchange along the existing comparative advantage pattern, although less so perhaps for the SMCs, which suggests a generally positive impact on incomes and welfare.

Figure 3.30 Absolute estimated effects of Euro-med FTAs on SMCs' exports to the EU



Sources: DG Trade, European Commission using the MIRAGE model.

Figure 3.31 Absolute estimated effects of Euro-med FTAs on SMC's imports from the EU



Sources: DG Trade, European Commission using the MIRAGE model.

3.4.1.3. Effects on GDP, Welfare, Wages and Prices

Indeed, the model simulations show that, beyond the direct effects on bilateral trade, the Euro-Med FTAs influence output, wages, prices and welfare in SMCs and the EU. The modelling results grouped by country are reported in Section 3.4.5. The GDP and welfare changes are of

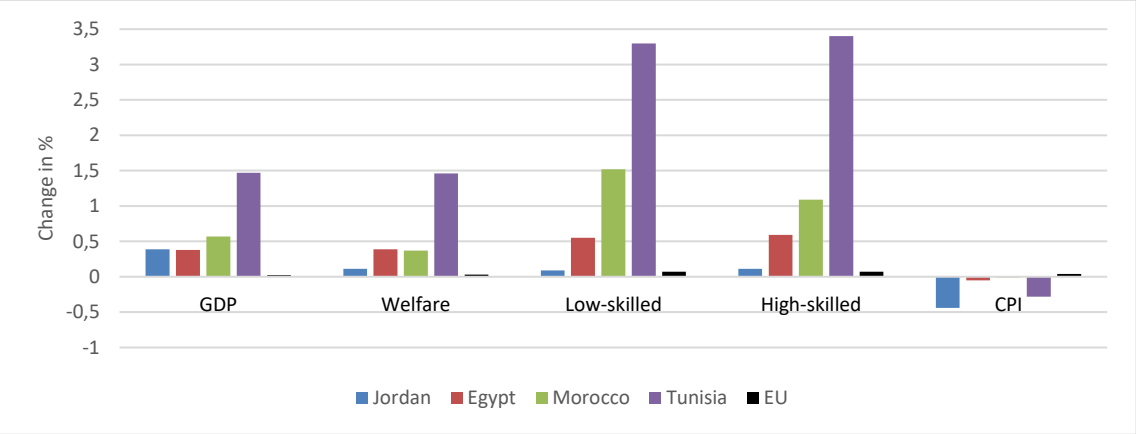
similar magnitude for each country and region[159], but they differ significantly across countries and regions (Figure 3.32 and Table 3.13).

For the EU, in general, the estimated effects are extremely small, reflecting the large differences in the shares of SMCs in EU trade (which also reflect the difference in these economies' sizes) and thus the small overall impacts on the EU. In terms of GDP and welfare, if the effects of four FTA with SMCs covered in CGE analysis are added, the EU's GDP would have increased by 0.02% (€2.6bn and its welfare by 0.03% (€3.7bn). While still relatively small, the SMC effects are at least an order of magnitude larger ranging from 0.4% of GDP (0.4% of welfare) in Egypt to 1.5% of GDP (1.5% of welfare) in Tunisia.

This suggests that although the considered trade shock is asymmetric and in favour of the EU as the SMCs extend to the EU larger preference margins, the SMCs are the ones that gain relatively more from the Euro-Med FTA preferences. Even if the latter impacts may seem small, it should be remembered that only static effects of relative price changes and reallocation of resources across the different sectors are quantified. In reality, income and welfare gains are likely to be larger (see Section 3.1). It is therefore more appropriate to compare the sizes of effects across countries, rather than take them at a face value. In this context, the relatively high GDP and welfare gain estimated for Tunisia may be surprising, especially since Tunisia does neither grant higher preferential margins to the EU, nor does it offer higher margins in access to its own market. It is however the country that already trades with the EU more than other countries in the region and this is what explains its relatively high result.

Some relative differences across countries can be seen for wage changes for labour with different skills. Morocco is the only SMC for which the low-skilled wages increase by more than high-skilled wages, suggesting a positive impact of the FTA for wage distribution. In Tunisia, which also records the highest wage increases for both labour categories, high skilled wages increase by marginally more, suggesting a worsening of wage distribution. A similar effect is observed in Egypt and Jordan but the magnitudes of wages changes in these countries are much smaller than in the latter two countries. Consumer prices fall in all SMCs but Morocco, which adds to the positive effect of increasing wages in terms of their purchasing power.

Figure 3.32 Estimated relative effects of Euro-med FTAs on GDP, Welfare and Wages



Note: The combined effects of the 4 FTAs are shown. The simulations of the 4 FTAs are run separately, but a test run has revealed that running them jointly does not change the results significantly for both the EU and the partner countries.
Sources: DG Trade, European Commission using the MIRAGE model.

[159] This suggests that relative prices are not affected dramatically by the considered scenario. This because the measure of welfare used here is the equivalent variation which is defined as the change income, at current prices, that would have the same effect on consumer's welfare (utility) as would the change in prices, with income unchanged.

Table 3.13 Summary of main results from the CGE and PE models

Variable		EU28	Jordan	Egypt	Morocco	Tunisia	Algeria	Lebanon	Turkey	LDC
GDP	**(% change)**	0.02%	0.4%	0.4%	0.6%	1.5%			-0.02%	-0.01%
GDP gain	**(€ billion)**	2.6	0.1	0.9	0.5	0.6			-0.14	-0.06
Welfare gain	**(% change)**	0.03%	0.1%	0.4%	0.4%	1.5%			-0.03%	-0.01%
Welfare gain	**(€ billion)**	3.7	0.04	0.8	0.3	0.5			-0.22	-0.08
Wages	**low skilled**	0.07%	0.09%	0.55%	1.52%	3.30%			-0.09%	-0.03%
	high skilled	0.07%	0.11%	0.59%	1.09%	3.40%			-0.09%	-0.03%
Consumer prices	**%**	0.04%	-0.44%	-0.05%	-0.01%	-0.28%			-0.07%	-0.02%
EU bilateral imports	**(% change)**		3%	11%	23%	25%	21%	15%	0.2%	-0.3%
EU bilateral imports	**(€ billion)**		0.05	1.5	3.1	2.6	3.1	0.9	0.15	-0.14
EU bilateral exports	**(% change)**		22%	34%	43%	57%	1%	24%	-0.4%	-0.3%
EU bilateral exports	**(€ billion)**		0.9	4.5	5.6	4.2	0.3	0.1	-0.34	-0.14
CO2 emissions	**% change**	0.05%	-0.90%	-0.50%	-2.20%	-3.40%				
CO2 emissions	**million t**	2.0	-0.2	-1.0	-1.5	-0.9				
bilateral exports to the EuroMed countries	**(% change)**								-11.1%	-3.1%
	(€ billion)								-0.79	-0.04
bilateral imports from the EuroMed countries	**(% change)**								2.9%	2.2%
	(€ billion)								0.06	0.07

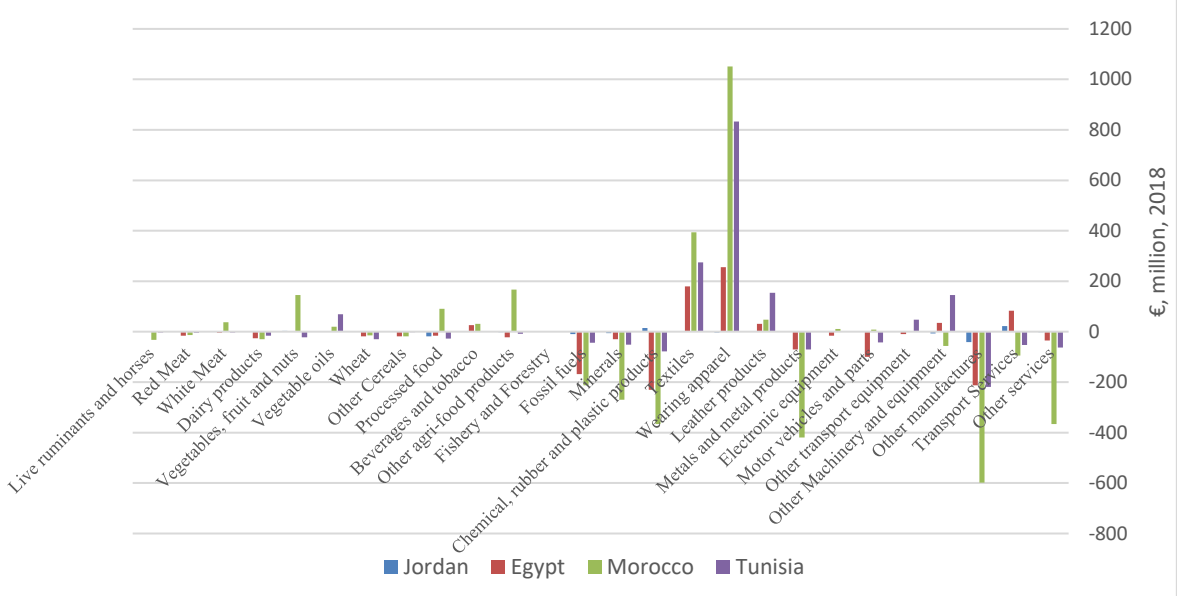
Sources: DG Trade, European Commission using the MIRAGE model.

3.4.1.4. Sectoral output

It is estimated that the Euro-Med FTAs have a positive effect on SMC's sectoral ouput in sectors, such as **Textiles, Wearing apparel and Leather in Egypt, Morocco and Tunisia** (Figure 3.33). In the case of Morocco, we can also see positive effects in the Vegetables, Fruits and Nuts, Processed Food and Other Agri-food products sectors. In Tunisia, a positive effect is also found in the Other Machinery & Equipment sector. But for all 4 SMCs, in a large number of sectors, the effects on production are estimated to be negative, particularly in Metals, Chemicals, Rubber and Plastics and Minerals and Fossil Fuels.

Sectoral output is closely linked to sectoral employment, which is why we do not present a figure dedicated to this indicator. In this context, the simulations show that some sectors expand their output while others contract. In the cases of countries which gain the most from the FTAs, such as Morocco and Tunisia, these differences across the sectors are quite pronounced, suggesting that the FTAs work through considerable labour reallocation across some of the sectors. Of course, in the model at hand, this happens seamlessly. But in reality, different sectors may be located in different regions, or labour employed in one sector may be not easily employable in another. This creates adjustment frictions and potentially lowers the gains that may be predicted by the model.

Figure 3.33 Absolute estimated effects of Euro-med FTAs on sectoral output



Sources: DG Trade, European Commission using the MIRAGE model.

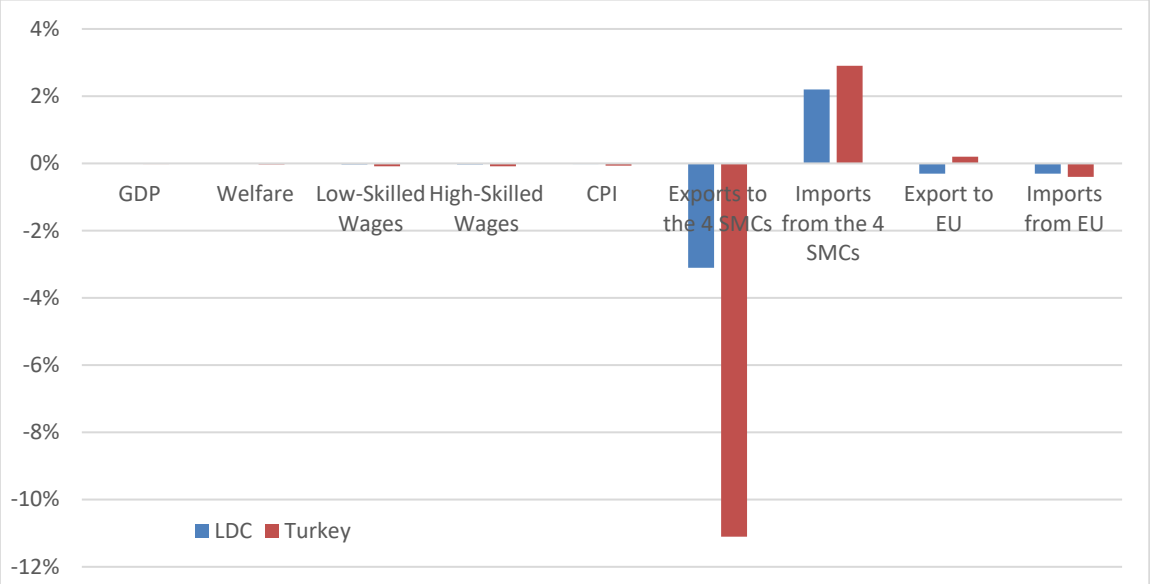
3.4.1.5. Effects on the main third countries

For Turkey, the country that has bilateral FTAs with Egypt, Morocco and Tunisia, some negative effects can be observed, particularly as far as trade flows are concerned (Figure 3.34). As a result of the combined effect of the four Euro-Med FTAs modelled in the CGE, Turkey's exports to the region fall by more than 10% and its imports from the region increase by more than 2%. While the former effect is intuitive (the EU gains an advantage in access to SMC markets), the latter effect can be related to the fact that products which are being produced in SMC using inputs from the EU are now cheaper, or in general, because the productivity of SMCs increases and their products become more attractive. Another, but possibly related, effect is that Turkey's exports to the EU increase. This could be an implication of the value chain effect of imports of more efficiently produced intermediate inputs from SMCs, especially given the existence of the EU-Turkey Customs Union. All the trade effects are however too small to have a significant impact on Turkey's GDP, welfare, wages and prices, all of which change very little (all changes smaller than 0.10%) as a result of the FTAs.

Albeit to a smaller degree, LDCs, as group, are influenced similarly to Turkey, with the differences that their exports to the EU decrease. The latter difference is likely related to the

absence of comparable value chain links between them and SMCs. There is also the possibility that they compete more directly with SMCs' exports in the EU market.

Figure 3.34 Estimated effects of Euro-med FTAs on the main third countries



Note: The combined effects of the 4 FTAs are shown. The simulations of the 4 FTAs are run separately, but a test run has revealed that running them jointly does not change the results significantly for both the EU and the partner countries.
Sources: DG Trade, European Commission using the MIRAGE model.

3.4.1.6. Effects on tariff revenue

Due to different modelling frameworks and base years used in model simulations for Algeria and Lebanon on the one hand (the PE model) and Egypt, Jordan, Morocco and Tunisia (CGE model), as well as to gaps in official data on different sources of government revenue in SMCs, calculations of effects of the FTAs on tariff revenue presented below make some important simplifying assumptions (see Table 3.14 and its notes).

The estimated impacts of the FTAs on SMCs' import tariff revenue range from EUR 172m in Jordan to EUR985m in Morocco (Table 3.14). Comparing these CGE estimates to WDI data for total customs revenues for 2011[160] suggests that this corresponds to about 45% of total customs and other import duties revenues of Jordan and 77% in the case of Morocco for that year. In the case of Tunisia, the estimated tariff revenue loss amounts to as much as 107% of the annual customs revenue in 2011. A ratio exceeding 100% is possible as the denominator is already net of majority of these losses, given that the FTAs have all been in place in 2011. These impacts are nevertheless large and suggest an effective termination of an important source of import duties revenue.

These revenue impacts nevertheless have to be considered in the context of relatively small share of customs and other import duties in overall tax revenue in SMCs which in 2011 ranged from 7% in Egypt to 9% in Jordan.[161] In addition, these shares had started falling already before the entry into force of the Euro-Med FTAs (Figure 3.35, Panel A) as a result of earlier reductions of customs and import revenue due to the implementation of the WTO Uruguay Round tariff reduction commitments as well as unilateral and regional import tariff

[160] The comparison year for the revenue data is 2011 as is this is the only year for which comparable customs revenue statistics were available from the World Development Indicators database. The only country missing in this comparison is Algeria for which data on customs revenue are also unavailable from the national statistical sources.

[161] However, these shares are still higher than the average of 4% estimated by Kowalski (2006) for the countries in the low and middle income grouping and than the average of 1% for the high income grouping in the period 1995-2000.

liberalisations. These trends reflect also implementation of a policy advice to use other taxes as a compensating measure in the context of import tariff liberalisation promoted by the international organisations specialised in developing countries' macroeconomic management, such as the World Bank and the International Monetary Fund. The use of income, sales or value added taxes, instead of import duties, for revenue collection purposes has long been (and still is) recommended because trade taxes have been proven to be a relatively inefficient tool of raising government revenue (see Kowalski, 2006).[162] We see that the overhauling of revenue collection systems in SMCs worked well: despite the reduction of the share of customs and other import duties in tax revenues, the overall ratio of tax revenue to GDP has remained stable, and increased in some cases, throughout the investigated period) (Figure 35, Panel B).

The impact of tariff reductions associated with the Euro-Med FTAs on the EU budget, of which customs duties collected on all dutiable EU imports accounted for 17% in 2011[163], is estimated to be much smaller, amounting to the equivalent of -5% of the EU's customs duties collected in 2011 when all Euro-Med FTAs are taken into account, or a 0.85% of the entire EU budget in that year. Negative impacts of the individual FTAs on the EU budget range from close to 0% of customs duties collected in the case of FTAs with Jordan and Lebanon to 2.2% for the FTA with Morocco. The figures for the EU are thus much smaller than for the SMCs, for two principal reasons: (i) SMCs account for a smaller share of EU's total imports; and (ii) EU import tariffs were already close to zero on most items at the time of entry into force of the Euro-Med FTAs (see Chapter 2 and the earlier discussion in the current chapter). The latter point is also testified by the size of the values of foregone tariff revenues which are at least double, or in some cases an order of a magnitude larger, in SMCs as compared to the corresponding value for the EU tariff revenue. We can therefore conclude that the negative impact on the EU budget exists, but is much smaller in absolute and relative terms than the impact on SMCs budget. The impacts on tariff revenue also have to be seen in the context of the estimated impacts on GDP and welfare, which already 'net out' the tariff revenue reductions[164], and are positive and economically significant.

Table 3.14 Impact of the Euro-Med FTAs on tariff revenue associated with bilateral EU-SMC trade flows

Panel A. Impacts on tariff revenue in SMCs (2011)

	Customs and other import duties in 2011 (% of tax revenue)*	Customs and other import duties in 2011 (mln €)*	Estimated FTA impact on tariff revenue (mln €)	Estimated FTA impact on tariff revenue (% of customs revenue in 2011)*
Algeria	na	na	-823	na
Egypt	7%	1,664	-876	-53%
Jordan	9%	277	-172	-62%
Lebanon	8%	460	-198	-43%
Morocco	5%	913	-985	-108%
Tunisia	8%	540	-802	-148%

[162] An intuitive explanation is that trade taxes are applied to a relatively small tax base while affecting both consumption and production and are therefore more distortionary than other taxes which can be applied on larger tax bases related to consumption or production (for more see Kowalski, 2006).
[163] Note that the share of customs and other import tariffs in the EU budget is not comparable with such shares in other countries because of its different nature. In the EU, the EU Members have their national budgets where revenue is collected from, among others, income and value added taxes. In the EU budget, the majority of revenues are income based on member contributions which depend on Gross National Incomes (GNI) as well as some value added tax sources. Customs duties collected by the Member States do not contribute to national budgets but to the EU budget, where they account for a relatively large share. See e.g.: https://ec.europa.eu/taxation_customs/facts-figures/customs-duties-mean-revenue_en.
[164] In the CGE model used in this study, both the calculation of the GDP and welfare impacts already account for the loss government revenue which has an impact on both government income and expenditures, and thus on gross domestic expenditure and consumers. Positive GDP and welfare effects mean that the efficiency effects of removing these taxes outweigh the impacts on revenue although it is not assumed that government revenue needs to be kept constant (i.e. that tariff revenue is being replaced by revenue from other sources).

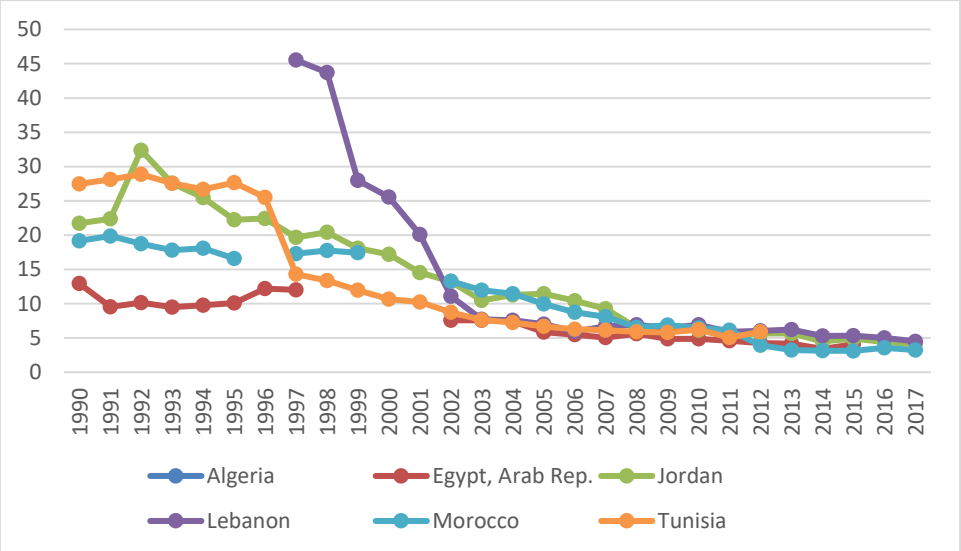
Panel B. Impacts on tariff revenue in the EU (2011)

	Customs and other import duties (% of total EU revenue in 2011)	Customs and other import duties (mln €)	FTA impact on tariff revenue (mln EUR)	FTA impact on tariff revenue % of customs revenue
EU28	17%	22,194.7		
By FTA partner				
All SMCs			1,014	-5%
Algeria			- 33	-0.1%
Egypt			-227	-1.0%
Jordan			-7	0.0%
Lebanon			- 8	0.0%
Morocco			- 488	-2.2%
Tunisia			-251	-1.1%

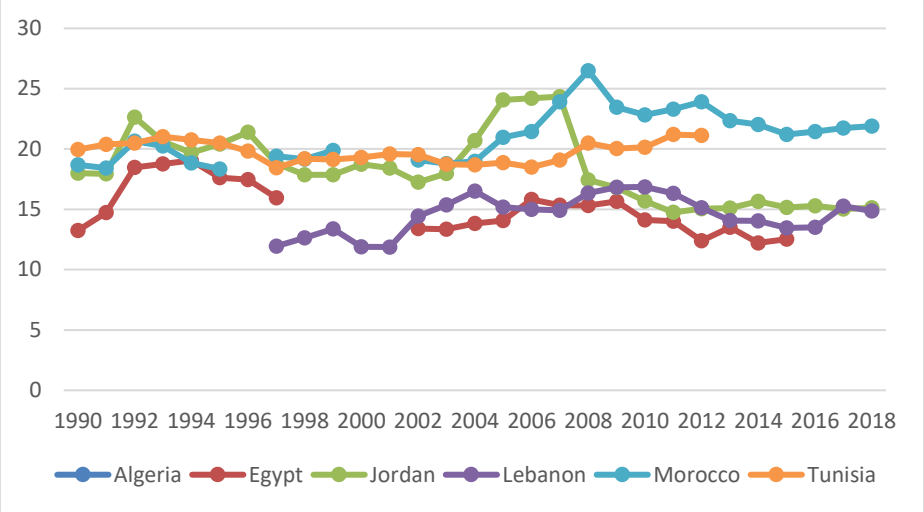
Note: *the latest year for which data on customs and other import duties as % of tax revenue is available for the five SMCs (excluding Algeria) is 2011. Data for Algeria is not available from the source used nor from national statistics. For the EU, 2018 EU Budget data is used. Tariff revenue impacts are calculated 'ex-post based' on the tariff preference margin at either the sector level for the CGE analysis or the HS6 level in the case of PE analysis) multiplied by trade flows in absence of the agreements estimated with the CGE or PE model. Due to different, models used in simulations, tariff revenue changes are expressed for Algeria and Lebanon in 2019 euros and for Egypt, Jordan, Morocco and Tunisia in 2011 euros.
Sources: for *Panel A*, authors' calculation on the basis of the World Development Indicators data for customs and other import duties as % of tax revenue and tax revenue and DG Trade, European Commission using the MIRAGE model for the FTA impact on revenue; for *Panel B*, the European Commission for customs duties mean revenue in 2011. From https://ec.europa.eu/budget/graphs/revenue_expediture.html and DG Trade, European Commission using the MIRAGE model for the FTA impact on revenue.

Figure 3.35 Tax and customs revenues in SMCs

Panel A. Customs and other import duties (% of tax revenue)



Panel B. Tax revenue (% of GDP)



Source: authors' calculation on the basis of the World Development Indicators.

3.4.1.7. Effects on CO2 emissions

The simulated effects on CO_2 emissions are generally quite small. For the four SMCs, the implementation of the FTA would have reduced CO_2 emissions by 0.5% for Egypt, -0.0% for Jordan, -2.2% for Morocco and -3.4% for Tunisia. Here again, the effects are slightly more pronounced in the case of Tunisia and Morocco, which are, it should be recalled, much more linked to the EU through their trade.

At the sectoral level, changes in CO_2 emissions coincide with changes in sectoral production in each country. It can be seen that the implementation of the AA should significantly increase CO_2 emissions in the Wearing Apparel, Textile, Leather and Other Transport equipment sectors for Tunisia. The same is true for the Wearing Apparel, Textile, Leather, Vegetable Oils and Vegetables, fruits & nuts sectors for Morocco and in the Leather and Other Machinery & Equipment sectors for Egypt (For more see Chapter 5 on Sustainability analysis).

3.4.2. Results of model-based analysis of six individual Euro-Med FTAs

Annex D.2 presents detailed results for individual countries and regions which underlie the summary and comparison in the preceding Section 3.4.4.

3.4.3. Conclusions from the modelling exercise

The two modelling analyses reveal that these so-called "old generation" FTAs between the EU and the SMCs bring about economic benefits to the partner countries. The magnitude of the estimated effects is not large, but this is typical of models of this type, the results of which are more informative in terms of directions of changes and relative changes rather than absolute ones. In terms of GDP, the affects range from between 0.4% for Jordan and 1.4% for Tunisia. For the EU, given the asymmetry in size, the relative GDP effect is at least an order of magnitude smaller.

Despite the prominence of the agricultural preferences given to these countries by the EU in an asymmetrical manner (the partner countries typically opened up their markets for EU agricultural exports much less than the EU opened up), the main trade effects are shown to occur in the manufacturing sectors in which custom duties were fully eliminated both ways, but from much higher starting levels for SMCs. Whereas some trade diversion is detected, this is found not to be a major concern given its relatively small magnitude. However, it is clear that the FTAs did not support intra-SM trade integration.

3.5. Analysis of factors determining the degree to which SMCs could

use the opportunities stemming from the FTAs

As discussed above, our CGE/PE modelling framework makes several assumptions to be able to clearly isolate and assess the overall economic significance of the most important effects of the FTAs. These are useful in establishing a benchmark as to what effects on trade and other economic variables can be expected from the FTAs. But, as we have seen from our descriptive analysis of effective preferential market access conditions and trade flows, the actual changes in these indicators observed since coming into force of these agreements in Section 3.3 are in some instances quite different. This is the case for several reasons:

Possible explanations include the conditions which legally determine traders' abilities to take advantage of the granted tariff preferences, most notably the rules of origin (RoO) – as indeed repeatedly underlined by numerous stakeholders from the SMCs consulted thus far. Other important realities, which may either have had a positive or negative impact on the ability of participating countries to take the advantage of the FTAs, include developments in other types of trade costs which turn out to matter more in the so-called value chain trade we have been seeing more of in the last two decades (See Box 3.2). Non-tariff trade costs are mainly accounted for by the so-called non-tariff measures (NTMs) as well as developments in innovation and productivity which may or may not be related to the FTAs (again, brought up by various stakeholders during workshops and interviews undertaken for the purpose of this ex-post evaluation). There are also important economic, legal and institutional realities which determine traders' abilities to adjust their operations so as to take advantage of the FTAs, impeding thereby the structural adjustment that must happen for the gains from trade to materialise. Changes in trade in services and FDI, which are covered by the FTAs only to a very limited extent, also determine the ability to trade. The remainder of this section elaborates on each of these factors one by one.

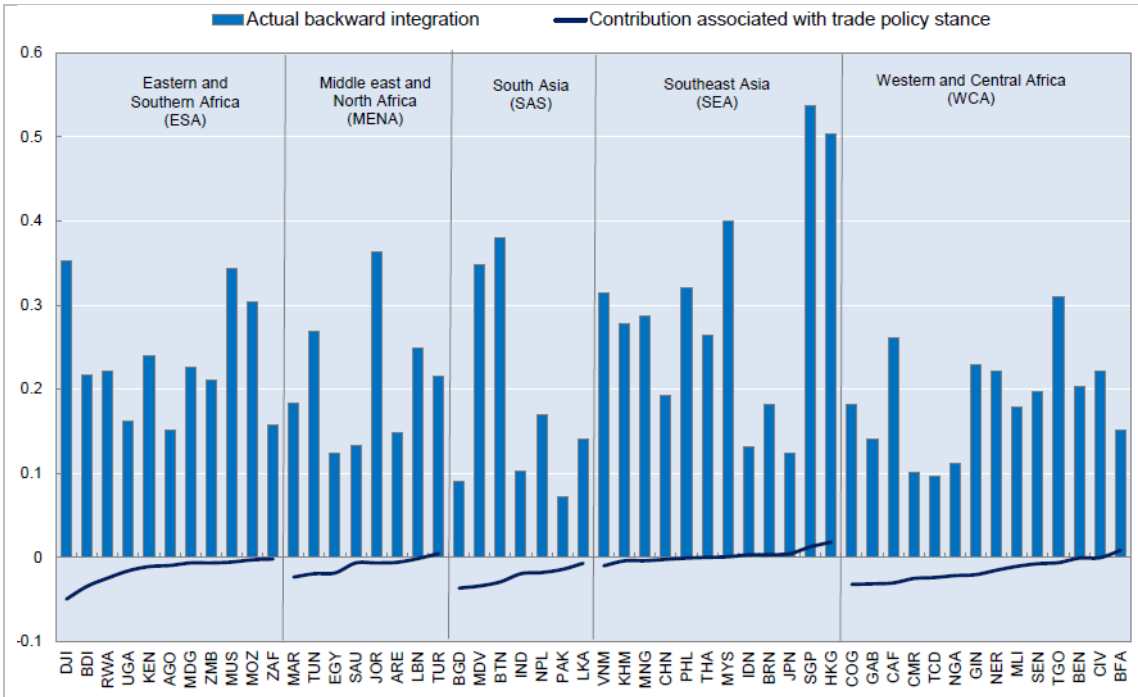
Box. 3.2 Global Value Chains (GVCs) and trade costs

Recent work on trade integration across developed and developing regions indicates that commercial integration and the associated benefits are very much determined by the ability to participate in GVCs. Such ability is inextricably linked to the ability to minimise the costs incurred all along the value chain, including: moving inputs and semi-finished products across different locations (which sometimes involves crossing borders several times before the product is finished but also moving products within countries' borders); personnel travel; provision of services necessary for smooth operation of production chains (e.g. transport and logistics, telecommunication, postal and courier services); and minimisation of costs associated with administrative procedures.

Since the early 1990s, advanced countries and regions, such as the EU in Europe, the US in the Americas and Japan and South Korea in Asia, have been progressively building their position as 'hubs' or 'headquarters' in GVCs. Through FDI and services trade (including the movement of personnel) these advanced countries helped established and co-ordinated the more labour and natural-intensive activities in the neighbouring developing regions. They have also applied the advanced technology they had previously developed in these developing regions to achieve more significant returns on investments (e.g. Baldwin, 2012).

There is evidence that many developing countries in Africa, the Middle East and Asia have been increasingly involved in GVCs and that GVC participation generated for them economic benefits in terms of enhanced productivity, sophistication and diversification of economic activity. The literature also shows that developing economies in South East Asia and those in Europe and Central Asia show the highest degrees of GVC participation. The Middle East and North African countries show somewhat lower GVC participation while South Asia, along with regions in Sub-Saharan Africa, trail even further behind (see Box Figure 3.1 and Kowalski et al., 2015).

Box Figure 3.1 'Backward' GVC integration indicators across developing and emerging regions.



Note: the backward GVC integration is calculated as the share of foreign value added in a country's gross exports. The higher the share the higher the reliance on foreign inputs for production and exports. The 'contribution of trade policy stance' is the part of the indicator estimated to be determined by the levels of import tariffs imposed by a country on its imports as well as tariffs faced in export markets. A negative contribution means that a country's tariffs on trade with all its partners impede GVC participation (see Kowalski et al., 2015 for the methodology of estimating this contribution).
Source: Kowalski et al. (2015).

Overall, while a comprehensive study of GVC participation of SMCs in European supply chains was not possible due to data constraints, our evaluation shows several pieces of evidence which indicate that participation in European supply chains is of growing importance and that it brings about significant gains from trade (for example in Tunisia and Morocco) (see also Chapter 4 and *Annex G* of the full report).

The EU firms have built a strong position and made the EU a regional 'headquarter' in GVCs; EU firms manage advanced technology and co-ordinate international provision and sourcing of inputs in industries such as electronics, automotives or aeronautics and they engage supply chain partners from less developed neighbouring countries. Through FDI, services trade (including the movement of personnel) and technology transfer they established and co-ordinated the more labour and natural resource-intensive activities in the neighbouring developing regions, including the SMCs. As with other developing and emerging countries, SMCs have been increasingly involved in GVCs, notably with EU partners, and this has generated for them economic benefits in terms of enhanced productivity, sophistication and diversification of economic activity. However, they still show lower degrees of GVC participation than developing and emerging economies in South-East Asia and wider Europe and Central Asia. Our evaluation collected several pieces of evidence which indicate that participation of SM firms in European supply chains is of growing importance and that it brings about significant gains from trade.

But import tariffs, the removal of which was the principal element of intervention in the case of the Euro-Med FTAs, are estimated to be responsible for only up to 10% of trade costs relevant for GVCs globally. Another 10-30% is accounted for by natural trade costs (i.e. geographical and cultural factors) and the remaining 60-80% relating to indirect costs of trade (e.g. NTMs, procedures, maritime connectivity and services, business environment and other regulatory barriers, availability and use of ICT services, etc. [see Kowalski et al. 2015]). Box Figure 3.2 below which gives ad-valorem estimates of overall bilateral trade costs by trading region shows that in, 2010 for which the data is available (and is the year when most of the tariff removal on the Euro-Med trade was already accomplished), the trade costs within the MENA region were still estimated to be about 50% in tariff equivalents while the costs of trading with the EU for this region were at 76%. This indicates strongly that the provisions of

the Euro-Med FTAs only partially address current trade issues faced by the EU and the trading partners in the SM region.

Box Figure 3.2 Overall trade costs by trading region

	E28	ECA	ESA	LAT	MEN	NAM	PAC	SAS	SEA	WCA
E28	35									
ECA	67	62								
ESA	112	146	104							
LAT	110	159	189	94						
MEN	76	108	93	135	50					
NAM	66	102	125	92	72	15				
PAC	90	141	148	149	70	73	8			
SAS	95	139	162	184	61	89	107	92		
SEA	88	118	155	129	69	72	80	104	69	
WCA	108	165	94	128	115	105	143	100	162	104

Note: Figures show ad valorem equivalents of trade costs calculated by Kowalski at al. (2015) from Arvis et al. (2013) using the trade cost measure proposed in Novy (2010). Since the source data is bilateral, the shown figures denote trade-weighted average costs by region for the year 2010. Source: Kowalski et al. (2015).

3.5.1. Rules of origin as the key determinant of the ability to take advantage of tariff preferences

Preferential RoO deserve a dedicated treatment in the current context. Origin is the 'economic nationality' of goods traded in commerce and preferential RoO are the requirements which need to be met to consider the product entitled to claim preferential market access treatment under a given FTA. They ensure that preferential treatment is granted to products that are either wholly obtained or sufficiently transformed in the FTA partner country (in order to avoid a situation in which third country's products, not entitled to the preferential treatment, enter the partner market under preferential conditions). As such, RoO are integral elements of FTAs. They can nevertheless differ from one product to another and from one trade agreement to another and some are more restrictive than others. Particularly when production occurs in international supply chains, where products from countries outside of the FTA serve as inputs to products of partner countries, more restrictive RoO can have negative consequences for both extra- and intra-FTA trade. Cadestin, Gourdon and Kowalski (2016) have, for example, recently estimated that RoO in certain FTAs could undo about one third of the positive trade effect of these agreements, and this effect is particularly strong for trade in intermediate products, i.e. it emerged as important for international supply chain formation.

In the case of products requiring imported inputs for their production, these inputs must undergo sufficient processing. Under the rules specified in an FTA this is considered to be the case either when the product obtained is classified in a tariff category which differs from that in which the inputs are classified (change in tariff classification), or when the product has acquired a minimum local value (value content) or when a specific processing technique was used (technical requirement). Moreover, an important element of RoO contained in FTAs are also the so called cumulation rules determining from which trading partners inputs can be sourced without undermining eligibility for preferences within the FTA (e.g. whether Tunisian products containing inputs from Morocco qualify for preferential entry under the EU-Tunisia FTA).

The entry into force of the Euro-Med FTAs did not lead to significant changes immediately as these FTAs had RoO protocols during the first years based on those of the Cooperation Agreements that were in place prior to the Euro-Med FTAs. The RoO were modified, however, in 2005 and 2006 to introduce the so-called Pan-Euro-Med protocol model (the PEM Protocol), which not only introduced substantive changes in the product specific rules, but also generalised diagonal cumulation among all Pan-Euro-Med countries.

The Regional Convention on pan-Euro-Mediterranean preferential rules of origin (PEM Convention) has as its objective the introduction of common rules of origin in the whole Pan-Euro-Mediterranean area (EU, EFTA States, Turkey, the countries which signed the Barcelona Declaration, the Western Balkans, Ukraine, Georgia, the Republic of Moldova and the Faroe

Islands)[165] in order to facilitate trade within that region and its economic integration with the EU. This Convention entered into force in 2012. However, in essence, it did not change the procedural or product specific RoO already applicable via bilateral protocols after the substantive changes introduced by the PEM Protocol. Although the PEM Convention is an international treaty in its own right, it becomes applicable only when origin protocols of the free trade agreements are being replaced by a reference to this Convention.

This convention presents a key interest of allowing for the application of diagonal cumulation between the Contracting parties. The rules of origin included in this convention are, however, outdated and essentially the same preferential rules that have been applied by the EU since 2005/2006 with the Mediterranean countries.

A revision process of the rules of origin is ongoing in view of modernising them and aligning them to the rules applicable in more recent EU Free trade agreements. The ratification of the Convention by all Contracting Parties and the completion of its revision are pending at the time of writing of this report.

3.5.1.1. The influence of RoO on the effects of the Euro-Med FTAs

As already mentioned above, the empirical literature has clearly shown the impact of RoO on trade flows. But identifying this impact is not easy. First, because it may be related to the restrictiveness of the rules themselves (i.e. the product-specific rules) as well as to the use of various mechanisms (that we call regime-wide rules) to relax RoO, most notably the so-called 'cumulation schemes'.[166] Product-specific RoO and cumulation schemes relevant to the Euro-Med FTAs are the focus of the analysis that follows. Importantly, existing RoO seem to be perceived as a crucial impediment for development of trade in textiles with the EU among Tunisian and Moroccan stakeholders consulted. Many of them believed that these RoO put their countries in disadvantage compared to other EU trade partners such as Bangladesh and other Asian and African countries.

Product-specific rules

There is a vast theoretical literature on the impact of RoO. Most recent studies focus on the sourcing decision of firms in the context of FTAs. Their main conclusion is that RoO distort resource allocation if final good producers can obtain preferential benefits by modifying their input mix in order to satisfy RoO requirements (Conconi et al., 2018). Even if the empirical literature on the trade effects of RoO is much more limited because of the difficulty to quantify the restrictiveness of RoO, a consensus has emerged that RoO might be important barriers to trade (Augier et al., 2005). They might mitigate the positive effects of FTAs (Cadestin et al., 2016; Carrère and de Melo, 2006) and they reduce the rate of utilization of preferences (Cadestin et al., 2016; Carrère et al. 2011). Moreover, Conconi et al. (2018) confirm the effect of RoO on trade diversion by showing that NAFTA's RoO led to a sizable reduction in imports of intermediate goods from third countries relative to NAFTA partners. In consequence, in the context of the Euro-Med FTAs, the restrictive nature of RoO and any changes in the product-specific rules undeniably have an impact on the actual effects of these agreements. On the other hand, RoO are needed and are integral parts of the FTAs: they make sure only products originating in the partners countries qualify for tariff preferences and they provide definitions of how this origin should be determined.

Box 3.3 Rules of origin and their restrictiveness

A standard RoO convention is that a good is considered as being originating in the preferential country where it was wholly obtained or sufficiently transformed There are three types of criteria to define if a transformation is sufficient. These criteria can be used separately or can be combined:

[165] The Contracting Parties to the PEM Convention are: the EU; The EFTA states; Faroe Islands; the participants in the Barcelona Process (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine); the participants in the EU's Stabilisation and Association Process (Albania, Bosnia and Herzegovina, the Republic of North Macedonia, Montenegro, Serbia and Kosovo; Georgia, Ukraine and the Republic of Moldova.

[166] We can add also the adoption of a de minimis clauses (or tolerance) which stipules a maximum percentage of non-originating materials that can be used without affecting the origin of the final product, and business-friendly ROOs certifications. But cumulation is the most important mechanism for relaxing the restrictiveness of ROO.

- The first type of transformation criteria is a *change in the tariffs classification (CTC)*. Changes in tariff classification criteria require that when a good is produced using intermediates imported, the good must not belong to the same tariff category as those intermediates. The tariff classification is the harmonised system (HS). The change can be specified at the level of chapter (2-digit), heading (4-digit), subheading (6-digit) or at the tariff line level (8 or 10-digit);
- The second type of criteria is *value content (VC)***,** also called value added (VA). This criterion requires the product to acquire a minimum local value (usually between 30% and 60%). The VC can take various forms such as a maximum share of imported intermediates in total intermediates, a minimum share of local value added in the price of product or a minimum difference between the value of the final good and the cost of the imported inputs. The definition of local value added (inclusion or not of overheads, distribution, etc.) and the price definition (ex-works-price, i.e. factory –door, wholesale price, etc.) vary across agreements and is a subject of bargaining. One extreme case of VC is the wholly-obtained category which allows no foreign content. The *wholly-obtained (WO)* criterion is applied to most agricultural products, vegetal and animal, and to natural resources;
- The third type of criteria is a *technical requirement (TR)*, also called Specific Processing (SP). The TR is a specific production process rule that prescribes or prohibits specific manufacturing operations or inputs in the originating country and can take various forms.

Each type of criteria can be qualified by either an exception or an allowance. An exception makes the rule more stringent while an allowance relaxes it.

There is no one comprehensive data base available167 on RoO restrictiveness for all FTAs. Indices have been constructed for some FTAs such as for example the work of Estevadeordal (2000, then improved with Suominen, 2008) on NAFTA's product-specific rules, and the work of Anson et al. (2005) and Harris (2007), who proposed variants to the Estevadeordal classification. The generally accepted principles for the degree of restrictiveness of RoO are nevertheless as follows:

- The restrictiveness of CTC is higher when the required processing must change products into a completely different product category. Therefore, a change of classification at the chapter level is more difficult to satisfy than a change at the heading level, a change at the heading level is stricter than at the subheading level, and a change at the subheading level is stricter than at the tariff line level;
- A single criterion is less restrictive than the combination of several criteria (the restrictiveness increases with the number criteria);
- A choice between alternative requirements makes RoO more flexible;
- Regarding the level of restrictiveness of the WO category, opinions differ. Estevadeordal and Suominen (2008) suggest the wholly-obtained requirement as the most stringent, whereas for Anson et al. (2005), the WO is the least restrictive rule. In fact, the level of severity of this rule depends on the nature of the products to which this rule applies. In the case of unprocessed raw agricultural products and natural resources, the WO rule can be considered the least restrictive (in line with Anson et al.). But when this rule applies to processed products, it could become extremely restrictive. Cadestin et al (2016), who provide ad valorem equivalents (AVEs) of the estimated effects of the different types of RoO, found that the most restrictive type of product-specific rule is the WO, particularly for intermediate products, with an estimated AVE of 45%;
- Regarding the other product-specific rules, although it is difficult to say whether a CTC rule is more restrictive than the VC or TR, some studies consider that the easiest criterion for an enterprise to meet is the CTC, followed by the VT and then the RT (Angeli et al., 2019; Carrere et al., 2011). This assumption is confirmed by Cadestin et al., (2016) who found an estimated AVE of 0% for the CTC rule, against 12.4% for intermediate products and 19.6% for final products for a VC or a TR rule. They found also an estimated AVE of around 11.4% for intermediary products and 6.3% for final product when the CTC is combined with, the VC or TR. Generally, the level of stringency of a given RoO depends on the sector and the type of products it applies to and on many other elements, such as the classification of the products and the relevant materials, i.e. a CTC may be a very restrictive rule when the relevant parts or raw materials fall in the same heading as the final product, while it may be a not a very strict rule if the relevant materials fall in a different heading.

Source: authors' own elaboration.

As far as the Euro-Med FTAs are concerned, in terms of product-specific rules, their entry into force did not lead to any changes since these FTAs had RoO protocols very similar to those of the Cooperation Agreements that were already in place (Karray, 2003). In addition, the differences between the protocols of the Euro-Med FTAs of individual SMCs are minor. The main changes started in 2000 with Product Specific Rules made closer to the current rules. Later on, in 2005/2006, the RoO were updated again to introduce cumulation within the region (the "PEM protocol").

[167] The initiative of the OECD and DESTA Classification of ROOs aims to address this lack of databases (see Angeli, Gourdon, Gutierez and Kowalski, 2019).

In the PEM Protocol, RoO were modified in order to harmonize the specific-product rules and allow the so-called cumulation across the members of the Pan-Euro-Mediterranean Cumulation System (PEMCS). PEMCS gave trading partners the opportunity to move to a wider zone of diagonal cumulation which normally has a positive impact on both EU-SMC and intra-SMC trade and keeping the traditional full cumulation among Maghreb countries and the EU (see below the sub-section Cumulation Rules). Diagonal cumulation means that materials, parts and components which have obtained originating status in one of the Contracting Parties may be incorporated in products manufactured in another Contracting Party without those products losing their originating status when exported to a third Contracting Party within the PEM zone. Full cumulation implies the additional possibility to consider for cumulation purposes not only materials originating in another Party but also processes carried out in another Party. Such full cumulation has been possible with Maghreb countries and the EU.

The aim of the Regional Convention on Pan-Euro-Mediterranean Preferential RoO (PEM Convention) is to replace, by a single legal instrument, all the original protocols contained in the bilateral agreements. The rules of origin applicable to the Euro-Med FTAs have gradually become those provided for in the PEM Convention. The entry into force in 2012 of the Regional Convention on Pan-Euro-Mediterranean Preferential RoO that became applicable between 2013 and 2019 (Table 3.51), with a single set of RoO shared by all the members, has not modified the product-specific rules. The RoO protocol in the PEM Regional Convention[168] is identical (with only minor differences) to the PEM protocol[169]. Negotiations to further simplify and improve the RoO in the PEM Convention have been launched in 2010 but are not yet concluded. The aim of the revision of the rules of the PEM Convention is to simplify, streamline and update the current rules taking into account economic realities, value chains and the needs of economic operators in the PEM zone including the EU and SMCs. The new product specific rules are being updated and modified in line with the rules contained in the most recent FTAs concluded by the EU.

To assess the consequences of adopting the PEM Protocol, the rules applied in the initial Euro-Med FTA protocols and in the PEM, Protocol were compared. Because the differences between the FTA protocols are minor, the original protocol of the FTA with Morocco (which is exactly the same as Tunisia's) was used as an example for this comparison. The results are presented in in the Annex D.3.

Overall, it seems that, while no significant change in restrictiveness of RoO applied in the sector has been observed with the introduction of the PEM Protocol, there are simplifications that could be usefully considered in future RoO negotiations from the point of view of the SM region.

This analysis shows that, while no significant change in restrictiveness of RoO applied in the sector has been observed with the introduction of the PEM Protocol, there are simplifications that could be usefully considered in future RoO negotiations from the point of view of the SM region. This analysis shows that, while no significant change in restrictiveness of RoO applied in the sector has been observed with the introduction of the PEM Protocol, there are simplifications that could be usefully considered in future RoO negotiations from the point of view of the SM region. In the **Advanced Manufacturing and Machinery** sector, there are no major differences between the two protocols. Both in the PEM Protocol and in the FTA, around 40% of product lines face a VA rule, and around 50% face a choice between either a VA rule, or a 'CTC and VA' rule. In the **Automotive** and **Manufacturing and electronics** sectors, differences between the two protocols are also very small.[170] In the latter sector, there are some differences in the share of product lines that have a 'pure CTC' rule compared to either a 'CTC or VC' rule. This relates, for example, to chapter 94 (see details below), where the PEM Protocol offers a choice between a CTC or VA rule, whereas the EU-Morocco FTA only has a CTC rule. The differences in the level of aggregation at which the rules apply relate closely to the differences in rules between the two protocols. Where the PEM Protocol has a CTC or a VC rule, this usually means that the level of aggregation at which the rule is applied is mixed (heading for CTC/all materials for VC). However, where these rules are 'pure CTC' rules in the EU-Morocco FTA, this means they apply

[168] EC Official Journal L54/25 (26/2/2013).
[169] EC Official Journal L336/20 (21/12/2005).
[170] The Automotive sector contains also a relatively small number of product lines (in total around 70 lines), so even a change of just one or two product lines would show up as a difference of a magnitude of a few percentage points in Table 3.11 and 4.12.

purely at the heading level. This results in the EU-Morocco FTA having fewer product lines where rules apply at a 'mixed' level of aggregation and more lines at the heading level. Overall, the introduction of the PEM Protocol is not deemed as having had a large impact on RoO restrictiveness in these sectors and where it did the new PEM Protocol rules seem somewhat less restrictive.

The cumulation rules

Cumulation rules are means of relaxing the restrictive nature of product specific RoO. The literature identifies four main types of cumulation rules:

- *Bilateral (or partial) cumulation* is carried out between two countries belonging to the same FTA. Producers in each partner country can use materials or components originating in the other country as if they were from their own country. In each of the Euro-Med FTAs, bilateral cumulation applies between the EU and the SM partner country. According to Brenton (2003), the advantages of this type of cumulation are limited. In the case of SMCs, as the EU is often not the cheapest supplier of inputs, the additional cost of using inputs from the EU rather than the cheapest inputs from other sources may exceed the benefits of preferential access. On the other hand, European intermediate inputs can enable SMC firms have better quality products;
- *Diagonal cumulation* is carried out between several countries that have concluded bilateral or regional FTAs with each other. Under this cumulation scheme, imported inputs originating in any FTA partner can be counted as qualifying content when used in a country's exports to the FTA area. To apply this type of cumulation, in the PEM each country must have identical rules of origin with each of the other countries;
- *Full cumulation* is a cumulation scheme where processing activities carried out in a country participating in FTA are considered eligible to assign "originating" status to the materials used. In other words, any processing activities carried in any FTA partner country can be counted as qualifying content regardless of whether the processing is sufficient to confer originating status to the material themselves;
- *Cross cumulation*: this cumulation scheme concerns situations where three or more countries have concluded bilateral or regional FTAs with each other but with different product-specific rules. It is more flexible than the *full cumulation* described above as it allows cumulation with any FTA partner even if there are no common product-specific rules of origin.

Bilateral cumulation is thus the minimum standard and is usually included in most FTAs. Bilateral cumulation is more restrictive than diagonal cumulation, which, in turn, is more restrictive than full cumulation. The mechanism that offers the most flexibility is the cross cumulation. Therefore, a move towards a more flexible cumulation system would have positive effects on trade within FTAs.

The effectiveness of the use of cumulation to relax the restrictiveness of RoO and to increase trade has been widely documented in the literature. Augier et al. (2005) provided empirical evidence that switching from bilateral to diagonal cumulation with the introduction of the Pan-European Cumulation System (PECS) had a positive effect on trade between non-EU countries that joined the PECS. This positive effect was confirmed by Gasiorek et al. (2009) at a sectoral level. Bombarda and Gamberoni (2013) also analysed the impact of the transition from bilateral to diagonal cumulation under the PECS and showed that this ROOs relaxation can lead the least productive exporters to stop their exports.

The Pan-Euro-Mediterranean cumulation system (PEMCS) of origin gives countries the opportunity to move to diagonal cumulation. The PEMCS is the result of the extension of the PECS created in 1997 based on the European Economic Area FTA (1994). The PECS was established between the European Community, EC, EFTA, the Faroe Islands, Baltic States, the countries of Central and Eastern Europe, Slovenia and Turkey in 1999. From 2005 onwards, the Pan-European cumulation system was extended to the Barcelona Process participants to become the "Pan-Euro-Mediterranean" system. In October 2007, the Euro-Mediterranean Ministers approved the initiative to create a single pan-Euro-Mediterranean regional convention on ROO. This Regional Convention on Pan-Euro-Mediterranean ROOs was published in the EC's Official Journal in March 2013.[171] As already mentioned above, its objective is to replace by a single legal instrument, the approximately 60 bilateral protocols on rules of origin currently in force in

[171] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L:2013:054:TOC.

the Pan-Euro-Mediterranean area. The PEM Convention has been signed by all SMCs by the end of 2014 and entered into force between 2013 and 2019, depending on the country (Table 3.15). This Convention has allowed the extension of the PEM area to other partner countries. The countries currently included in the PEM zone are: the EU, EFTA states (Iceland, Switzerland – including Liechtenstein-, Norway); the Faroe Islands; the participants in the Barcelona Process (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, West Bank and Gaza Strip, Syria, Tunisia); Turkey; the participants in the EU's Stabilisation and Association Process (Albania, Bosnia and Herzegovina, North Macedonia, Montenegro, Serbia, Kosovo); The Republic of Moldova, Georgia and Ukraine.

Yet, diagonal cumulation in the Pan-Euro-Med zone is only possible under certain conditions: The Official Journal of the EU (2019/C 158/06)[172] states that "*diagonal cumulation can only be applied if the Parties of final manufacture and of final destination have concluded FTAs, containing identical rules of origin, with all the Parties participating in the acquisition of originating status, i.e. with all the Parties from which the materials used originate. Materials originated in a Party which has not concluded an agreement with the Parties of final manufacture and/or final destination shall be treated as non-originating.*"

As a consequence, not all SMCs benefit from diagonal cumulation with all PEM Convention members. The Official Journal of the EU (2019/C 158/06) includes a matrix of cumulation possibilities as of 1 March 2019 including all the countries in the PEM zone. The information relevant to the six SMC counties contained in this matrix is summarized in Table 3.16:

- **Algeria** has applied only bilateral cumulation of origin with the EU;
- **Egypt** has applied diagonal cumulation with EU, Jordan, Morocco, Tunisia since 2006, extended to EFTA States and Turkey in 2007;
- **Jordan** has benefited from diagonal cumulation with EU, Egypt and Israel since 2006 and another diagonal cumulation with EU, Egypt Morocco, Tunisia and Israel (but for Israel without Egypt, Morocco and Tunisia) since 2006, extended to EFTA States in 2007;
- **Lebanon** has applied diagonal cumulation with EFTA States since 2007;
- **Morocco** has applied diagonal cumulation with EU and EFTA States since 2005, extended to Egypt, Jordan, Tunisia and Turkey (but for Turkey without Jordan) in 2006;
- **Tunisia** has benefited from diagonal cumulation with EFTA States since 2005, extended to EU, Egypt, Jordan, Morocco in 2006, then extended to Turkey (but without Jordan) in 2007.

It should be noted that in the Euro-Med FTAs, the full cumulation between Algeria, Morocco and Tunisia was mentioned but is not clear how often it has been applied.

Table 3.15 The adoption of the Regional Convention on Pan-Euro-Mediterranean Preferential Rules of Origin

	Signature	Entry into force
Algeria	05/10/2012	01/03/2017
Egypt	09/10/2013	01/06/2014
Jordan	07/07/2011	01/10/2013
Lebanon	22/10/2014	01/12/2017
Morocco	18/04/2012	01/07/2019
Tunisia	16/01/2013	01/01/2015

Source: EC Official Journal L144 (07/06/2017) and L54 (26/02/2013).

Table 3.16 Date of entry into force of diagonal Cumulation possibilities in the PEM zone for SMCs (as of 1 March 2019)

	Algeria	Egypt	Israel	Jordan	Lebanon	Morocco	Tunisia	Turkey
EU	2007	2006	2006	2006		2005	2006	2006
Iceland		2007	2005	2007	2007	2005	2005	2007
Swit. (& Lie.)		2007	2005	2007	2007	2005	2005	2007
Norway		2007	2005	2007	2007	2005	2005	2007
Faroe Islands								2017
Algeria								
Egypt				2006		2006	2006	2007
Israel				2006				2006

[172] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52019XC0510(01)&from=EN.

Jordan		2006	2006			2006	2006	
Lebanon								
Morocco		2006		2006			2006	2006
Syria								2007
Tunisia		2006		2006		2006		2005
Turkey		2007	2006			2006	2007	

Source: Official Journal of the EU (2019/C 158/06).

As with the product-specific RoO discussed above, these diagonal cumulation possibilities offered by the PEM Convention most likely had an impact on trade flows. Benassi et al (2011) showed the positive trade effect on integrating the Southern Mediterranean countries into the European system of diagonal cumulation. More recently, Andersson (2016) examined the relationship between diagonal cumulation and export performance in the context of the introduction of the SMCs into the Pan-Euro-Med zone of diagonal cumulation. Her econometrical analysis (based on a gravity model), included nine SMCs (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, the Palestinian Authority, Syria and Tunisia) and fifteen EU Members States. Two dimensions of export performance were considered: export intensity (defined as the value of exported final goods) and export diversification (defined as the number of exported 6-digit HS lines by 2-digit HS industry). Diagonal cumulation was found to boost final goods exports by about 20%. Moreover, the introduction of diagonal cumulation was estimated to have a positive impact on the SMCs export diversification.

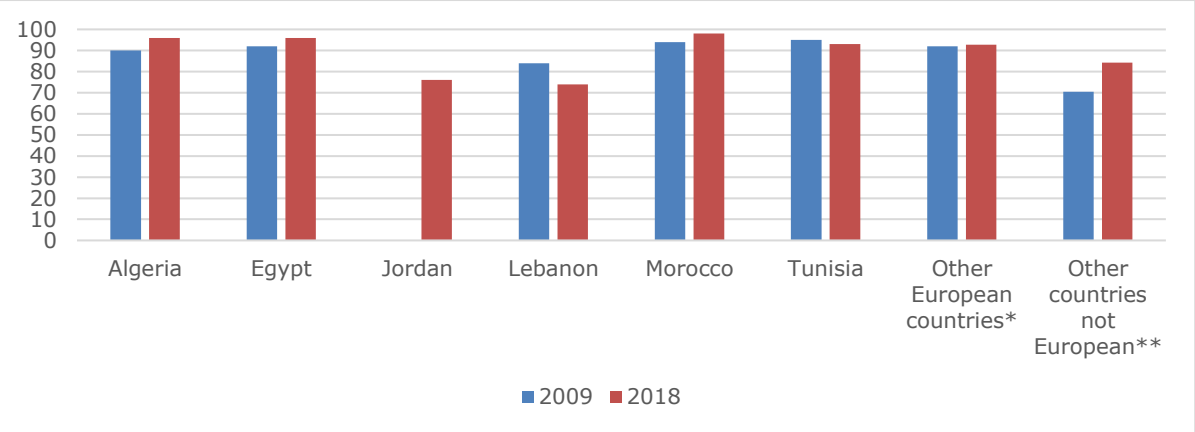
Preference utilisation

The impact of product-specific RoO and RoO cumulation rules associated with the Euro-Med FTAs can also be gauged by considering preference utilisation rates. The *preference utilisation rate* is typically calculated as the share of the value of trade that enters the market under the preferential treatment in the overall value of trade that enters the market and is in principle eligible for preferential treatment. In order to benefit from a preference under a given FTA, entities engaged in trade must prove the origin of traded goods, which may be difficult or costly. For example, information on preferential tariffs may be not easily accessible and difficulties may be faced in preparing and submitting the necessary documentation, also due to overly complex and long administrative procedures. All these factors add to costs of complying with RoO. If the difference between the non-preferential and preferential tariff rates is not large enough to compensate for these costs, traders may decide not to claim the preferential market access under the FTA but rather ship their products under the non-preferential treatment. Therefore, preference utilisation rates are indicators of both the size of the preferential margin associated with the FTA and the costs associated with proving origin, i.e. they are indicators of the overall 'value' of preferences. However, they are not a straightforward indication of restrictiveness of RoO.
This is supported by the empirical literature. Estevadeordal and Miller (2002) demonstrated for example that in the transition from the US-Canada Free Trade agreement to NAFTA, RoO for certain sectors became more restrictive and that, as a result, the utilisation rate of preferences declined. Similarly, Carrère et al., (2011) found that utilisation rates were positively related to preferential margins and negatively related to the restrictiveness of RoO: a 10-percentage point reduction in the local value content requirement was estimated to increase the utilisation rate of preference by about 8 percentage points. Cadestin et al. (2016) confirmed a negative effect of restrictive RoO on utilisation rates, with higher impact on imports of final goods than on intermediate ones.

Figures 3.36 and 3.37 show the utilization rates associated with the six Euro-Med FTAs considered here, including, for comparison, average utilisation rates for similar agreements with other European and non-European countries. The **SMCs' utilisation rates are high** (98% for Morocco, 96% for Algeria and Egypt, 93% for Tunisia, 76% for Jordan and 74% for Lebanon) and they have increased between 2009 and 2018, with the exception of Lebanon. In the case of Lebanon, the preference utilisation rate has decreased despite the fact that, as we have shown in Section 3.3, the referential margin enjoyed by Lebanese products in the EU market has increased. For Tunisia, on the other hand, the preference utilization rate has only slightly decreased, while Tunisian products exported to the European market have suffered a fairly strong erosion of preferences. Overall, the levels and trends in the preference utilisation rates of SMC export to the EU suggest that RoO are not a strong constraint to benefiting from preferential tariffs. However, beyond this average, which includes all exported products, there may be sectoral heterogeneities which are currently impossible to explore due to data constraints.

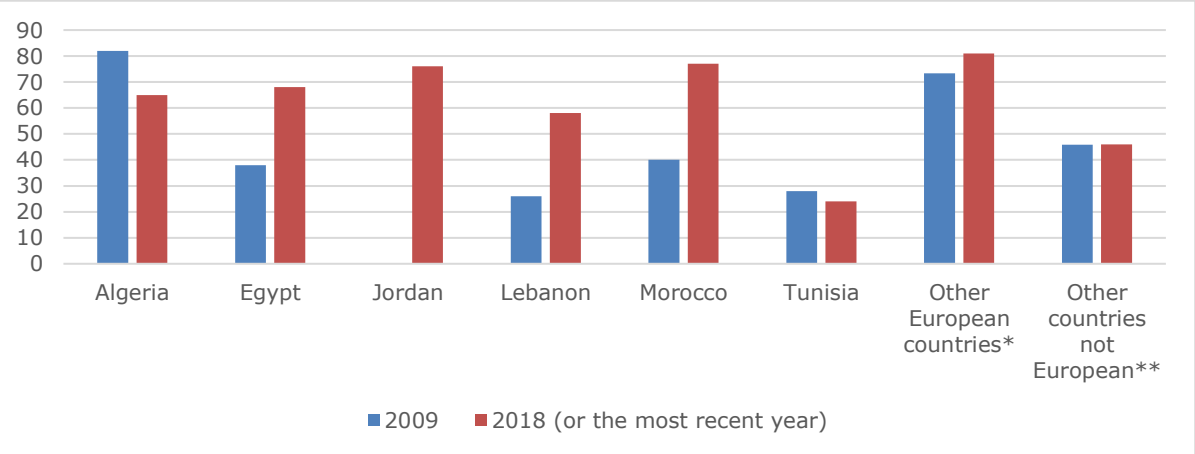
Concerning the EU access to the SMCs' markets, preference utilisation rates have also increased (except in Algeria), but they remain lower than the utilization rates in the EU market (65% for Algeria [in 2013], 77% in Morocco [2017], 76% in Jordan [2018], 68% in Egypt (2018), 58% in Lebanon [2017] and only 24% for Tunisia [2013]). The increases are consistent with increasing preferential tariff margins (Section 3.3). However, given than the preferential margins are higher in SMCs (see Section 3.3) and that the same RoO apply to imports to SMCs' and EU's markets, the lower utilization rates in SMCs' markets suggests that the administrative costs of proving origin to SMC customs offices are much higher than the costs of proving origin to EU customs. This also suggests that for many EU exporters the preferential tariff margins in SMCs are still not high enough to go through the burdensome procedure of proving origin.

Figure 3.36 Preference utilisation rates for exports from SMCs to EU (%)



* Other European countries: Iceland, Switzerland, Turkey, Macedonia, Albania, Bosnia Herzegovina, Montenegro, Serbia.
* Other countries not European: Mexico, Chile, South Korea, Nicaragua.
Source: *The Use of the EU's Free Trade Agreements*, UNCTAD (2018), except the data for SMCs in 2018 for which data was sourced from the *Individual reports and info sheets on implementation of EU Free Trade Agreements*, published by the European Commission on 31 October 2018.[173]

Figure 3.37 Preference utilisation rate EU exports to SMCs (%)



* Other European countries: Iceland, Switzerland, Turkey, Macedonia, Albania, Bosnia Herzegovina, Montenegro, Serbia.
* Other countries not European: Mexico, Chile, South Korea, Nicaragua.
The last recent year: 2013 for Algeria, Tunisia and all other countries; 2018 for Egypt, Jordan and Lebanon, 2017 for Morocco.
Source: The Use of the EU's Free Trade Agreements, UNCTAD (2018), except the data for Egypt, Jordan, Lebanon and Morocco in the most recent for which data was sourced from the *Individual reports and info*

[173] Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2017 - 31 December 2017, COM(2018) 728 final, available at https://ec.europa.eu/transparency/regdoc/rep/1/2018/EN/COM-2018-728-F1-EN-MAIN-PART-1.PDF (accessed 19 August 2019).

sheets on implementation of EU Free Trade Agreements, published by the European Commission on 31 October 2018.

Overall, given that the observed preference utilisation rates for SMCs' exports to the EU market are already high, and increasing, it seems that most economic operators are able to meet the RoO requirements to qualify for preferential tariff treatment offered by the Euro-Med FTAs. Utilisation rates for EU exports to SMCs are lower but increasing. The more modern RoO proposed in the negotiations for a modernised PEM Convention could further boost trade and preference utilisation.

3.5.2. Customs-related matters

Efficient application of provisions of Euro-Med FTAs, including formalities related to proving origin, depends crucially on the quality of customs. The Euro-Med FTAs contain some provisions on customs matters. First, in each of the six FTAs, the article on *Regional Co-operation* under the title *Economic Co-operation* lists customs matters as one area where the parties declare to foster activities which have a regional impact or involve third countries. In addition, a specific article on *Cooperation in customs matters* states that that the parties should focus on simplifying customs checks and procedures and create links between their transit systems. The same article also requires that the contracting parties' administrative authorities shall provide mutual assistance in accordance with the terms of Protocol *5 on mutual assistance in customs matters between the administrative authorities* which sets out the conditions of mutual assistance in prevention, investigation and detection of operations that contravene customs legislation. *Protocol 4 concerning the definition of originating products and methods of administrative cooperation* also contains a number of provisions on customs matters related to determining the origin of traded products. The latter protocol contains also a specific article establishing Customs Cooperation Committee charged with facilitating co-operation and correcting and evening the application of the agreements. The provisions of the Euro-Med FTAs on customs matters thus provide direction and an institutional framework for co-operation on customs matters, but they remain relatively limited.[174] Furthermore, the efficiency of customs operations can be influenced by bilateral customs instruments, such as the customs-related provisions in the Euro-Med FTAs, only to a certain degree; overall it depends more on country-specific customs regulations, their implementation and investments in the customs infrastructure and management.

Customs procedures and interpretations flagged as obstacles for the implementation of the Euro-Med FTAs have been documented in Chapter 2. For example, in the context of the EU-Egypt FTA these were: additional requirements for approval of origin declarations by the Chambers of Commerce of exporting countries; mandatory requirement of registration of factories and the certificate requirements of inspection for all shipments. Mandatory requirements of registration of factories for certain products were also flagged as an obstacle in the context of the EU-Lebanon FTA and burdensome customs procedures and technical controls in ports on an extended list of products were flagged in the context of the EU-Tunisia FTA. However, the overall impact of customs related matters on the functioning of the agreements is difficult to assess on this basis; the officially available information on bilateral customs-related matters in the Euro-Med context is in all likelihood only partial.[175]

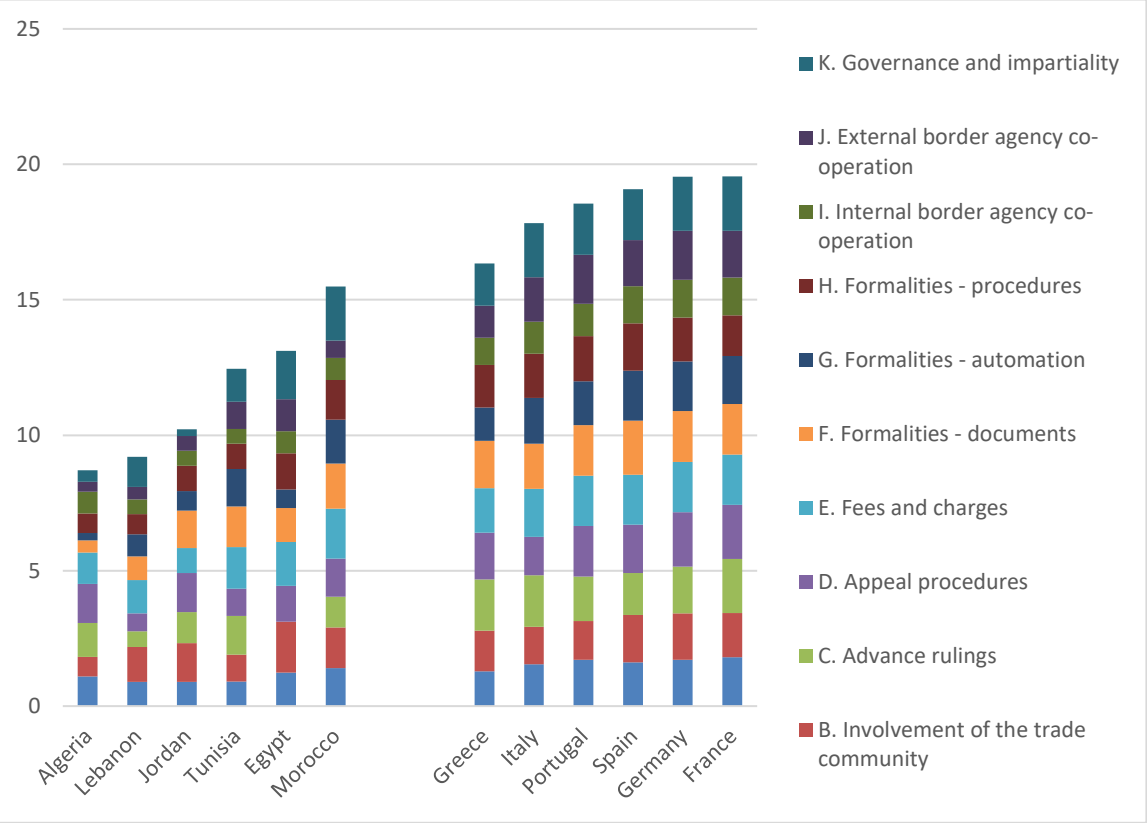
[174] For comparison, the DCFATs with Georgia, Moldova and Ukraine have whole chapters on *Customs and Trade Facilitation* with specific more detailed articles setting out provisions in specific customs areas such as legislation and procedures, relations with the business community, fees and charges, customs valuation, customs cooperation, mutual administrative assistance in customs matters, technical assistance and capacity building, Customs Sub-Committee and approximation of customs legislation.

[175] Other similar cases which impede trade in practice may be not notified for various reasons. First, the breadth of customs-related provisions may discourage the affected business from taking action. Second, notifications or official proceedings are costly and risky and it may be only when a customs-related issue affects a company or industry with significant economic clout that it gets raised at an official level. Indeed, inefficient and uneven application of customs procedures have been raised frequently as an obstacle for the functioning of the Euro-Med FTAs during the public consultations (see Annex G). A more rigorous assessment of an impact of the implementation of customs-related provisions would require a dedicated collection of information on specific aspects of customs co-operation and its expert analysis, which is beyond the scope of this evaluation.

A more comprehensive appreciation of the potential impact of customs on the functioning of the Euro-Med FTAs can be gained on the basis of the OECD Trade Facilitation Indicators (TFIs)[176] which aim to assess the quality of countries' overall measures that typically streamline and simplify the technical and legal procedures for products entering or leaving a country to be traded internationally. The OECD TFIs convert information on regulations and practices into an index measuring performance in a wide range of border procedures, from the electronic exchange of data about a shipment, to the simplification and harmonisation of trade documents, to the possibility to appeal administrative decisions by border agencies. Each of the eleven areas of trade facilitation is assessed separately and assigned an index value ranging from 0 to 2, where 2 designates the best performance that can be achieved. These indices seek to reflect not only the regulatory framework in the concerned countries, but also, to the extent possible, the state of implementation of various trade facilitation measures.

A comparison of TFIs for the six SMC and selected EU countries, reveals that on average the SMCs perform worse than the selected EU countries (Figure 3.38). Still, the best performer in the SM, Morocco, is not far off some of the EU countries with less developed trade facilitation such as Greece. There is also a relatively large disparity in trade facilitation performance within the SM region with Algeria and Lebanon estimated to perform approximately half as well as Morocco. The preference utilisation rates discussed in the previous sub-section correlated largely with the ranking according to trade facilitation performance with Algeria and Lebanon recoding the lowest preference utilisation in the region and Egypt and Morocco recording relatively low utilisation rates. However, the ranking is not strict as Jordan has higher utilisation rates than Tunisia and Morocco, and Tunisia's particularly low utilisation rate can hardly be explained by its moderately good trade facilitation performance.

Figure 3.38 Quality of customs regimes in the SMCs and selected EU countries, 2019



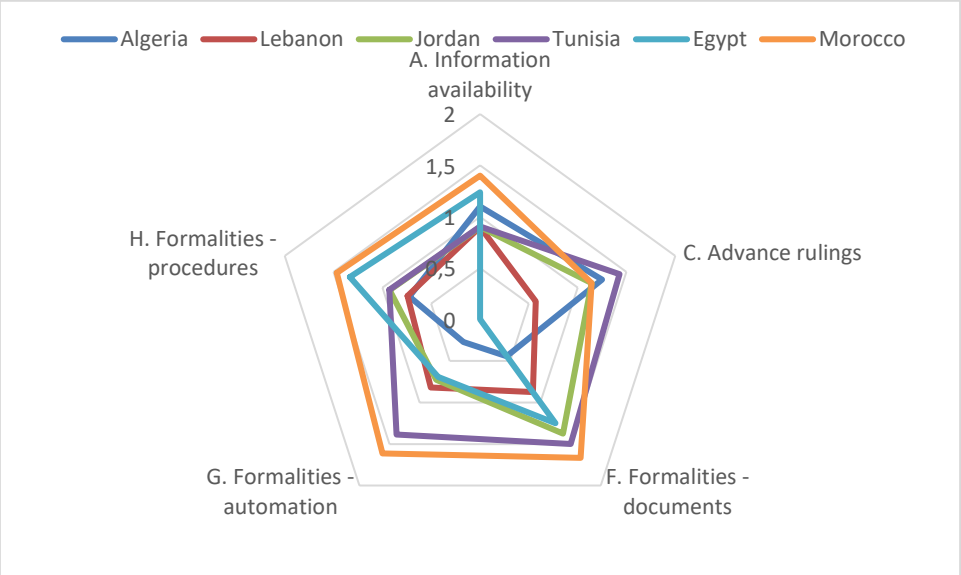
Note: Each of the 11 areas of trade facilitation is assessed separately and assigned an index value ranging from 0 to 2, where 2 designates the best performance that can be achieved. These indices seek to reflect not only the regulatory framework in the concerned countries, but also, to the extent possible, the state of implementation of various trade facilitation measures.
Source: authors' calculations based on the OECD Trade Facilitation Indicators data: https://www.oecd.org/trade/topics/trade-facilitation/.

[176] See: https://www.oecd.org/trade/topics/trade-facilitation/

The composite index hides discrepancies in performance in specific trade facilitation areas some of which may have greater impact on trade conditions than others. The OECD has assessed econometrically which trade facilitation measures are estimated to have the greatest impact on trade costs. For lower and upper middle income country categories where the six SMCs belong according to the latest World Bank classification the highest potential trade costs reductions are associated with improvements in the area of procedures (up to 3.9%-3.6% in trade cost reduction); documents (3.5%); automation (2.9-2.8%); advance rulings (2.4%); and information availability (2.4%) (OECD, 2018).

There is no uniform pattern of performance, with most of the countries having areas where it could improve a lot and areas where it does already moderately well (Figure 3.39). **Algeria** is the country with the lowest in the SM region performance when it comes to documents and automation, and together with **Lebanon,** it also has the lowest score on procedures related to formalities. **Egypt,** despite an overall relatively good performance, scores the lowest in the region on advance rulings. Morocco and, albeit to a lesser extent Tunisia, have relatively high scores across the board, although for Tunisia an area of relative weakness is availability of information, while for Morocco it is advance rulings. These can be seen as areas where individual SMCs could reap the highest gains from trade facilitation reforms and could also learn from the best performing peers in the region.

Figure 3.39 Performance of SMCs in trade facilitation areas with highest potential for trade costs reductions



Note: Each area of trade facilitation is assessed separately and assigned an index value ranging from 0 to 2, where 2 designates the best performance that can be achieved. These indices seek to reflect not only the regulatory framework in the concerned countries, but also, to the extent possible, the state of implementation of various trade facilitation measures.
Source: authors' calculations based on the OECD Trade Facilitation Indicators data: https://www.oecd.org/trade/topics/trade-facilitation/.

3.5.3. Trade-related assistance

As documented in several earlier sections of this chapter and in the sectoral studies which follow in the next chapter, the realisation of gains from the Euro-Med FTAs is not automatic. First, well-functioning trade-related infrastructure is necessary to effectively apply the provisions of the agreements. Second, efficiently functioning factor and product markets are necessary for the trade-liberalising economies to restructure their supply in reaction to trade liberalisation and maximise the associated gains. In addition, because trade reforms tend to have distributional effects certain groups in the society may have to be assisted in their adjustment to the new trading conditions. Both the trade-related infrastructure and supply side constraints tend to be more acute in countries at low level of economic development which has been recognised in the

WTO's initiative on Aid for Trade (AfT) which was launched in 2005 and which has since become a well-established workstream in development cooperation.[177]

Euro-Med Association Agreements do not have any specific provisions on trade-related assistance. This is in contrast with some of the EU's more recent bilateral trade agreements which in some parts do refer to technical assistance which is to be provided by the EU in order to facilitate the implementation of specific provisions of such agreements.[178] The lack of such specific provisions in the Euro-Med context is somewhat puzzling. On the one hand, the lower level of development of the SM trading partners as well as the asymmetry in the burden of adjustment to tariff liberalisation due to these FTAs documented earlier in this chapter, make a good case for such provisions. On the other, it can be argued that, being 'first-generation' trade agreements with rather limited provisions, the Euro-Med FTAs, may not warrant such specific trade-related assistance provisions and that such assistance is anyhow provided through the EU Institutions' and individual EU Members Aid for Trade assistance.

EU institutions and individual EU members are indeed significant providers of Aid for Trade (AfT) and it thus interesting to assess the level and some of the characteristics of their AfT flows to SMCs. The OECD's Creditor Reporting System (CRS) database contains data on official development assistance (ODA). CRS provides data that are proxies for the specific AfT categories under its headings: *Economic Infrastructure and Services* (which proxy for the AfT category 'trade related infrastructure'; *Production sectors* (which proxy for the AfT category 'productive capacity building including trade development'); and *Trade policy and Regulations* (which is a sub-category of Production sectors and proxies for the AfT categories 'technical assistance for trade policy and regulations' and 'trade-related assistance).[179]

The analysis of the impact of EU's AfT on trading capacity and the implementation of the Euro-Med FTAs would require a dedicated study and would have to go beyond analysis of AfT statistics to also qualitatively consider the possible impact of such assistance. CRS data can, however, be usefully employed to broadly assess whether the level and structure of trade related assistance extended by the EU to SMCs during the implementation period suggests that such assistance may have played a positive role.

Considering the overall significance of EU AfT directed to the SMCs, we see that the EU Institutions, together with individual EU members, account for large shares of AfT flows to these countries, although these shares have fallen considerably since the mid-2000s suggesting other donors have become relatively more active (Table 3.17). In the case of Algeria, Morocco and Tunisia, these shares are however still higher than the shares of EU in these countries' exports and imports (see Chapter 1). Also, while the individual EU members tended to account for larger shares of the overall EU AfT into the region at the beginning of the considered period, in recent periods EU Institutions have become more relatively important donors, particularly in Algeria, Jordan and Tunisia.

Table 3.17 Aid for Trade flows to SMCs

	All *donors Mln USD			share of EU Institutions %			share of EU members % **			joint EU share %		
	2005-08	2009-13	2014-18	2005-08	2009-13	2014-18	2005-08	2009-13	2014-18	2005-08	2009-13	2014-18
Algeria	837	652	232	23%	31%	45%	74%	46%	22%	96%	77%	67%
Egypt	4,647	10,772	12,611	13%	17%	16%	25%	18%	19%	38%	36%	34%

[177] The initiative seeks to mobilize resources to address the trade-related constraints identified by developing and least-developed countries in areas such as: trade policy and regulation; productive capacity (particularly in export-oriented sectors such as agriculture, fisheries and manufacturing); economic infrastructure (e.g. energy, transport, telecom); and trade-related structural adjustment. See: https://www.wto.org/english/tratop_e/devel_e/a4t_e/a4t_factsheet_e.htm.

[178] For example, Article 156 of the DCFTA with the Ukraine, which refers to the Public Procurement chapter, states that "*The EU Party shall facilitate the implementation of this Chapter, including through technical assistance where appropriate. In line with the provisions on financial cooperation in Title VI (Financial Co-operation, with Anti-fraud Provisions) of this Agreement, specific decisions on financial assistance shall be taken through the relevant EU funding mechanisms and instruments.*" Article 250 on Border measures of the same agreements in turn states that "*the Parties shall cooperate with a view to the provision of technical assistance and capacity building for the implementation of this Article*." Technical assistance is also mentioned in a number of other parts of the agreement.

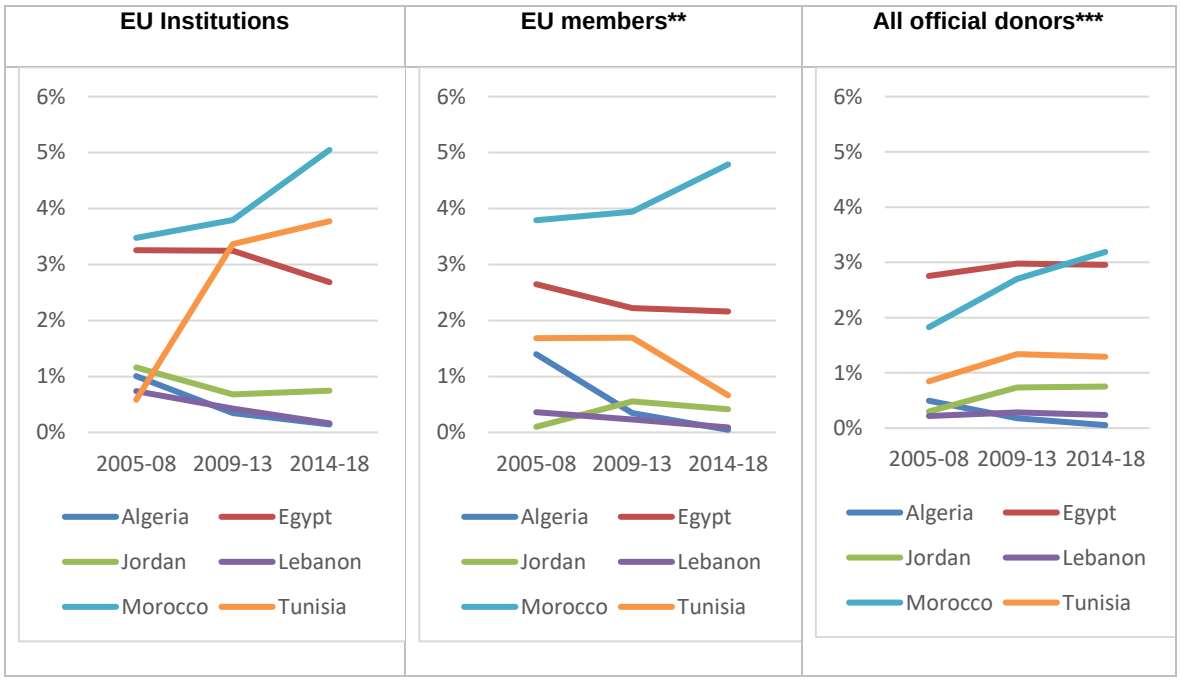
[179] See: https://www.oecd.org/dac/aft/aid-for-tradestatisticalqueries.htm.

Jordan	508	2,662	3,214	43%	15%	17%	9%	18%	14%	52%	33%	31%
Lebanon	370	1,029	1,016	37%	24%	12%	43%	20%	10%	81%	44%	21%
Morocco	3,081	9,775	13,607	21%	23%	27%	54%	36%	39%	76%	58%	66%
Tunisia	1,429	4,845	5,508	8%	40%	50%	52%	31%	13%	60%	71%	63%

Note: Aid for Trade is defined following https://www.oecd.org/dac/aft/aid-for-tradestatisticalqueries.htm as the sum of officially-reported ODA disbursements in the following sectors: II. Economic Infrastructure and III. Production sectors, including the specific category III.3.a Trade Policies and Regulations. * All official donors in included in the database ** The nineteen EU members that are members of the Development Assistance Committee.
Source: Creditor Reporting System database, http://www.oecd.org/dac/stats/crsguide.htm, OECD.

We also see that the shares of SMCs in EU's AfT flows are higher that their shares in EU's trade flows (Figure 3.40 combined with information on shares in EU trade flows in Chapter 1). This means that the region plays a more important role in EU's AfT than the sheer trade statistics could suggest and that. The shares of SMCs in EU's AfT flows are also higher that the shares of SMC's in all donors' AfT which shows that the strategic role of the SM region for the EU finds support in trade-related assistance. Nevertheless, these shares have only increased for Tunisia and Morocco the mid-2000s as far as EU Institutions' flows are considered since while they have fallen for four other SMCs. As far as EU members' AfT flows are concerned, only Morocco and, albeit to a much lesser extent Jordan, have seen increases while the five other SMCs' shares have fallen. This suggest that the SM region is falling in importance on EU's trade-related assistance map and that the different countries receive different levels of assistance.

Figure 3.40 Share of SMCs in Aid for Trade flows*



Note: *these are shares of individual SMCs in Aid for Trade directed by the selected groups of donors to all developing countries. Aid for Trade is defined following https://www.oecd.org/dac/aft/aid-for-tradestatisticalqueries.htm as the sum of officially reported ODA disbursements in the following sectors: II. Economic Infrastructure and III. Production sectors, including the specific category III.3.a Trade Policies and Regulations. ** These are the nineteen EU members that are members of the Development Assistance Committee. *** These are all official donors in included in the database.
Source: Creditor Reporting System database, http://www.oecd.org/dac/stats/crsguide.htm, OECD.

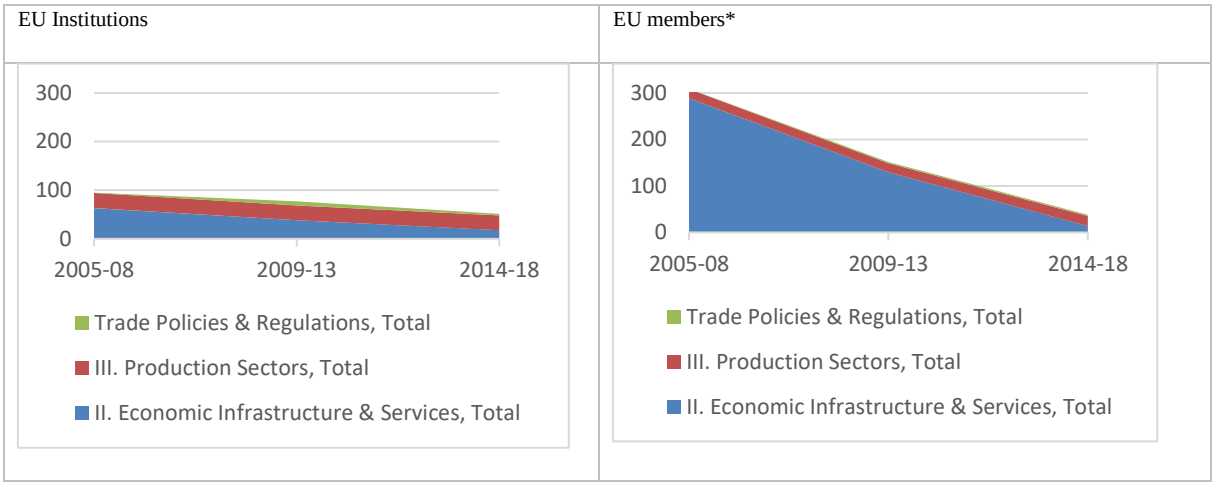
Even more heterogeneity in trade-related assistance is revealed when its composition in terms of categories of aid (i.e. *Economic Infrastructure and Services*; *Production sectors;* and *Trade policy and Regulations*) is investigated. AfT by EU Institutions is dominated by the *Economic Infrastructure and Services category* in all countries but in Algeria, Egypt, Lebanon and Tunisia production Sectors also account for significant shares while in Jordan and Morocco they do not. Trade policies and regulations seem to receive some assistance form the EU Institutions in Algeria and Lebanon only. The structure of AfT channelled to SMC by individual Eu member states is also heterogenous across SMCs and it differs from that extended by the EU

Institutions. Additional graphical analysis of AfT extended by the EU in specific areas of economic infrastructure or specific production sectors presented in Annex D.3.2 shows even more heterogeneity across the SMCs and sectors. Statistics on AfT by EU Institutions and individual EU members countries in the area of Trade Policies and Regulation in the period 2005-18 suggest that only Jordan and Algeria received some assistance with improving their trade facilitation performance and that most of AfT in this area was directed to support trade policy and administrative management (Figure 3.42).

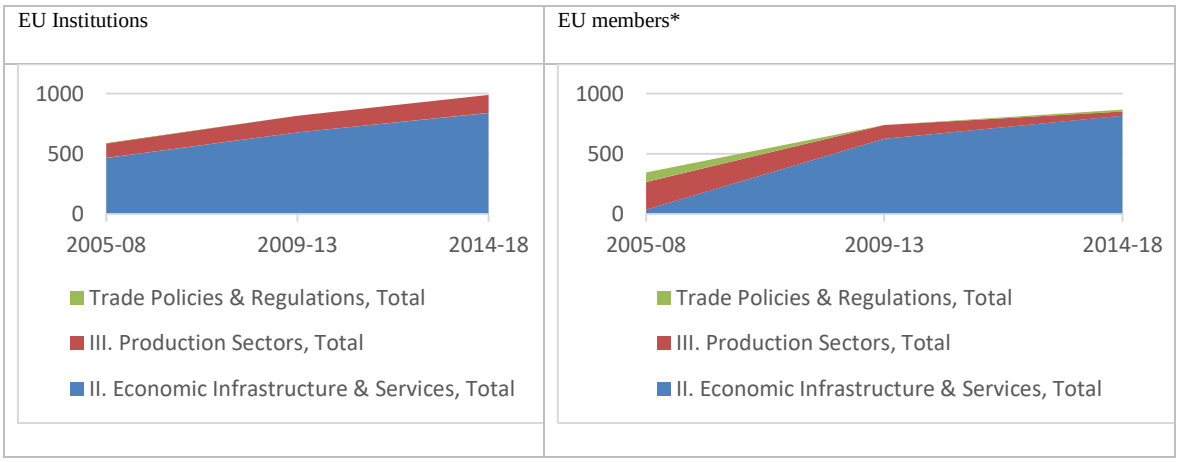
Overall, the analysis of AfT statistics performed for the purposes of this evaluation suggest that while trade-related assistance from the EU is relatively important for the region, its importance is diminishing (from both the point of view of the SMCs as well as the EU) and that it is very heterogenous. Given that the Euro-Med FTAs do not have any specific provisions on trade-related assistance and that the EU AfT are not monitored from the point of view of how they help implementing these agreements or tackling bilateral trade issues, it is difficult to assess how such assistance may have contributed. One lesson for the future could therefore be to take stock of trade-related assistance needs of the SMCs in the context of bilateral trade with the EU and consider the past and future impact of EU's AfT explicitly in this context, for example by including specific Euro-Med FTA-related criteria in evaluation of past programmes or allocation of new ones.

Figure 3.41 Aid for Trade by EU Institutions and selected EU member countries by broad category (€m)

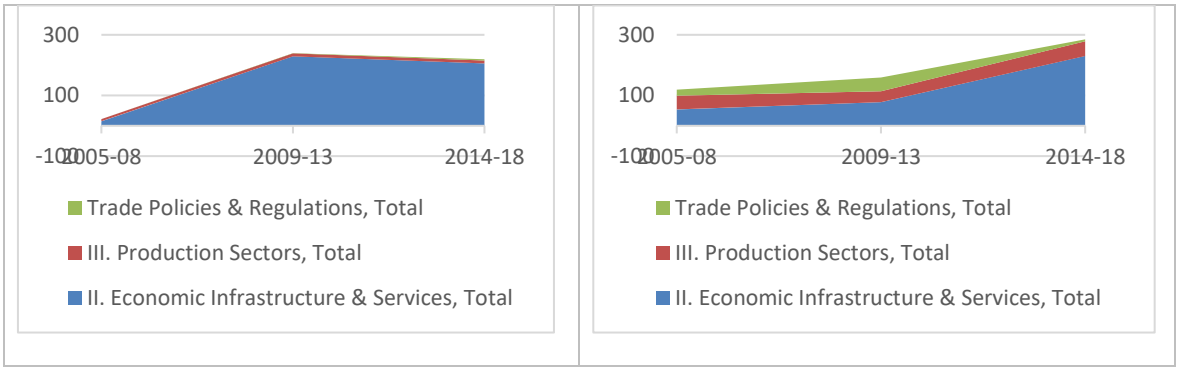
Panel A. Algeria



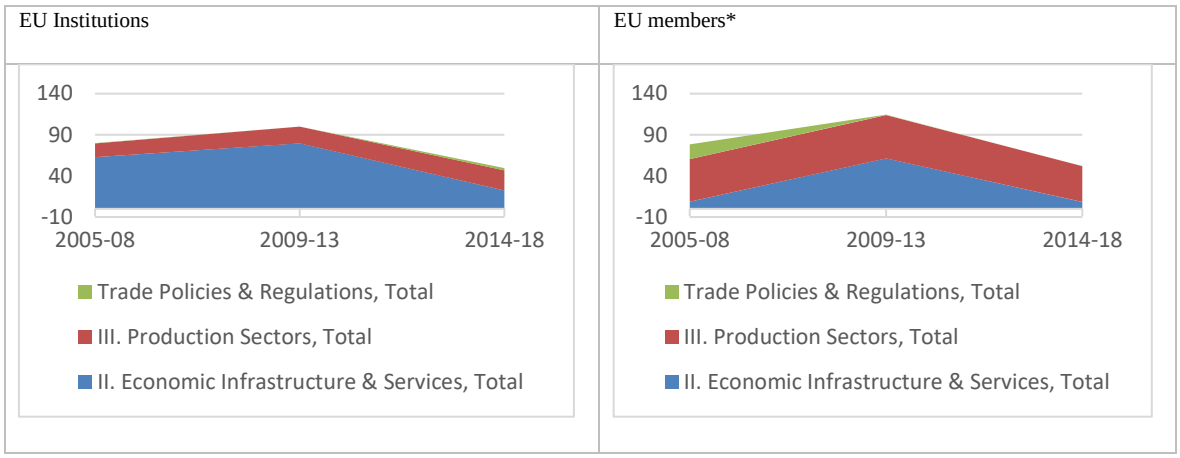
Panel B. Egypt



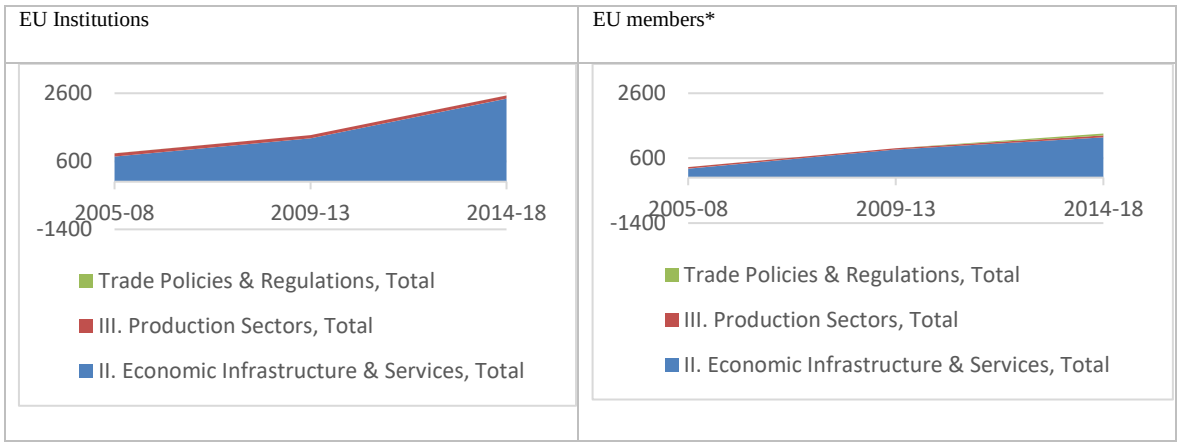
Panel C. Jordan


300
100
-100
2005-08
2009-13
2014-18
Trade Policies & Regulations, Total
III. Production Sectors, Total
II. Economic Infrastructure & Services, Total
300
100
-100
2005-08
2009-13
2014-18
Trade Policies & Regulations, Total
III. Production Sectors, Total
II. Economic Infrastructure & Services, Total

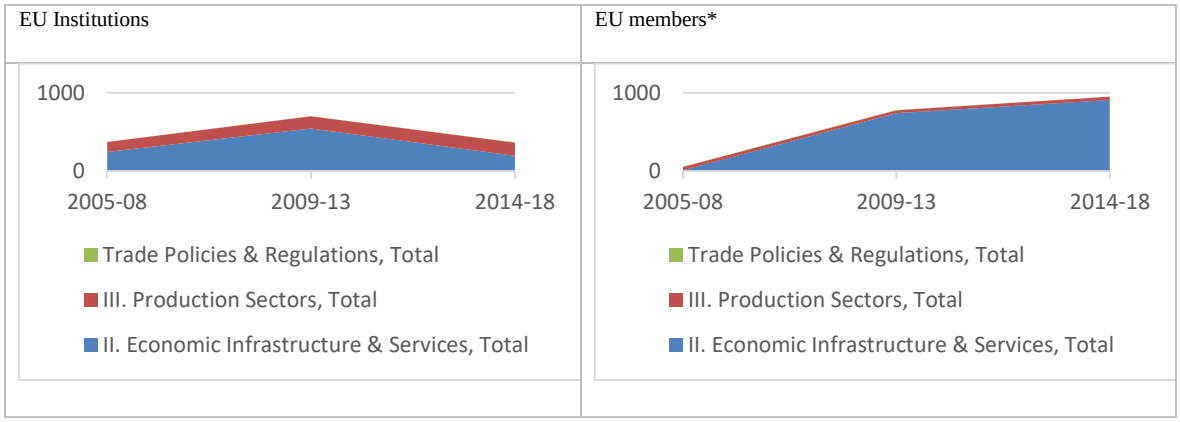
Panel D. Lebanon



Panel E. Morocco

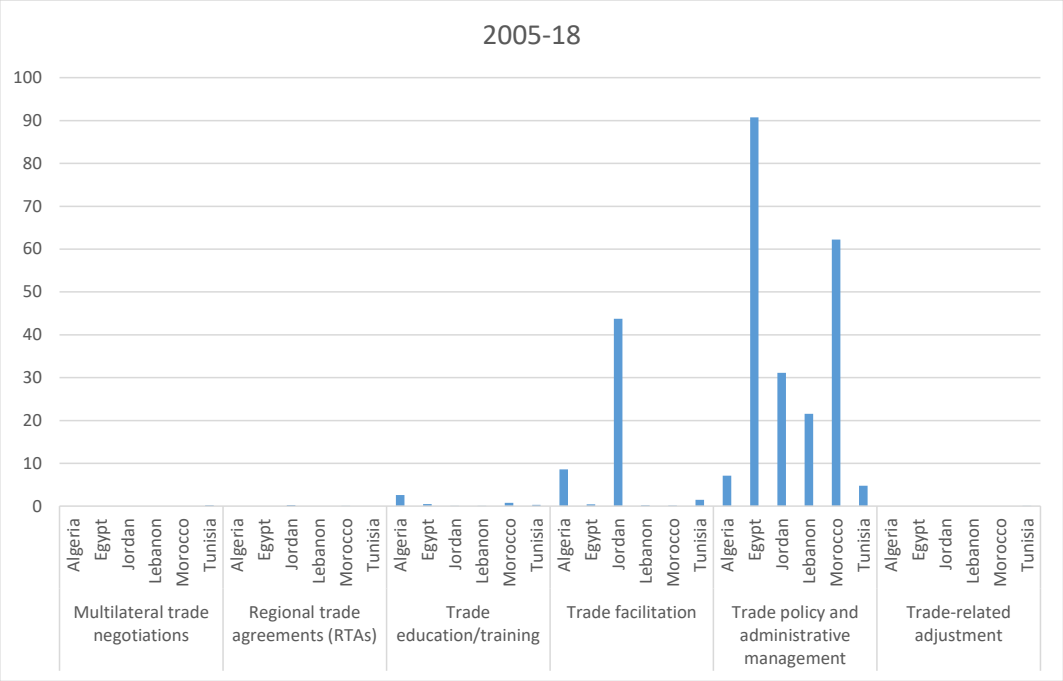


Panel F. Tunisia



Note: Aid for Trade is defined following https://www.oecd.org/dac/aft/aid-for-tradestatisticalqueries.htm as the sum of officially reported ODA disbursements in the following sectors: II. Economic Infrastructure and III. Production sectors, including the specific category III.3.a Trade Policies and Regulations. * These are the nineteen EU members that are members of the Development Assistance Committee.
Source: Creditor Reporting System database, http://www.oecd.org/dac/stats/crsguide.htm, OECD.

Figure 3.42 Total Aid for Trade by EU Institutions and individual selected EU members countries in the area of Trade Policies and Regulation in the period 2005-18, by category (€m)



Note: This data presents disbursements by EU Institutions and the nineteen EU members in the CRS category III.3.a Trade Policies and Regulations by subcategory.
Source: Creditor Reporting System database, http://www.oecd.org/dac/stats/crsguide.htm, OECD.

3.5.4. The role of non-tariff measures (NTMs)

3.5.4.1. The concept of NTMs and their coverage in Euro-Med FTAs

The Multi-Agency Support Team of international experts (MAST), which supports the United Nations Conference on Trade and Development (UNCTAD) in classifying and collecting data on non-tariff measures (UNCTAD, 2009), defined NTMs as "all policy measures other than ordinary customs tariffs that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both".[180] The definition encompasses measures which can have either positive or negative impacts on trade or prices as well as positive or negative economic welfare effects. It covers measures and practices which are official or legal requirements as well as measures and practices which may be at odds with domestic or international regulations. Since in today's economic reality dominated by complex and overlapping domestic and international supply chains, any regulation, even if not adopted specifically in the context of international trade, can have an impact on international trade, the range of measures which can be classified as NTMs is very wide. They encompass measures such as sanitary and phytosanitary measures (SPS), technical standards (commonly referred to as technical barriers to trade, TBT), through to quantitative measures such as quotas, price controls, taxes and charges, as well as measures such as subsidies, government procurement related regulations and intellectual property regulations. While they are put in place to increase the quality of products in the market place, the costs of these are often born by consumers in the form of higher product prices. In general, facilitation of international trade is rarely a principal objective of NTMs which explains why they are often seen as 'barriers' to trade.

The wide coverage of policies falling within this NTM definition is revealed in the classification of NTMs by MAST (see Table 3.56 in the next sub-section). This classification is used by UNCTAD for collection of internationally comparable NTM data and is the main reference in the economic literature on NTMs. The MAST classification encompasses the kind of more typical 'border' measures such as pre-shipment inspections or import quotas as well as the more domestically-

[180] This is the definition of the Multi-Agency Support Team which supports UNCTAD in classifying and collecting data on non-tariff measures (UNCTAD, 2009; https://unctad.org/en/Docs/ditctab20093_en.pdf).

oriented measures such as SPS and TBT measures, as well as regulations in the areas of competition, subsidies and public procurement.

As described in detail in Chapter 2, the main binding commitments of the Euro-Med FTAs are in the area of customs duties (the resulting changes in effective preferential tariff margins and their effects are accordingly analysed in Section 3.3). As far as NTMs are concerned, several of them are referred to in the texts of these agreements under the Title *Payments, Capital, Competition and Other Economic Provisions*. Most of these NTM-related provisions can however be described as directional or best endeavour type of provisions; the agreements do not contain specific or enforceable commitments in these areas but rather express broad intensions of the trading parties regarding NTMs and outline the institutional frameworks for addressing the related concerns.

With respect to technical measures and standards, for example, the texts of Euro-Med FTAs contain paragraphs on promoting EU standards and mutual recognition. In the case of the EU-Tunisia FTA, under the Article 40 [181]:

> *The Parties shall take appropriate steps to promote the use by [Algeria/Egypt/Jordan/Morocco/Tunisia] of Community technical rules and European standards for industrial and agri-food products and certification procedures.*
>
> *Using the principles set out in paragraph 1 as a basis, the Parties shall, when the circumstances are right, conclude agreements for the mutual recognition of certifications."*

The agreements also contain provisions concerning public procurement in Article 41 which sets an objective of a reciprocal and gradual liberalisation of public procurement contracts and obliges the Association Council to take the necessary steps in this respect.

Similarly, Article 36 lists several policies and phenomena in the area of competition and state aid which are deemed incompatible with proper functioning of the agreements. This article also obliges the Association Council to adopt the necessary rules for the implementation of these provisions.[182]

Article 35 refers to the GATT and the Agreement of the International Monetary Fund and establishes what measures can be adopted with respect to current transactions in serious balance of payments difficulties. The latter type of provisions set conditions for application of such NTMs as quantity and price controls, and restrictions. In a similar vein, Article 34 requires that capital movements, related to FDI, taking place from the entry into force of the Agreement are unrestricted.

Overall, however, NTM provisions in Euro-Med FTAs are much more limited than commitments on NTMs seen in the EU's more advanced trade agreements.[183] For example, in the EU-Ukraine Deep and Comprehensive Free Trade Agreement (DCFTA), which gives Ukraine[184] access to the EU's internal market in selected sectors and which is a part of the broader EU-Ukraine

[181] This quotation comes from the text of the EU-Tunisia FTA but, unless otherwise stated, other agreements contain similar if not literally the same provisions, even if the numbering of articles changes from one agreement to another.
[182] A review of decisions and recommendations by the respective Association Councils and Association Committees, as provided in the EU Official Journal reveals that those bodies have either not taken the decisions/recommendations called for in the agreements or at least that those decisions were not taken through an official decision/recommendation of the respective body and, therefore, were not published in the EU's Official Journal. In this context, it should be noted that at a certain point, the European Commission moved away from intending to deepen and amend the existing agreements and, rather, began the process of negotiating new Deep and Comprehensive Free Trade Areas (DCFTAs) in which these issues are addressed in a through fashion.
[183] In the EU-Ukraine Deep and Comprehensive Free Trade Agreement, for example, the Chapter 3 on technical barriers to trade contains a number of specific articles on technical co-operation, approximation of technical regulations and standards and conformity assessment or marking and labelling. Chapter 4 on Sanitary and Phytosanitary measures contains a number of articles on definitions, regulatory approximation recognition and determination of equivalence.
[184] The EU has similar agreements also with Georgia and Moldova.

Association Agreement[185], Chapter 3 contains a number of more specific articles on technical barriers to trade concerning technical co-operation and approximation of technical regulations, and standards and conformity assessment or marking and labelling. Chapter 4 on Sanitary and Phytosanitary measures contain several articles on definitions, regulatory approximation recognition and determination of equivalence. In comparison, the NTM-related provisions in the Euro-Med FTAs only encourage cooperation in this area and provide only broad guidance. They empower the Association Council and its subsidiary bodies to examine any major issues related to NTMs, arising within the framework of the Association Agreement.

These arrangements are meant to facilitate the tackling of any differences or disputes related to NTMs, but they do not give a guarantee these will indeed be satisfactorily tackled should the parties disagree on ways of doing so. Among the topics covered in meetings of the Sub-committees on Trade, Industry and Services (summarised in Section 2.4.5.2), many concern long-standing NTM issues which reflects the fact that bridging differences in this area within the framework of the Association Agreement is not automatic. It is however worth mentioning that, within the framework of the EU's Neighbourhood Policy, Morocco and Tunisia obtained advanced country status in, respectively, 2008 and 2012[186]. This opened the way for these countries to higher levels of political co-operation and adoption of harmonisation measures with the EU's acquis communautaire.

3.5.4.2. Trade effects of NTMs

Coordination of NTM policies between countries is challenging for two main reasons. First, many NTMs reflect domestic preferences and regulatory choices. The latter may differ across countries, which creates a political obstacle to removing NTMs. Technical measures are adopted, for example, to guarantee conformity of products with domestic health, safety, environmental or technical regulations. Non-technical measures address even broader policy objectives, and they may differ even more widely across countries. NTMs generally apply equally to both domestically produced and imported products. As already mentioned at the outset, facilitation of international trade is rarely their principal objective. Provisions are nevertheless in place in many countries to limit the trade restrictiveness of these measures as much as possible. It is recognised that when the principal objectives of NTMs of trading partners are similar, their co-ordination may have positive commercial effects. The EU – where depending on the sector, the EU Member States either apply regulations harmonised at the EU level or mutually recognise their respective national regulations so that products can circulate seamlessly within the European Single Market – is arguably the most advanced example of such supra-national regulatory co-ordination. The European Free Trade Association (EFTA) and, to a lesser extent, the EU's DCFTAs with Georgia, Moldova and Ukraine are other examples of advanced trade-related regulatory co-operation between countries.

Second, because some NTMs can impose additional costs on trade or limit it directly, they can be used purposefully to restrict trade.[187] Quantitative or price control measures, for example, directly restrict trade. In addition, certain NTMs can also be used as a 'disguised protection'; they may be officially justified with pursuit of certain seemingly legitimate regulatory objectives (e.g. health or environmental standards), but their real objective or principal de facto effect may be to restrict trade. Finally, some NTMs may unintentionally impose additional costs on trade. It is for these reasons that some NTMs are, at times, called in the literature non-tariff barriers or 'NTBs'. It should be noted however that the term 'NTB' poses several problems. The regulatory and trade-altering functions of NTMs are qualitatively different but cannot be really considered in isolation from each other. It follows, for example, that it does not make sense to advocate for the removing of NTMs purely based on their trade restrictiveness. At the same time, an assessment of regulatory properties of NTMs should logically consider their impact on trade.

[185] See Title IV Trade and Trade-related Matters of the agreement. The text of the agreement is available on-line at: https://trade.ec.europa.eu/doclib/docs/2016/november/tradoc_155103.pdf.
[186] For Morocco, https://eeas.europa.eu/sites/eeas/files/feuillederoute-sa_fr.pdf and for Tunisia, https://eeas.europa.eu/sites/eeas/files/plan_action_tunisie_ue_2013_2017_fr.pdf.
[187] This does not change the fact that some regulations, by improving confidence in products (e.g. in terms of their safety) may actually result in increased demand and increased trade flows.

The literature on policy implications of NTMs recognises that: (1) NTMs may be associated with additional costs and that, depending on the design, some NTMs may be more costly to comply with than NTMs which may be capable of delivering similar regulatory objectives (hence for example the WTO's long standing objective to make NTMs 'not more trade restrictive than necessary'); (2) regulatory heterogeneity across countries is associated with trade costs because having to comply with multiple regulations multiplies information costs, specification costs and conformity assessment costs (e.g. Cadot et al., 2018), and these are disproportionately burdensome for SMEs. It is for these reasons that national and international initiatives are being pursued to monitor the regulatory and trade effects of NTMs, as well as to co-ordinate them across countries whenever possible.

The concept of NTMs is thus in principle trade-neutral i.e. NTMs do not necessarily imply a negative impact on trade or welfare. This is why the word 'measure' is purposely used instead of the word 'barrier' in this and many other reports.[188] While tariffs, by their nature reduce welfare by crowding out trade (Swinnen, 2016), NTMs may have a negative or positive impact on trade: by addressing market imperfections, mostly externalities and asymmetric information, they may result in welfare redistribution (Xiong and Beghin, 2014). According to UNCTAD (2017) and Cadot et al. (2018), for example, some NTMs indeed may have a positive impact on trade by increasing the quality of (and thus also the demand for) traded products although this result should be interpreted carefully.[189]

This is perhaps the most important reason why the empirical literature on trade impacts of NTMs provides mixed evidence. Many works suggest that NTMs impede trade (Hoekman and Nicita, 2011; Peterson and al., 2013; Péridy and Ghoneim, 2013; Melo and al., 2014; Dal Bianco and al., 2016) but these studies typically do not distinguish whether the negative effect on trade is a result of not being able to meet the standard of the importing country or of the unnecessary trade restrictiveness of the measure.[190] Other studies conclude that NTMs foster trade (e.g. Cardamone, 2011), and some studies show mixed effects of NTMs on trade (e.g. Xiong and Beghin, 2011; Beckman and Arita, 2016). Most recently, Cadot et al. (2018), conducted separate estimations of effects of observed NTMs on prices and traded quantities, thereby allowing for a distinction between cases where some NTMs, despite increasing the prices of traded products, also lead to increased trade volumes (this is particularly the case for TBT and SPS measures).[191]

Heterogeneity of estimated trade impacts may also be explained by the heterogeneity of NTMs considered in different studies. Indeed, some studies found that technical barriers to trade (TBTs) tend to be catalysts for trade (de Frahan and Vancauteren, 2006; Cadot et al., 2018), whereas the corresponding evidence for SPS measures is more mixed (Jayasinghe and al., 2010; Crivelli and Gröschl, 2016). The effects of NTMs can also be specific to products or sectors considered. For instance, NTMs were found likely to be particularly trade-impeding for seafood products (Anders and Caswell 2009), fruits and vegetables, cereals and oil seeds (Otsuki and al., 2001a, b; Drogué and DeMaria 2012). Other sources of heterogeneity in

[188] In this context, non-tariff barriers (NTBs)—a term that is also sometimes used in the literature—could be defined as a subset of NTMs that have a protectionist or discriminatory intent, or where the trade restrictiveness exceeds somehow what would be considered justified considering the "non-trade" objectives of the measure, implying a negative impact on trade. This issue is however beyond the scope of the analysis presented in this report.

[189] While this result is based on a specific set of econometric estimates (see also the discussion in next paragraph), the actual effects may depend on time frame – in the short run some disruption may be unavoidable. Moreover, there are also issues related to product quality; i.e. would consumers still demand certain products if they were of inferior quality? If not, trade volumes would be lower. The incentive is then on producers to maintain/increase the quality of their products. This reminds us of an important fact that quality is fundamentally a concern of consumers and producers and that there are limits to what can be achieved with regulations, even if it is acknowledged that there is scope for addressing externalities and asymmetries in information.

[190] Some measures may have important restrictive and/or distortionary effects on trade. For example, depending on their design, measures pursuing the same substantive standard may have different impact on trade, i.e. some may be more trade restrictive than necessary because of unnecessarily demanding compliance requirements.

[191] It should be noted, however, that even this distinction may not fully solve the issue of disentangling trade and welfare effects of NTMs, as it may be difficult to compare the volume effects of NTMs which might result in quality; if an NTM results in a higher quality of an imported product which, suppose, is also reflected in its higher price, the possibly lower volume of trade is not necessarily related to a lower welfare effect.

documenting the economic impacts of NTMs can be related to the methods used in empirical studies, for example, the use of different proxies in order to measure NTMs, such as the more technically involved estimation of ad valorem equivalents (AVEs) based on incidence of specific NTMs (Gourdon, 2014; Arita and al., 2017; Cadot et al., 2018)) or simple frequency indices and coverage ratios (Fernandes and al., 2017). In addition, the impact of NTMs can differ across different countries. For example, some studies have shown negative effects of NTMs on the trade performance of developing countries (Anders and Caswell, 2009; Disdier and Marette, 2010, Melo and al., 2014) while other authors found NTMs either negative (Yue and Beghin, 2009) or positive impacts (de Frahan and Vancauteren, 2006) on trade among developed countries.

In sum, empirical ways of distinguishing between the different price and quantity effects of NTMs are being continually developed and this help shed light on NTMs' trade and welfare restricting or enhancing effects. However, this literature is evolving and continually challenged by data availability and methodological issues. It does not yet help determine, with a reasonably high degree of certainty, which measures are definitely trade restricting and which are trade enhancing, and under what circumstances. The literature on trade effects of NTMs therefore suggests no easy interpretations and that care needs to be taken in the interpretation of NTM statistics.

3.5.4.3. Existing evidence on NTMs and the Euro-Med Trade

While the existing literature does not typically include a comparative analysis of NTMs of the EU and all the six SMCs covered in this evaluation, several empirical studies on trade integration in the region suggest that NTMs are an important context to consider when evaluating the effects of Euro-Med FTAs.

Kee, Nicita and Ollareaga (2006), Ghoneim and al. (2012), Péridy and Roux (2011) and Péridy and Ghoneim (2013) have shown that the estimated 'ad-valorem equivalents', which translate the effects of different non-tariff measures into price effects (and which are at times also called 'tariff equivalents') indicate 'positive' effects of NTMs on the prices of traded products, which are larger than the effects of 'at the time' prevailing tariffs. It follows that the possibly trade-impeding effects of NTMs on traded volumes may be larger than those of tariffs.

Augier et al. (2012) showed further that, on average, NTMs covered about 40% of the products imported by the region (from itself and from the rest of the world) and 50% of the value of imports. Imports of Egypt, Morocco and Lebanon were the most affected by NTMs. The shares of NTM-affected imports were however significantly lower than those of the EU, where 84% and 89%, respectively, of products and volume of imports were concerned (Augier et al., 2012). Distinguishing by types of NTMs, Ghali et al. (2013) showed also that the incidence of non-technical measures (in this case the quantitative restrictions and anti-dumping measures) had been dropping in Egypt and Tunisia. More recently, Chemingui et al. (2019) showed that Tunisia had the most trade-distorting NTMs (an estimated 45% of the ad-valorem tariff equivalent) on imports of vegetables and metals; followed by Morocco on wood (40%); Lebanon on imports of textiles (32%) and Egypt on imports of chemicals products (22%). Moreover, over two-thirds of NTMs in Tunisia and Egypt were technical in nature (such as TBT and SPS measures), whereas, in Morocco, over two-thirds, and nearly all NTMs in Lebanon were non-technical (e.g. pre-shipment inspection and other formalities, licenses, quotas, prohibition and other quantity control measures) (Chemingui et al., 2019).

Only a few studies provide an assessment of the trade effects of NTMs in the SM region and those that do show significantly negative effects of core NTMs on imports. This was the case in Egypt, Jordan, Lebanon, Morocco, and Tunisia, with greater impacts in Egypt and Morocco (Kee et al., 2009). Ghali et al., (2013) also found a more pronounced negative effect on the intensive margins (more imports of already imported products) rather than on the extensive margins (no imports of new products) in Egypt.

Ghoneim and Peridy (2013) found that NTMs had significant negative effects on imports into Egypt, Morocco, Tunisia and Lebanon. The greatest magnitude of these effects was recorded for Egypt and Lebanon, and it was related to the incidence of SPS measures, quantitative restrictions, pre-shipment inspection and export-related measures. Imports of machinery, electrical products, stone, metal, chemical products and services were also found to be negatively affected by NTMs in all SMCs.

Kamal and Zaki (2018) reported that TBT measures had a negative impact on Egyptian firms' market entry and exports of new products and increased the probability of withdrawal from exporting. El-Enbaby and al. (2014), showed that firms tend to improve and increase their products, and market diversification in response to TBTs. More recently, Ramzy and Zaki (2018) demonstrated that more stringent regulations do not hamper, but rather increase, the probability of agricultural trade between EU and SM countries, for both European and MENA exporters.

Overall, a review of the literature performed in the context of this evaluation suggests that some NTMs may be significantly trade-reducing in some SMCs. Yet, generally, some NTMs could also improve trade as they strive to ensure the quality of traded products. For the same reason, they could also promote regional integration and boost the positive effects of exports on employment and growth. It needs to be remembered however that low prices are an important element of competitiveness of SMCs' products both in the intra-SM, EU-SMC and SMC-rest of the world trade context. Measures which push up prices of traded products could thus be problematic, particularly for trade with other emerging countries, and future schemes for co-operation on NTMs in the Euro-Med context should take this reality into account. For this reason, the impact of a harmonisation of NTMs on the Community acquis, which for SMCs means the adoption of stricter measures, is complex.

Although the literature on this specific issue is scarce, three types of effects of harmonisation based on European standards could reasonably be expected. Firstly, harmonisation would be expected to reduce the cost of entry into the European market for SMC firms. Trade costs associated with regulations are mainly fixed costs (i.e. meeting them usually requires a change of product process, acquiring special types of processing and storage equipment, upgrading production procedures, implementing quality control procedures, etc.) but there are also some variable costs (e.g. related to delays and inspection procedures, etc.)[192]. A harmonization-related decrease in trade costs would likely result in increase in exports from the SMCs to European markets, with an effect on the extensive margin (new firms exporting or new products exported) being likely greater than the effect on the intensive margin (increase in the volume of existing exports)[193]. Second, harmonization can increase the price of products in SMCs. This is the effect suggested for example in Chen et al. (2010) where complying with stricter standards imposes additional production costs on firms although there are also positive effects if consumers are willing to pay the premium costs of better-quality products. The net effect for firms that adopt stricter standards would thus depend on the strength of the standards-induced cost increase versus the strength of the standards-induced demand increase. In developing and emerging countries, it is unlikely that consumers will be able to pay the premium cost, which may diminish SMCs' exports to these markets. This mechanism could therefore encourage trade between SMCs and the EU but a detrimental effect on trade with less developed countries could also be expected. Thirdly, in SMCs markets, harmonisation may facilitate the entry of products from European countries (or more generally from countries that have already harmonized their standards) and make it more difficult to enter for imported products from countries that have not yet harmonised. It can therefore be expected that harmonisation by SMCs based on the acquis communautaire may foster bilateral trade flows between the EU and the harmonising countries, but the flip side of the same coin is that it may decrease trade with third countries, mainly in the developing and emerging world.

The few empirical studies that exist are consistent with these intuitions. According to Disdier et al. (2015), for example, harmonisation on EU directives increases bilateral trade (between the harmonising country and the EU) but have a negative effect on trade in particular between the harmonising country and third countries. Chen and Mattoo (2008) showed that harmonization on regional standards improved market access for out-of-bloc highly industrialized exporters but reduced it for out-of-the-bloc developing exporters. Cheong et al. (2018) in turn found that

[192] For discussion of fixed and variable trade costs see Fernandes et al. (2019).
[193] According to the models of Chaney (2008) and Bernard et al. (2011), the decline in export variable costs has a positive effect on both the extensive and intensive margin. Conversely, the decline in fixed costs increases the extensive margin, but the effect on the intensive margin is ambiguous. Insofar as exporting firms have already paid the fixed costs, the amount they export may be insensitive to a change in those fixed costs. On the other hand, if there are more entrant firms, the level of competition in the destination market increases and there could be a decline in exports by firms already present.

non-tariff changes under FTAs between industrial and developing countries increased the exports from the former to the latter more than the other way around. To our knowledge, no paper has yet analysed the effects of the harmonisations implemented in Morocco in the sectors concerned. It would be interesting to analyse the effects on trade and also on the productivity of Moroccan firms. Indeed, it is possible that the adoption of stricter standards than prevailed prior to harmonisation, as it is the case for Morocco will be beneficial to Moroccan firms. Firstly, the obligation to comply with the new standards could force them to improve their production process and the quality of their products, and, secondly, stricter standards could protect them, in certain sectors, from competition from low-income countries, which could enable them to improve their profitability and finance productivity improvements in order to sell on developed markets[194], particularly European ones.

A useful summary of the harmonisation debate has been provided by Maur and Shepherd (2011) who suggest that "*the question of whether it is optimal for a particular set of countries to adopt the same standard depends on the balance between two effects: the potential for increased trade thanks to reduced cost multiplicity, and the likelihood that different national preferences and resource endowments will interact to produce different optimal regulations in each closed economy. (…) Successful harmonization therefore tends to involve countries at reasonably close levels of development, and with some broad similarities in their preferences and their general approaches toward regulation*".

While the NTMs documented in the SMCs in the economic literature seem important – and indeed are believed (especially the SPS measures) to be highly restrictive by a number of stakeholders consulted during the workshops and interviews (e.g. in Morocco and Tunisia), these consultations also revealed that NTMs present, , in developed markets, such as the EU are also perceived as important. From the point of view of SMCs' exports, they are certainly an important context.

3.5.4.4. Exploring the incidence of NTMs relevant to the Euro-Med trade relations

In order to complement previous studies and provide a context for the current evaluation of the effects of lowering of tariffs associated with the Euro-Med FTAs, this sub-section takes stock of the incidence of the main NTMs in SMCs and the EU. For this purpose, data on NTMs has been extracted from the UNCTAD's TRAINS, the Global Database on Non-Tariff Measures (UNCTAD, 2017), which is currently the most comprehensive source of internationally comparable data on NTMs. Reflecting the current data collection and availability constraints[195], the analysis covers the types of measures in the MAST classification listed in Table 3.18.

Table 3.18 Correspondence between the measures covered in the current study and those covered in MAST and UNCTAD's Global Database on Non-Tariff Measures

Acronym	Types of measures	MAST Chapter
SPS	Sanitary and Phytosanitary Substance restriction measures, hygiene obligations, compliance measures related to food safety (certification, testing, inspection and quarantine), measures to prevent the concealment of diseases.	A
TBT	Technical Barriers to Trade (non-SPS) Labelling measures and all other environmental protection and compliance measures (certification, testing and inspection).	B

[194] For example, Bustos (2011) and Verhoogen (2008) have shown that firms in developing and emerging countries that want to export to developed countries, are investing to adopt more advanced technologies and improve the quality of their product.

[195] Currently, the data on measures falling within chapters J through O (these include includes distribution restrictions, restrictions on post-sales services, measures that relate to subsidies, government procurement restrictions, measures related to intellectual rights and rules of origin) in the MAST classification (Table 3.18) are not collected by UNCTAD (except for a few countries). The data are thus available for Chapters from A to I, and Chapter P.

INSP	Pre-shipment Inspection and other formalities Measures related to pre-shipment controls in the country of export.	C
CTMP	Contingent Trade-Protective Measures Measures to counteract the adverse effects of imports on the domestic market caused by unfair trading practices.	D
QC	Non-automatic licences, quotas and other quantity measures (not SPS or TBT related). The aim of these measures is to limit the quantities traded.	E
PC	Price Control measures Measures put in place to control (or modify) the prices of imported goods or to support domestic goods when the prices of imported goods are too low or to protect the domestic market from international price fluctuations or to increase/preserve tax revenues. Thus, fiscal measures other than customs duties are also included.	F
EXP	Export measures This chapter includes measures that a country applies to its exports. These can be taxes, quotas or bans.	P
OTH	Other measures This category includes measures in 3 chapters: Chapter G: Measures related to trade finance that may restrict the payment of imports, such as access (and the cost of access) to foreign exchange. Chapter H: It concerns measures that affect competition (exclusive agreement, preferences or privileges granted to one or a limited group of operators. Chapter I: Set of measures that limits trade related to foreign investment by requiring local content or by requiring investment to be linked to exports to balance imports.	G, H et I

Source: authors' elaboration based on UNCTAD (2018).

UNCTAD TRAINS data is based on official sources, i.e. publicly available legal official texts that represent the enforced regulation of a country. It includes all requirements, not only those that are assumed to be a problem or imply a high cost, currently imposed by the country that affect domestic and imported[196] products. NTM data is collected and reported at the tariff line level (HS 6-digit is the most disaggregated level of product classification).

Sums of all NTMs and frequencies by NTM category are specified by broad type of product at the HS 1-digit (i.e. HS section) level. The majority of measures are applied to imports from all partners. Thus, there is no real bilateral 'dimension' of NTM data that would correspond to the bilateral nature of tariff concessions in the FTAs at hand and this reflects the nature of NTMs, which are usually not imposed to target imports from a specific source country. Nevertheless, NTMs may have bilateral effects in the sense that the distribution of NTMs across the broad sectors and measure types is specific to each importing country and usually not uniform across

[196]NTMs in Chapter P of the MAST classification apply to exports.

products. This may affect bilateral trade relationships as trade partners also tend to specialise in different products. In this sense, a country's NTM regime, even though it is applied on non-discriminatory, multilateral basis can have different effects on different trading partners, depending on the structure of their exports. This is a 'bilateral dimension' of NTMs that is considered in the context of the Euro-Med FTAs in this sub-section.

NTMs applied in the EU and the SMCs

Table 3.19 shows the numbers of currently applied[197] NTMs in different NTM categories as well as the shares of the different NTM categories in the total number of NTMs in the five SMCs covered by UNCTAD TRAINS data[198] (Algeria, Jordan, Lebanon, Morocco, Tunisia), the EU and a number of reference countries (Mexico, the US, Chile, Peru, Indonesia, China and all countries [World]).[199] While the number of measures does not tell us anything specific about what these measures are and what effects they may have on quality, prices or volumes of traded products, this is the most objective and comparable information available. Differences in numbers of measures as well as the different distributions of the NTMs across the different NTM types, combined with insights from the literature on economic effects of NTMs, can be suggestive of the NTM policy choices taken by each of the SMCs and the EU. UNCTAD (2017) applies a similar approach, based on various descriptive statistics of incidence of NTMs in its reporting on the world-wide incidence and policy implications of NTMs (e.g. UNCTAD, 2017; 2018). Comparisons with global distributions as well as distributions for the reference countries presented below provide an additional point of reference.

Table 3.19 reveals that SMCs and the EU do not apply more NTMs than the reference countries. In total, Jordan is reported to have 158 NTMs, Algeria 298, Morocco 387, Tunisia 412, Lebanon 467 and the EU 417.[200] This compares favourably with 865 measures in Mexico, 1,284 in Chile and 6,628 in the United States and 7,203 in China. This means that, on average, SMCs apply between 3 to 4 times fewer measures than Indonesia and Chile, 10 times fewer measures than Peru and about 20 times fewer measures than the USA and China.

Across all countries, TBT and SPS measures are the most frequently maintained measures. In Morocco, Lebanon and Jordan, SPS is dominant, while in Algeria, Tunisia, and especially in the EU, TBTs are proportionally more important. Jordan, Algeria and to a lesser extent Lebanon also use quantitative measures (QC) more frequently than on average globally (Table 3.19). Tunisia comes across as a country with a lower than average share of TBT and SPS measures and a higher than average share of price control (PC), Pre-shipment inspection and other formalities (INSP) as well as export restrictions (EXP). The use of EXP is also relatively high in Jordan and Lebanon. The EU records a higher than average share of TBT measures. Notably, the US, Chile and Peru record higher shares of SPS measures than on average globally.

Using UNCTAD TRAINS data on stocks of NTMs in force in 2010 and 2019, changes in stocks have been calculated and expressed as percentage point changes between 2010 and 2019 (Table 3.20).[201] Over the last 10 years, the total number of NTMs applied by SMCs has increased in each of the countries, but especially in Jordan (+56%) and Lebanon (+20%). All five countries have adopted additional, mainly SPS and TBT measures, but the distribution of measures among the different categories has changed little, with the exception of Jordan, where the share of SPS and TBT measures increased by 8.5 and 5.8 percentage points, respectively, while the share of the export measures (EXP) decreased by 10.6 percentage points. In the EU, in contrast, the total number of NTMs decreased from 485 to 417 (-16%) and the distribution of measures between categories also changed: the share of TBTs increased by more than 13

[197] These data can be interpreted as cumulative stocks of effective measures in the last year for which data for a given country is available but include measures introduced in different years in the past.
[198] Egypt is currently not covered by the UNCTAD TRAINS database. The assessment of NTMs in Egypt is instead performed in Box 3.4.
[199] The choice of reference countries is somewhat arbitrary, but it aims to provide comparisons with similar countries, for both the EU and the SMCs, in other regions of the world.
[200] Data for Egypt are not available (see the Box 3.4 for an alternative source of information).
[201] UNCTAD TRAINS NTM data include the implementation date of the measures, but there is no information about past measures that were abolished before data collection. In effect, here only the stock of measures in January 2010 and the stock of measures in December 2019 are compared. But it is not possible to know how many measures have been removed and how many new ones have been adopted. It is only the comparison of the number of official measures in force between 2 points in time (see also UNCTAD, 2017, p. 16).

percentage points and SPS by 4.5 percentage points, while the shares of QC, EXP and INSP decreased by 8.3, 4.9 and 4.8 percentage points, respectively. This suggests that the structure of EU's NTMs moved in the direction of technical measures (SPS and TBT) during the period.

The increase in the number (and in cases of some SMCs also shares) of technical measures can be interpreted as a sign of a process of modernisation of NTMs, more focused on a regulatory function of NTMs (and less on a protective function) and more related to public health, environmental protection and transparency concerns. At the same time, however, it cannot be excluded that this increase may also hide the growing use of technical regulations as barriers to trade. It should be recalled that the number of NTMs and their evolution, even by type of measures, should be interpreted with caution.

Table 3.19 NTMs: cumulative number and share by type in 2019

Country	CTPM (%)	EXP (%)	INSP (%)	OTH (%)	PC (%)	QC (%)	SPS (%)	TBT (%)	Total NTM
Algeria		13	4	1	1	34	114	122	**289**
	(0,0)	*(4,5)*	*(1,4)*	*(0,3)*	*(0,3)*	*(11,8)*	*(39,4)*	*(**42,2**)*	*(100)*
Morocco		42	4	1	6	35	208	91	**387**
	(0,0)	*(10,9)*	*(1,0)*	*(0,3)*	*(1,6)*	*(9,0)*	*(**53,7**)*	*(23,5)*	*(100)*
Tunisia		87	21	12	46	36	94	116	**412**
	(0,0)	*(21,1)*	*(5,1)*	*(2,9)*	*(11,2)*	*(8,7)*	*(22,8)*	*(**28,2**)*	*(100)*
Lebanon		56	29	8	7	50	193	124	**467**
	(0,0)	*(12,0)*	*(6,2)*	*(1,7)*	*(1,5)*	*(10,7)*	*(**41,3**)*	*(26,6)*	*(100)*
Jordan		29		2	5	33	73	16	**158**
	(0,0)	*(18,4)*	*(0,0)*	*(1,3)*	*(3,2)*	*(20,9)*	*(**46,2**)*	*(10,1)*	*(100)*
EU		2	6	2		36	98	273	**417**
	(0,0)	*(0,5)*	*(1,4)*	*(0,5)*	*(0,0)*	*(8,6)*	*(23,5)*	*(**65,5**)*	*(100)*
Mexico	70	131	3	1	3	139	180	338	**865**
	(8,1)	*(15,1)*	*(0,3)*	*(0,1)*	*(0,3)*	*(16,1)*	*(20,8)*	*(**39,1**)*	*(100)*
USA		216	415	1	39	184	3194	2579	**6628**
	(0,0)	*(3,3)*	*(6,3)*	*(0,0)*	*(0,6)*	*(2,8)*	*(**48,2**)*	*(38,9)*	*(100)*
Chile	2	28	8		12	122	850	262	**1284**
	(0,2)	*(2,2)*	*(0,6)*	*(0,0)*	*(0,9)*	*(9,5)*	*(**66,2**)*	*(20,4)*	*(100)*
Peru	12	31	7		10	255	3149	142	**3606**
	(0,3)	*(0,9)*	*(0,2)*	*(0,0)*	*(0,3)*	*(7,1)*	*(**87,3**)*	*(3,9)*	*(100)*
Indonesia		130	53	12	18	81	239	431	**964**
	(0,0)	*(13,5)*	*(5,5)*	*(1,2)*	*(1,9)*	*(8,4)*	*(24,8)*	*(**44,7**)*	*(100)*
China		1013	111	58	51	308	1612	4050	**7203**
	(0,0)	*(14,1)*	*(1,5)*	*(0,8)*	*(0,7)*	*(4,3)*	*(22,4)*	*(**56,2**)*	*(100)*
World	324	7668	1701	320	1450	6337	29467	25723	**72990**
	(0,4)	*(10,5)*	*(2,3)*	*(0,4)*	*(2,0)*	*(8,7)*	*(**40,4**)*	*(35,2)*	*(100)*

Note: the non-bracketed figures denote number of measures while the bracketed numbers denote shares of individual NTM categories in the total number of NTMs.
Source: Authors' calculations based on UNCTAD NTMs TRAINS Database (https://trains.unctad.org/).

Table 3.20 Evolution of NTMs' cumulative number and distribution between 2010 and 2019

Country	CTPM (%)	EXP (%)	INSP (%)	OTH (%)	PC (%)	QC (%)	SPS (%)	TBT (%)	Tot NTM
Algeria	0	+3	+1	0	0	+3	+15	+9	+31
	(0)	*(0,62)*	*(0,22)*	*(-0,04)*	*(-0,04)*	*(-0,25)*	*(1,07)*	*(-1,58)*	**[+11%]**
Morocco	0	+9	+1	+1	0	+2	+17	+12	+42
	(0)	*(1,29)*	*(0,16)*	*(0,26)*	*(-0,19)*	*(-0,52)*	*(-1,62)*	*(0,62)*	**[+11%]**
Tunisia	0	+2	+1	+1	+2	0	+20	+10	+36
	(0)	*(-1,49)*	*(-0,22)*	*(-0,01)*	*(-0,54)*	*(-0,84)*	*(3,13)*	*(-0,04)*	**[+9%]**
Lebanon	0	+11	+12	+3	+2	+8	+49	+10	+95
	(0)	*(-0,11)*	*(1,64)*	*(0,37)*	*(0,15)*	*(-0,58)*	*(2,62)*	*(-4,09)*	**[+20%]**
Jordan	0	+9	0	+1	0	+19	+47	+13	+89
	(0)	*(-10,6)*	*(0)*	*(-0,18)*	*(-4,08)*	*(0,60)*	*(8,52)*	*(5,78)*	**[+56%]**
EU	0	-24	-24	0	0	-46	+6	+20	-68
	(0)	*(-4,88)*	*(-4,75)*	*(0,07)*	*(0)*	*(-8,27)*	*(4,53)*	*(13,30)*	**[-16%]**

Note: the non-bracketed figures denote changes in numbers of measures between 2010 and 2019 while the bracketed numbers in all but the last column indicate percentage point changes in the shares of different categories of NTMs between the year 2010 and 2019. In the last column, the bracketed figures indicate a percentage change in the total number of NTMs between 2010 and 2019.
Source: Authors' calculations based on UNCTAD NTMs TRAINS Database (https://trains.unctad.org/).

Box 3.4 WTO notifications of NTMs and NTMs in Egypt

The UNCTAD's TRAINS database on NTMs does not contain information for Egypt. An alternative source of information, although not directly comparable to TRAINS, on Egypt's NTMs is the WTO's Integrated Trade Intelligence Portal for Goods (I-TIP Goods). Rather than data collected by analysts, it contains WTO members' own notifications of NTMs as well as information on "specific trade concerns" raised by other members at WTO committee meetings on specific types of NTM covered by relevant WTO transparency provisions. These provisions cover certain forms of TBTs and SPS measures (in particular those that may have a significant effect on members trade and are not based on relevant international standards), anti-dumping and countervailing and safeguard measures.[202] Unfortunately, the I-TIP Goods does not cover Algeria and Lebanon as they are not WTO members, so no comparisons can be made between the WTO and UNCTAD data for them.

The WTO data shows rather different levels of NTM use and NTM patterns as compared to those in UNCTAD TRAINS. This is not surprising because the definitions are different.[203] According to the WTO data, the EU notified to the WTO about twenty to thirty times more NTMs than each of SMCs. This contrasts with the information on incidence of NTMs from the UNCTAD TRAINS database, which suggest NTM numbers of similar magnitudes for these partners. This could suggest that the EU may be overreporting and/or the SMCs might be underreporting data to the WTO[204] although the notifications of 'specific trade concerns' by partner countries confirm broadly these proportions. This data, again differently from UNCTAD TRAINS, suggest relatively small shares of technical barriers to trade and relatively larger shares of quantitative barriers such as tariff rate quotas and special safeguards, but this may reflect the specificity of definitions covered in the WTO database.

According to this data, Egypt has notified to the WTO the largest number (34) of measures of the four SMCs covered, and 32 of the notified measures were SPS measures. Egypt is also the SM country for which the largest number of specific trade concerns were notified by trading partners.[205] The comparison of the number of measures between the two sources of data for SMCs for which data are available suggests also that the figures for Egypt are most likely below the stock of NTMs applied.[206]

[202]For a more detailed discussion of differences between the NTM coverage of UNCTAD TRAINS and the WTO I-TIP Goods see UNCTAD (2017, p. 15).
[203] Some of the most striking differences include the following: the WTO data, based on self-notifications, suggest higher number of NTMs for the EU than the number suggested by UNCTAD TRAINS data.
[204] An alternative, but not really convincing, explanation would be that SMCs maintain NTMs which are more compliant with WTO requirements (lack of impact on trade or international standards being the basis for these NTMs). Note also that in the case of own notifications to the WTO the existence of an effect on trade is based on a notifying country's own assessment. Other limitations of WTO notifications include the fact that number of notifications may say little about trade restrictiveness of the measures as some measures might replace other legislation instead of adding more legislation. Also, the same measure can be notified through several notifications, or several measures can be notified in only one notification.
[205] These data are available at http://www.wto.org/english/thewto_e/countries/egypt_e.htm.
They have been sourced from regular WTO notifications. The number of NTMs per category from these notifications for the other SM region does not correspond to the stock reported in the UNCTAD database. Due to the lack of consistency between these two data sources, Egypt was not included in Table 1.
[206] This is because for all SMCs for which this comparison is possible, the numbers reported in the WTO database are smaller than those in UNCTAD. In the case of Egypt, in addition, the ITC report (2016) states also that the country "does not apply quotas or tariff quotas on imports. In general, imports are not subject to licensing or prior approval. However, an import registration is required by GOEIC (General Organization for Egypt and Import Control) and renewed every three years. The import of certain products is subject to specific administrative formalities, as for example the telecommunications equipment. Egypt maintains import prohibitions for economic, religious, environmental, health, safety and phytosanitary reasons... Similarly, exports are generally not subject to licensing or prior approval but require an export registration renewable every three years. Egypt also applies a number of NTMs to exports. The Minister of Industry and Foreign Trade retains the right to impose temporary export or, in extreme cases, impose an export ban on strategic products, when the domestic production does not cover local consumption, as for example cement,

Box Table 3.1 NTMs notified to the WTO and reported in the I-TIP Goods Database

	NTM notifications by countries themselves								Specific trade concerns notified by partners		
	Quantitative Restrictions	Safeguards	Sanitary and Phytosanitary	Technical barriers to trade	Special Safeguards	Tariff-rate quotas	Total		Sanitary and Phytosanitary	Technical barriers to trade	Total
Egypt		1	32	1			34		1	23	24
European Union	18		163	245	71	87	584		107	510	617
Jordan		1	17				18		1	1	2
Morocco		4	9			16	29				0
Tunisia				1		13	14			1	1

Note: includes all bilateral measures and measures affecting all countries that were in force on 31 December 2019. 'Specific Trade Concerns' data includes notification by all partners.
Source: WTO Integrated Trade Intelligence Portal on Goods (I-TIP - Goods).

To complete the information on the number of measures, the frequency ratio was computed, which gives the percentage of imported products (at the HS-6 digit level) to which at least one NTM applies, in a given group of HS-1 digit products (Figure 3.43). As far as the average for the rest of the world (ROW) country grouping is concerned, and to the extent that this country grouping can be considered a point of reference for both the EU and the SMCs, the frequency ratios show a relatively frequent application of NTMs to imports in the three agro-food sectors: animal products (88%), vegetable products (85%) and food products (82%). In contrast, low frequencies of NTMs are recorded for metals (20%), stone and glass (24%) and rubber (28%) products. Sectors with moderate NTM frequencies include hides and skins (58%), textiles and clothing (52%) and footwear (48%). This sectoral distribution of NTMs makes sense if we consider their consumer protection role (e.g. perishable animal, vegetable and food products, or leather and textile products consumed directly by the population).

The EU records, for all sectors, higher NTM frequency ratios than the SMCs and ROW on average. For all products, the EU frequency ratio is almost 94%, compared to 45.6% for SMCs and about 41% for ROW. For the EU, in fourteen out of the sixteen sectors, the EU frequency ratio is above 80%. The two sectors with lower frequency ratios are fuel products (66.7%) and minerals (57%). It can therefore be deduced that almost all goods imported by the EU face at least one NTM.

As far as the averages across the covered SMCs are concerned, the sectors with the highest frequency ratios are vegetables (99%), animal products (96%), food products (93%), and it is worth noting that these frequencies are higher than in the case of the EU. The lowest averages are recorded for minerals (9%), metals (16%) and stone and glass products (21%). Sectors with moderate NTM frequencies include hides and skins (74%), footwear (73%), and textiles and clothing (63%). We thus see that SMCs' imports face similar frequency patterns of NTMs as the ROW grouping with the difference that SMCs do record slightly higher frequencies and there are some small differences in the ordering across the sectors.

With 58% of all 6-digit HS products facing at least one NTM, Tunisia records the highest frequency ratio in the region, followed by Algeria (53%), Morocco (46%) and Lebanon (26%). Except for Lebanon, these ratios are somewhat higher than the 41% on average for ROW. There are also many country specificities when it comes to NTM frequencies pattern across the sectors

rice, marble and granite blocks". There is also no information on the change in the number of NTMs actually applied since 2010.

which might be linked qualitatively to countries' comparative advantages as well as the adopted industrial development policies documented in the literature and discussed with specialists and civil society during the consultations. Below, the frequency ratios of each SMC are compared with those of the EU and RoW.

Tunisia records higher NTM frequency ratios than the ROW across 14 out of the 16 sectors covered (the exceptions being minerals and fuels). Tunisia's ratios seem particularly high in footwear, textiles and clothing and transportation products. These sectors encompass activities where Tunisia participates in international, and particularly European, supply chains, which may suggest a policy stance trying to increase the part of the value added, which is being added in Tunisia (i.e. by discouraging sourcing from outside and encouraging sourcing from within Tunisia with the use of NTMs). But this is only a hypothesis and, if indeed applied, such a strategy would also risk lower than potentially possible levels of integration into the international supply chains.[207]

Algeria presents an unusual pattern of NTMs in that it does not seem to maintain them in the footwear, and hides and skins sectors, while it has much higher frequencies than the ROW grouping in textiles and clothing, chemicals and transportation products. In the case of the two latter sectors, if NTMs were applied for protectionist purposes, this pattern would be consistent with the policy stance signalled to the analytical team during the consultations whereby relatively high NTMs are applied in sectors where there are expectations on the part of the government as well as the public that more value should be added in these sectors within Algeria. Many stakeholders complained that currently most intermediate inputs of these sectors are imported and merely assembled in the country into the final products. In contrast, Algeria has much lower frequencies of NTMs than the ROW on imports of metals, stone and glass and plastic and rubber.

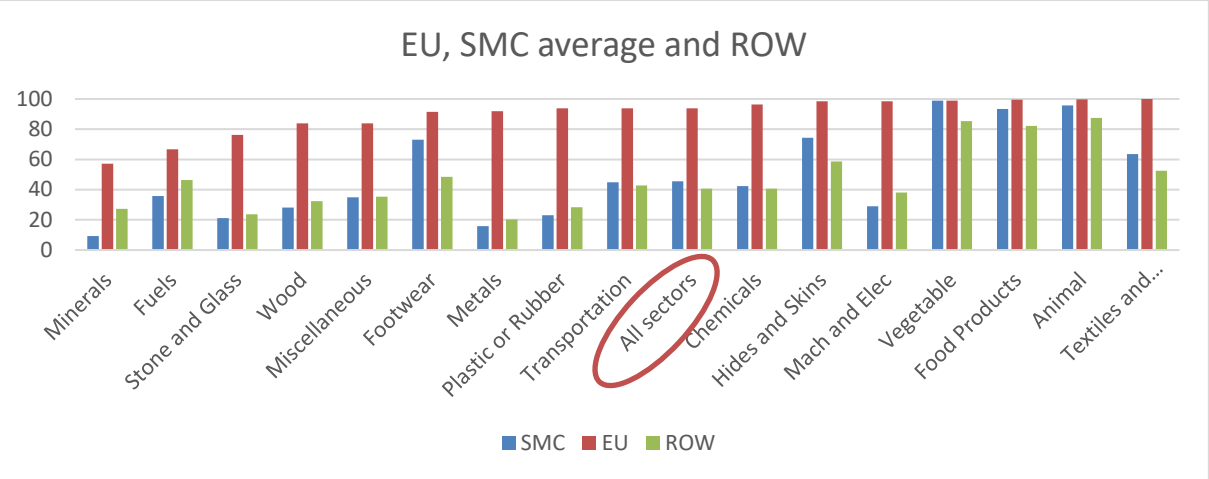
Morocco's cross-sectoral NTM frequency profile follows largely that of ROW although Morocco seems to apply NTMs to a much larger share of products in sectors such as hides and skins, fuels, and vegetable and animal products. In contrast, it applies fewer NTMs in minerals, transportation, machinery and electrical and chemical products. The latter products categories are the ones which involve much trade in intermediate products and parts and components, suggesting that the country has an NTM profile conducive to its participation in international supply chains in these sectors. Morocco is indeed a country that has made a relatively good progress integrating with global and European value chains.

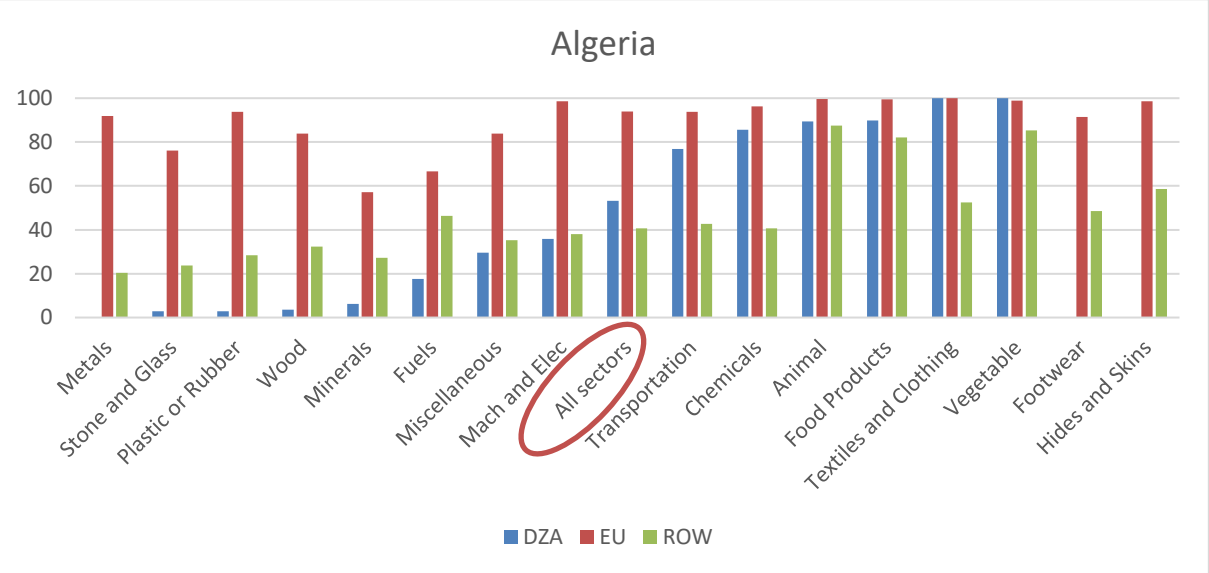
For **Jordan**, the frequency indices are lower than those of ROW except in six sectors: fuels, food products, chemicals, transport, miscellaneous, and machinery and electrical. As in all other SMCs, these indices are high for vegetables and animal products. In the other half of the sectors (i.e. eight out of the sixteen), few products are affected by an NTM since the frequency indices are below about 20%.

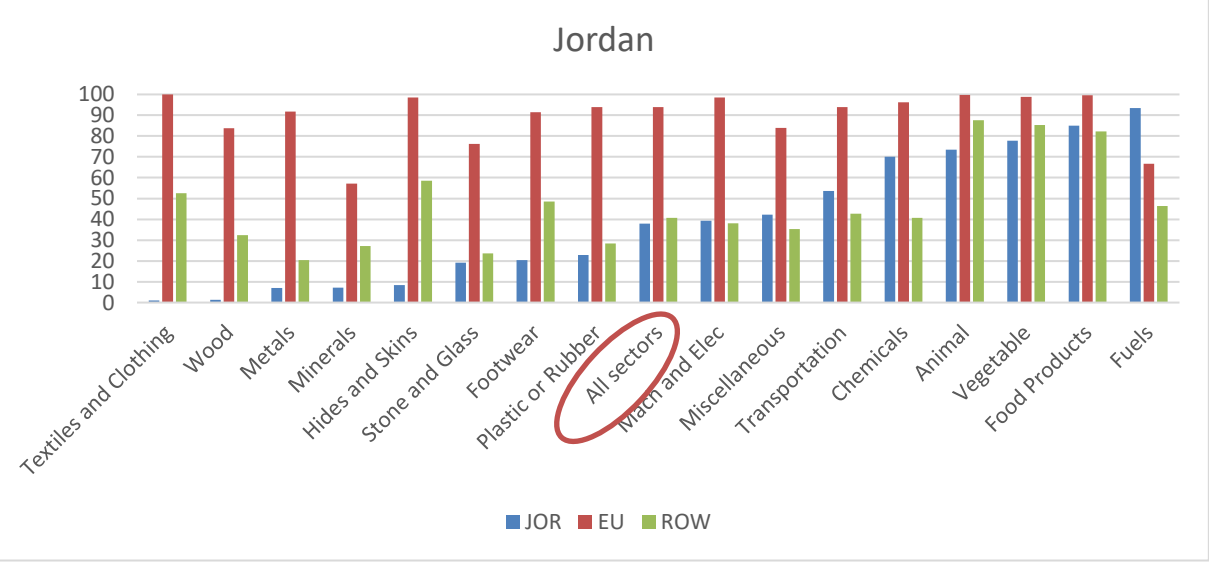
While, compared to the other SMCs, **Lebanon** records lower NTM frequencies across all the sectors, it records some of the highest frequency ratios in the three agro-food sectors: animal, vegetable and food products. These are also the sectors where the country holds comparative advantage, suggesting that some of the NTMs might be used as protection of its domestic agro-food market. This seems to be supported by the fact that the country has generally lower NTM frequencies than ROW in all other product categories.

[207] An alternative explanation could be however that the high incidence of NTMs in this sector is driven by high degrees of supply chain integration as high quality standards are a known to be its important element. However, the latter hypothesis is not supported by the relatively low share of TBTs in Tunisia's NTM and a relatively high shares of non-technical measures (Table 3.57).

Figure 3.43 NTM Frequency ratio by sector, comparison between EU, SMCs and the ROW*







Note: *Rest of the world category (ROW) means all countries less the EU and SMCs. Sectors are ordered by frequency for the country in question. The average for *All sectors* is marked to facilitate comparison of sectors with lower/higher than average frequencies.
Source: UNCTAD NTMs TRAINS Database (https://trains.unctad.org/) as extracted from WITS.
For Jordan, the frequency index by sector has been calculated by the authors.

Towards assessing the potential impact of NTMs on trade

The presented descriptive analysis of the extent of use of NTMs by the EU and SMCs says relatively little about the impact of these NTMs on trade. Even if the EU uses NTMs more frequently than SMCs across the different sectors and even if patterns of NTMs in SMCs might suggest NTMs in these countries may be used with protectionist or industrial policies in mind, it is hard to argue that these trade or industrial policy undertakings are focused on, or are impacting disproportionately, bilateral trade between the EU and SMCs. This is because NTMs are in theory to be applied by law in the same way to all imports. In addition, in the EU in particular, the small share of trade between the EU and SMCs in EU's overall trade suggest additionally that its overall NTM policies are unlikely to be driven by considerations specific to Euro-Med trade. This is less so for the SMCs for which trade with the EU is relatively more important.

In practice, however, Euro-Med specific, or even EU member or SM country-specific, effects of NTMs are possible for a number of reasons. First the practical application of NTMs to imports coming from different sources countries may entail some biases. This could be the case, for example, if NTMs are enforced differently depending on the point of entry into the territory (e.g. specific airports, ports and border crossings) and such cases were brought to the attention of the evaluation team during local consultations in the SMCs.[208] However, there are no regular data on differences in enforcement and drawing any general observations is difficult and beyond the scope of this exercise. Therefore, for imports to the EU, the only 'bilateral' dimension of NTM policy, which can be illustrated using the available data, is to look again at frequencies of EU NTMs, augment them with recently estimated ad valorem equivalents of NTMs by sector, and compare them with sectoral distribution of SMC's export to EU for each country. Such a comparison can tell us whether EU's NTMs are concentrated in sectors of special export interest to SMCs and whether they tend to be those associated with relatively high ad valorem equivalents (AVEs) which proxy for trade restrictiveness of these measures.[209] As far as SMCs' own NTMs are concerned, imports from the EU account for much larger shares of SMCs' and thus it is more likely that bilateral concerns may be affecting NTM policies of these countries more directly. In this case, too, juxtaposing the sectoral NTM frequencies with trade shares can be a useful additional piece of information.

It is for these reasons that the remainder of this sub-section presents a graphical analysis of sectoral NTM frequency ratios, the estimated ad valorem equivalents of the different types of NTMs as well as of bilateral trade shares. A high use of NTMs associated with high AVEs in a given sector might mean that the trade of goods in this sector is more constrained by NTMs than trade of goods in other sectors. The ad valorem equivalents used for the purposes of this exercise come from Cadot et al. (2018) who estimated them for each HS 1-digit products category (HS section) and by NTM type using global trade and UNCTAD's NTM data.[210]

Incidence of NTMs in the EU

In Figure 3.44, which juxtaposes sector-level NTM AVEs with sectoral NTM frequency ratios for the EU as importer, we see that, in general, there seems to be a positive correlation between NTM frequencies and estimated AVEs. The sectors seemingly most affected by NTMs are positioned in the upper right-hand quadrant, as these sectors have both relatively high AVEs and high frequency ratios. Food products, wood, transport, animal products and, albeit to a lesser extent, textiles and clothing, hides and skins, and plastic and rubber are examples of products in this category. Minerals and metals, on the other hand, are examples of product imports which seem less affected by NTMs.

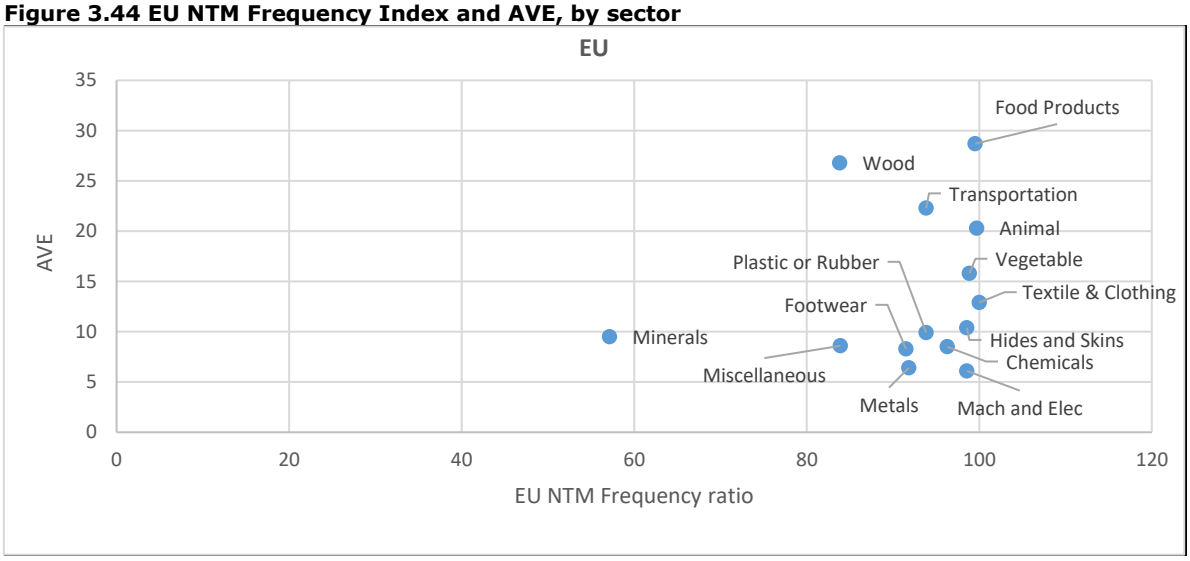
Figure 3.45 juxtaposes the EU's NTM frequencies with shares of specific sectors in individual SMCs' exports to the EU. We see that exports of Algeria and Egypt are likely to be affected relatively less by the EU's NTMs because exports of these countries are heavily (albeit less so for Egypt) concentrated in fuels, which are characterised by relatively low NTM frequencies and

[208] During consultations in Morocco, for example, the stakeholders have been reporting that procedures related to the NTMs can be very different depending on the port to which SMCs' products are shipped to the territory of the EU.
[209] Recall that a high ad valorem equivalent estimated for an NTM does not necessarily mean a negative effect on trade. In fact, some NTMs which at the same time impact positively the price of a traded products as well as its quality can entail the product to be traded more willingly after an introduction of the NTM.
[210] These estimates of ad-valorem equivalents of NTMs come from column 6 in Table 2 in Cadot et al. (2018).

that they export very little in product categories in which the EU has high NTM frequencies. In Egypt, vegetable products and chemicals still account for considerable shares of the country's exports to the EU and these have relatively high NTM frequency ratios. This is even more the case for Jordan, Lebanon, Morocco and Tunisia. In Morocco and Tunisia, for example, the transportation sector products account for around 40% of these countries exports to the EU, and they do face a relatively high frequency of NTMs in the EU. Another example is miscellaneous manufacturing products which account for high shares of exports for the EU to Jordan, Lebanon, Morocco and Tunisia, although, in this case the AVEs estimated by Cadot et al. (2018), are relatively low (Figure 3.45).

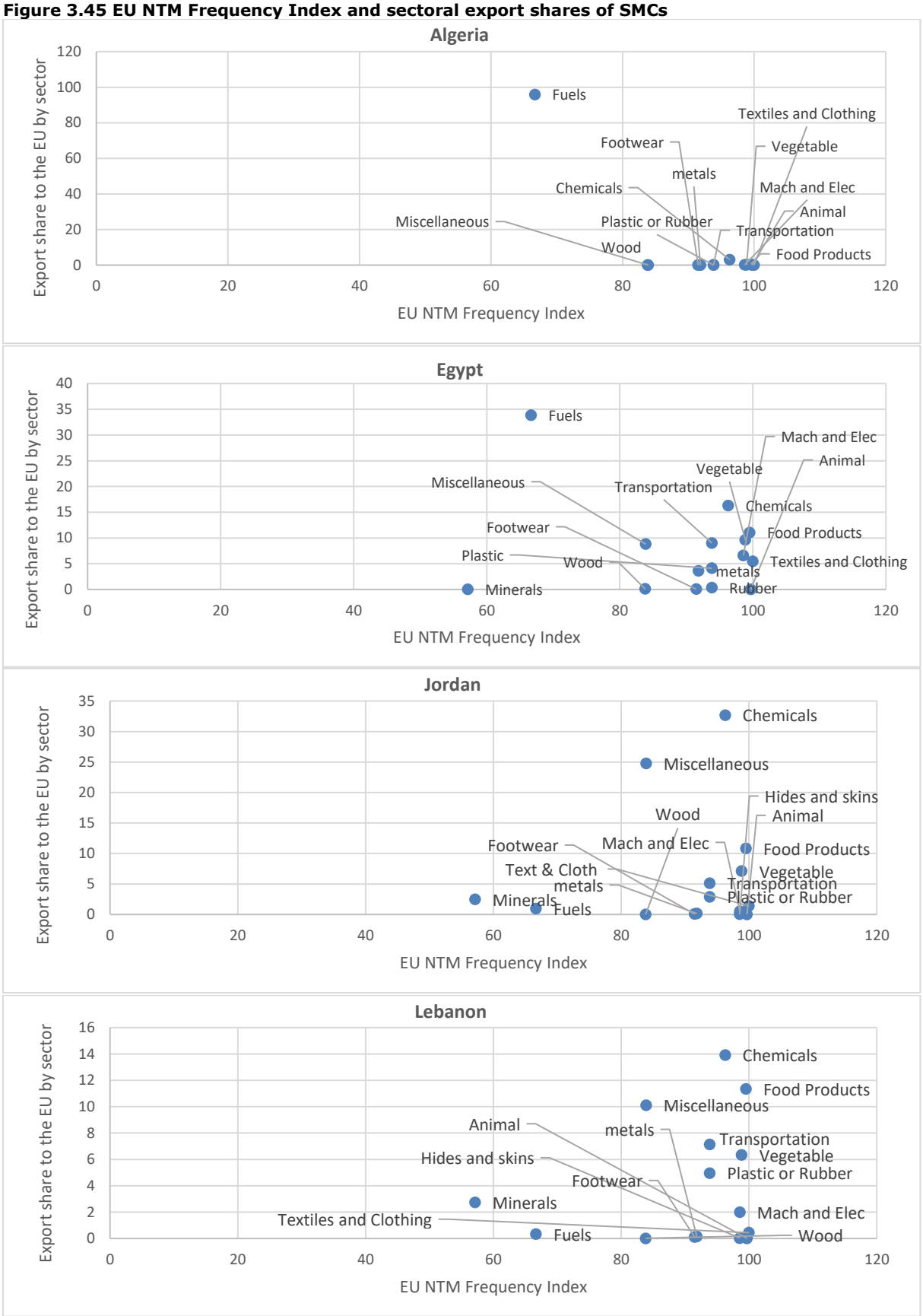
While exports structures of SMCs vary enough to observe that these countries do not export to the EU only in product categories where NTMs are less frequent or impose lower costs, it cannot be excluded that there may be endogeneity in the sense that the actual structure of SMCs' exports may be affected by the pattern of NTMs. In principle, high frequencies of NTMs applied by the EU and the associated AVEs could be a barrier to the growth of these countries' exports to the EU in certain sectors. This fact must be held in mind when interpreting the figures.

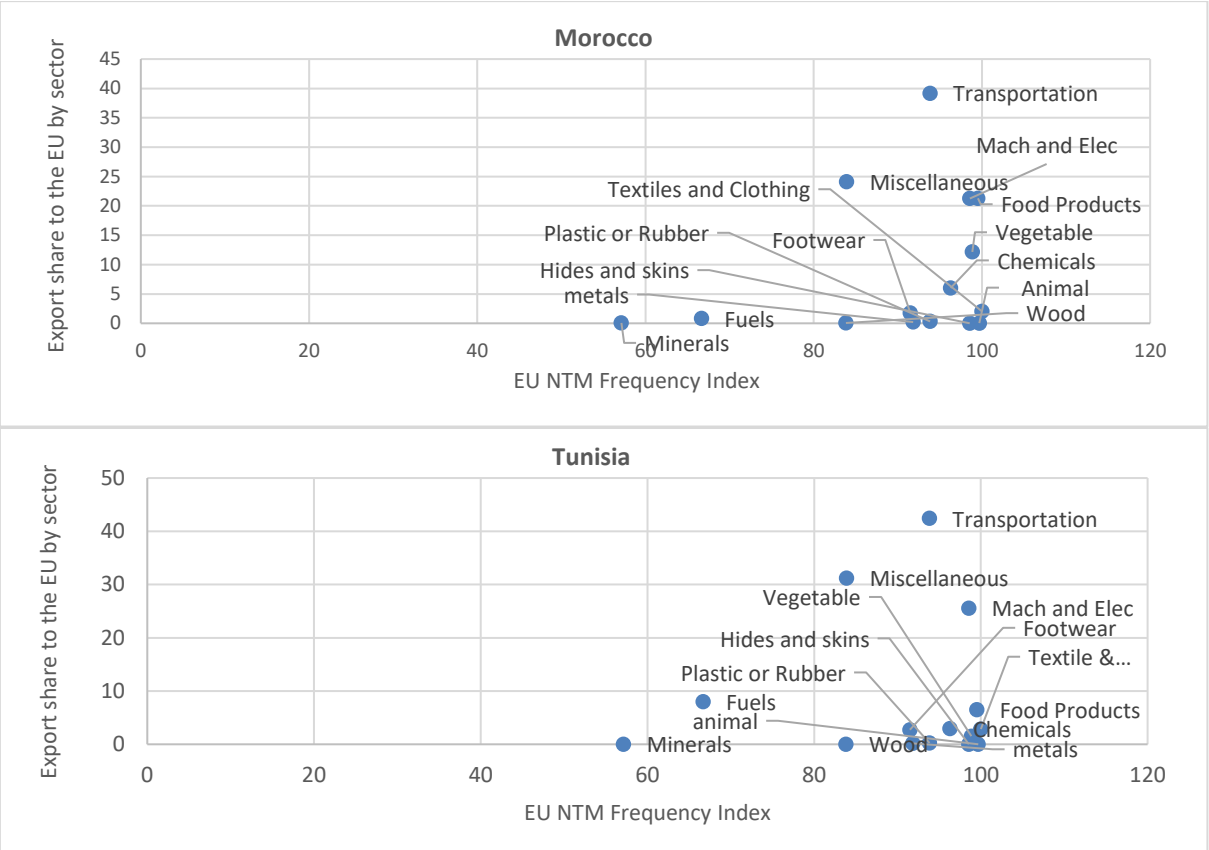
Figure 3.44 EU NTM Frequency Index and AVE, by sector



Source: UNCTAD NTMs TRAINS Database and Cadot et al. (2018).

Figure 3.45 EU NTM Frequency Index and sectoral export shares of SMCs





Source: UNCTAD NTMs TRAINS Database and own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

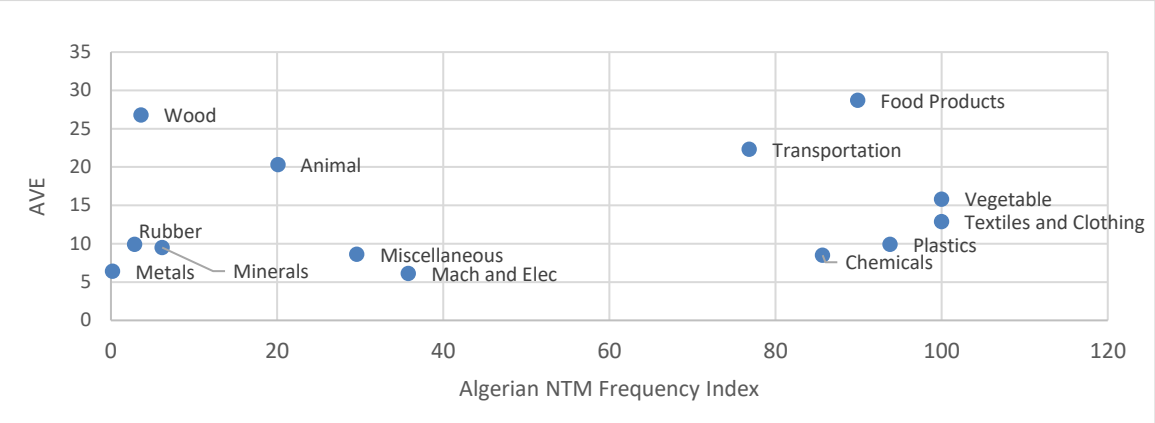
Incidence of NTMs in SMCs

Algeria

In Algeria, there are five sectors which are characterised by an AVE of more than 10% and high NTM frequency ratios (top right part of Figure 3.46). These are food, transportation, vegetables, textiles & clothing and plastics. To these five can be added chemicals that have a high frequency ratio and an AVE of 8.5%. The other sectors are rather located at the bottom left of the figure, suggesting that the effect of NTMs on trade is small. Among the six sectors for which it is relatively likely that the impact of NTMs may not be neutral to trade, the EU exports to the Algerian market significantly in three of them: transportation, chemicals and food. The shares of these sectors in EU's exports to Algeria are significant; at 35%, 17% and 13%, respectively (Figure 3.47).

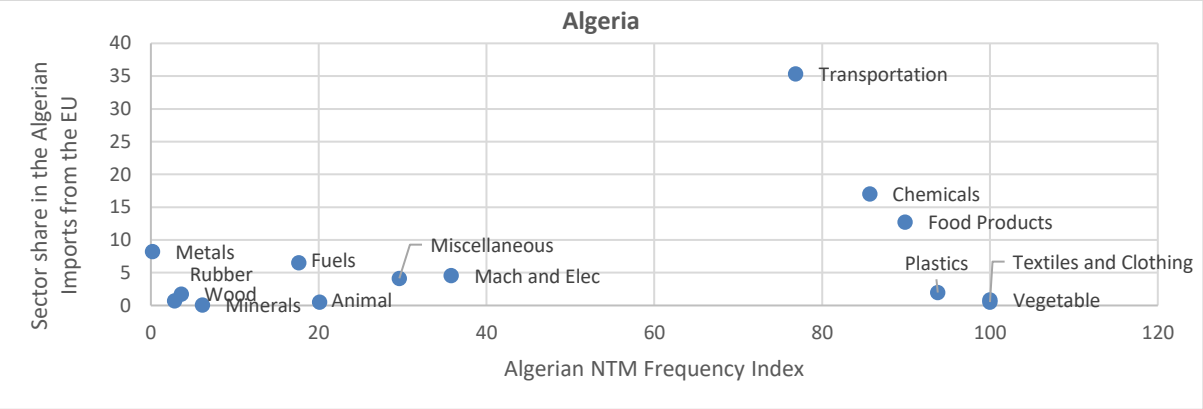
This suggests that Algeria's NTMs are likely having an impact on how the effects of the FTA with the EU translate to the domestic economy. These effects are likely to be lower import volumes and/or higher prices of these imported products paid by the Algerian consumers. In Algeria, given the high concentration of its exports in a few hydro-carbon products and an almost complete reliance of imports of virtually all remaining products from abroad (mainly from the EU), this suggests that any negative price or trade effects of these measures are born by the Algerian consumers (including firms which rely on imported intermediate inputs). This seems particularly the case for imports of transportation, chemical and food products which account for significant shares of Algeria's imports from the EU and which are characterised by high NTM frequency ratios in the country.

Figure 3.46 Algeria: NTM Frequency Index and AVE, by sector



Source: UNCTAD NTMs TRAINS Database and Cadot et al. (2018).

Figure 3.47 Algerian NTM Frequency Index and sector shares in Algerian imports from EU



Source: UNCTAD NTMs TRAINS Database and own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Egypt

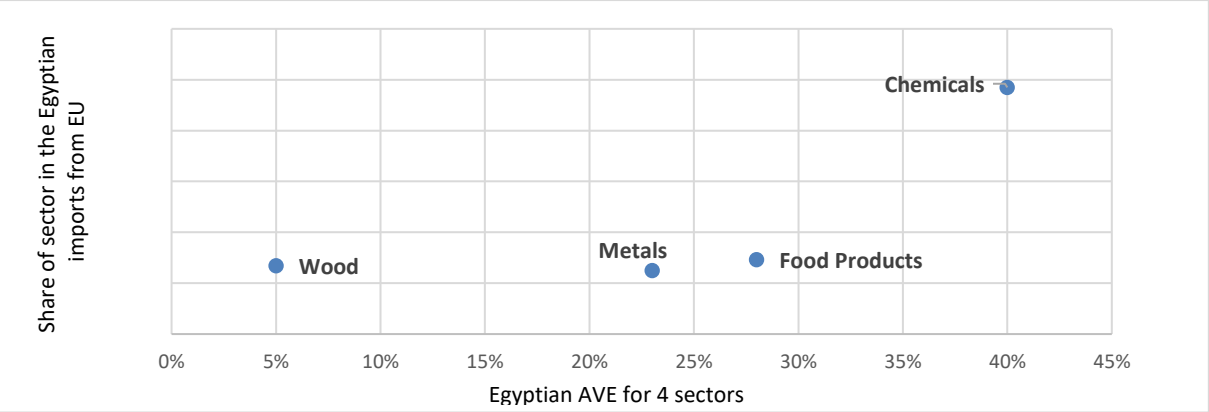
For Egypt, data on the number of NTMs and the frequency index are not available. In this case, the assessment of the magnitude of trade restrictiveness generated by the NTMs can be made only based on the already estimated AVEs. The estimates made by Peridy and Ghoneim (2015) and by Cheminghi et al. (2016), presented in Table 3.21, give, for Egypt, the same AVE value (22%), which is, in both papers, the lowest value among SMCs (together with Morocco in Peridy and Ghoneim, 2015).

Cheminghi et al. disaggregate the AVE estimate by product group although data are only available for 4 sectors. Figure 3.48 puts into perspective the AVE of these sectors and their share in Egyptian imports from the EU. It can be seen that the chemical sector with the highest AVE value (40%) is also the sector that accounts for almost 10% of Egyptian imports from the EU. Food products and metals, whose share of imports from the EU is less than 3%, have an AVE of 28% and 23%, respectively. It cannot be excluded that in these three sectors (chemical, food products and metals), NTMs may constitute a barrier to the entry of EU products into the Egyptian market. In the wood sector, on the other hand, the share of Egyptian imports from the EU is equivalent to that of food products and metal, but NTMs do not seem to be a problem as the AVE value is only 5%.

Table 3.21 NTM AVE estimations in the SMCs

	Algeria	Egypt	Jordan	Lebanon	Morocco	Tunisia
Peridy and Ghoneim (2015)	36%	22%	33%	28%	22%	23%
Cheminghi et al. (2016)	na	22%	na	33%	40%	45%

Figure 3.48 Egyptian AVE and sector shares in Egyptian imports from EU

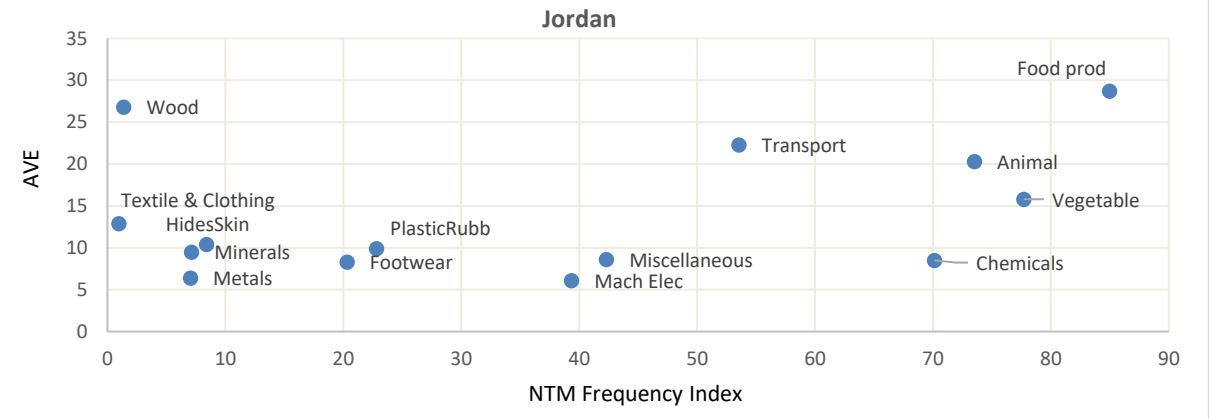


Source: Chemingui et al. (2016) and own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Jordan

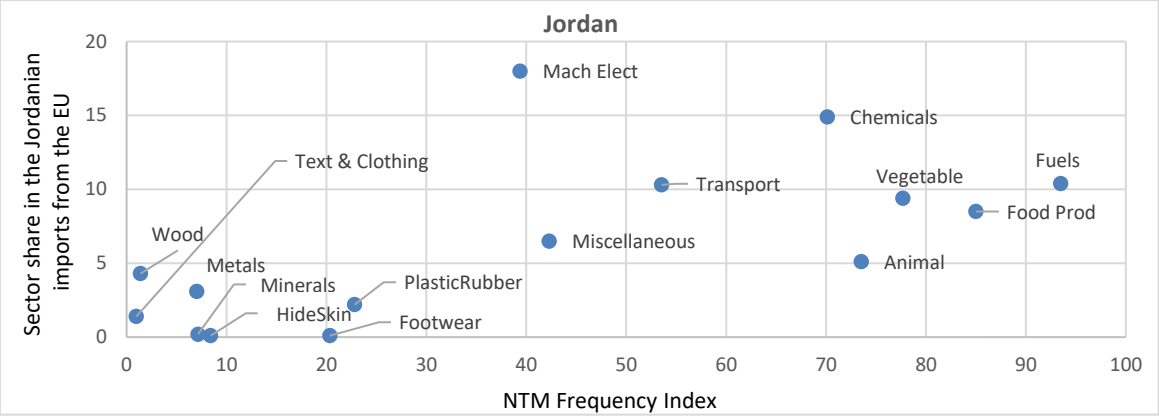
For Jordan, data on the frequency index was not readily available from WITS but it could be calculated on the basis of raw NTM data provided in WITS in order to build the Figures 3.49 and 3.46. In Figure 3.49, the three agricultural sectors and transportation have both a high frequency index and a high AVE. The frequency index in the chemical sector is also high (70%) but the AVE value is low (8.5%). Two other sectors (miscellaneous and machinery electrical) have a frequency index around 40% but again with a low AVE (between 6% and 8%). The other sectors are all located on the left side of the graph, indicating that NTMs do not constitute a real constraint on product entry into the Jordanian market, with the possible exception of a few tariff lines in the wood sector (whose AVE is around 27%, with a frequency index of 1.4%). Figure 3.50 shows that the sectors most affected by NTMs are also those that are the most exported by the EU. This means either that European importers are not hindered by the NTMs applied by Jordan, or that they could increase their product inflows if they were not constrained by these NTMs. It can therefore be inferred that NTMs do not appear to be an obstacle limiting Jordanian imports from the EU, even if some doubt remains regarding the 4 or 5 sectors that have been identified (i.e. food, animal, vegetable, transport and chemicals).

Figure 3.49 Jordanian NTM Frequency Index and AVE, by sector



Source: Own calculation on the basis of data from UNCTAD NTMs TRAINS Database and Cadot et al. (2018).

Figure 3.50 Jordanian NTM Frequency Index and sector shares in Jordanian imports from EU

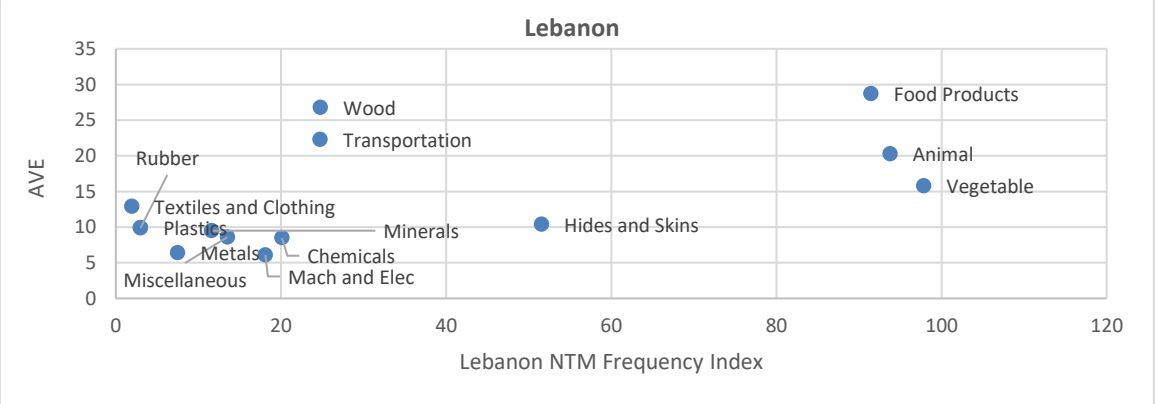


Source: Own calculation on the basis of data from UNCTAD NTMs TRAINS Database and from UN-Comtrade Database, extracted from WITS.

Lebanon

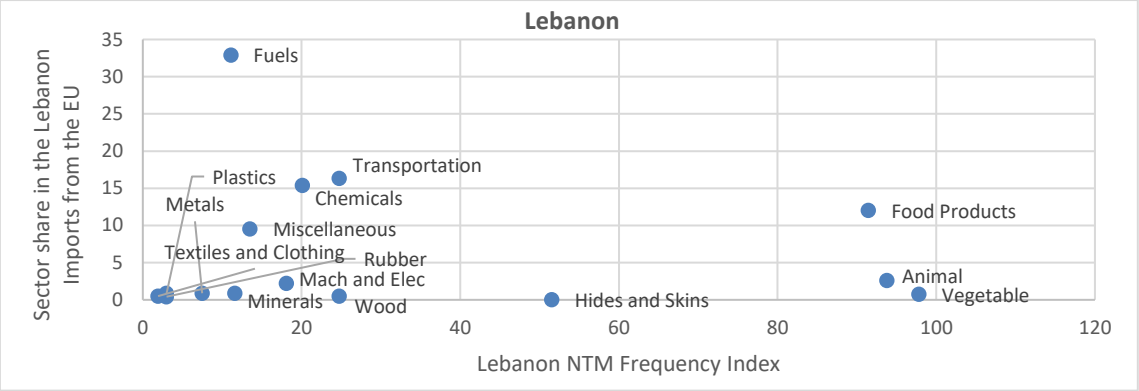
In Lebanon, only three sectors (food, animal and vegetables) are positioned at the top right of Figure 3.51, indicating both that, on the major part of their products imported by Lebanon, at least one NTM is applied and that their AVE is high (29% for food, 20% for animal and 16% for vegetables). However, these sectors represent relatively low shares in Lebanese imports from the EU (12% for food, 2.6% for animal and 0.7% for vegetables, Figure 3.48). Apart from the hides and skins, wood and transport sectors, which are in an intermediate position (average frequency index and AVE of 10% for hides & skins, low frequency index and high AVE for wood and transport), all the other sectors have both a low frequency index and a reduced AVE. They are therefore positioned at the bottom left of the Figure 3.52, indicating that in these sectors, NTMs are not expected to have much impact on Lebanese imports from the EU.

Figure 3.51 Lebanon NTM Frequency Index and AVE, by sector



Source: UNCTAD NTMs TRAINS Database and Cadot et al. (2018).

Figure 3.52 Lebanon NTM Frequency Index and sector shares in Lebanon imports from EU

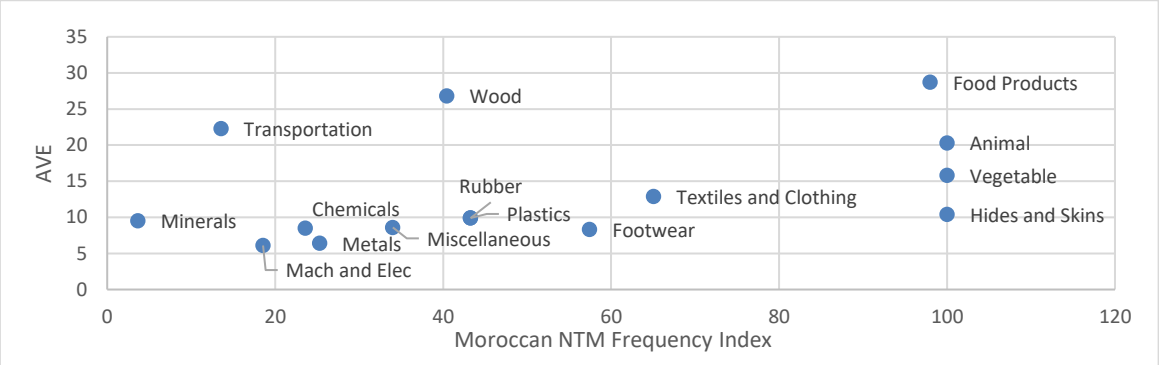


Source: UNCTAD NTMs TRAINS Database and own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Morocco

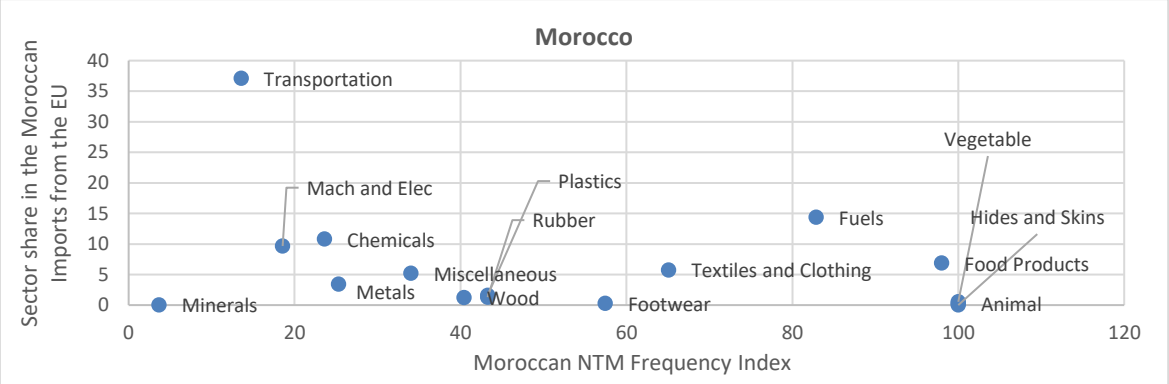
In the case of Morocco, food, animal and vegetable products as well as hides and skins record relatively high frequency rations as well as AVEs (Figure 3.53). In the textiles and clothing sector, the frequency ratio is moderately high (65%) and the AVE is 13%. However, these sectors all represent a small share of the EU's exports to Morocco (7% for food, 5.7% for textiles & clothing, and less than 1% for animal, vegetables, and hides and skins) (Figure 3.54). Transportation equipment, which alone accounts for more than 35% of EU's exports to Morocco, as well as machinery and electrical equipment, chemicals and, albeit to a lesser extent, fuels, which also account for non-negligible shares of EU exports to the country, face relatively infrequent NTMs. This suggests that the structure of Morocco's NTMs is relatively favourable to bilateral exchanges.

Figure 3.53 Moroccan NTM Frequency Index and AVE, by sector



Source: UNCTAD NTMs TRAINS Database and Cadot et al. (2018).

Figure 3.54 Moroccan NTM Frequency Index and sector shares in Moroccan imports from EU



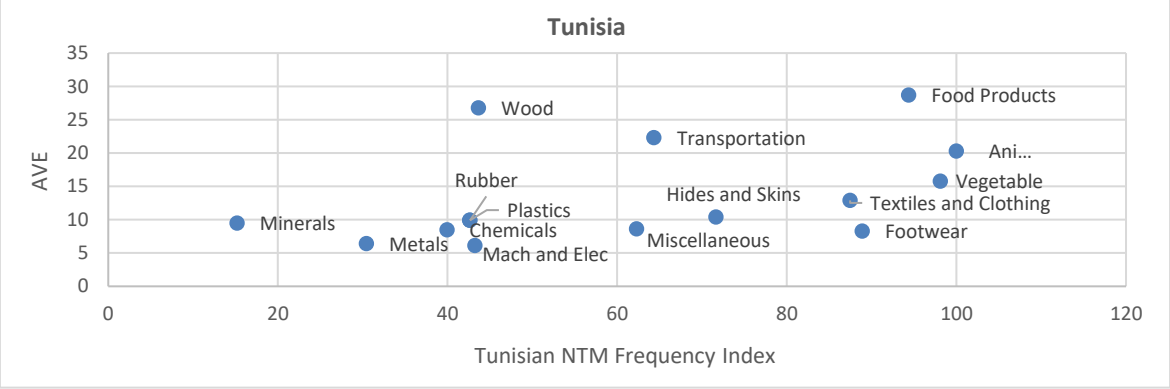
Source: UNCTAD NTMs TRAINS Database and own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Tunisia

In Tunisia, we find, in the upper right-hand part of Figure 3.55, that food and vegetables follow a similar pattern to Algeria, Jordan, Lebanon and Morocco while the animal products sector is comparable to Jordan, Lebanon and Morocco. In addition, in the case of Tunisia, there are textiles & clothing (with a frequency ratio of more than 87% and an AVE of 13%), as well as footwear (with a frequency ratio of 89% and an AVE of 8.3%). Among these sectors, the share in EUs exports to Tunisia is the highest for textiles and clothing (8.3%), followed by food products (5.7%), while for the other three sectors (vegetables, animal and footwear) the share of imports from the EU is less than 1% (Figure 3.56). While in the case of textiles and clothing, it likely that it is the producers or processors of intermediate textiles and clothing products (if which many are owned by European companies) that are most affected, in the case of food products, it is likely Tunisian consumers. The sector which records the highest share in EU's exports to Tunisia is transportation products and this sector has both a relatively high frequency ratio (64%) and a moderately high AVE (22%).

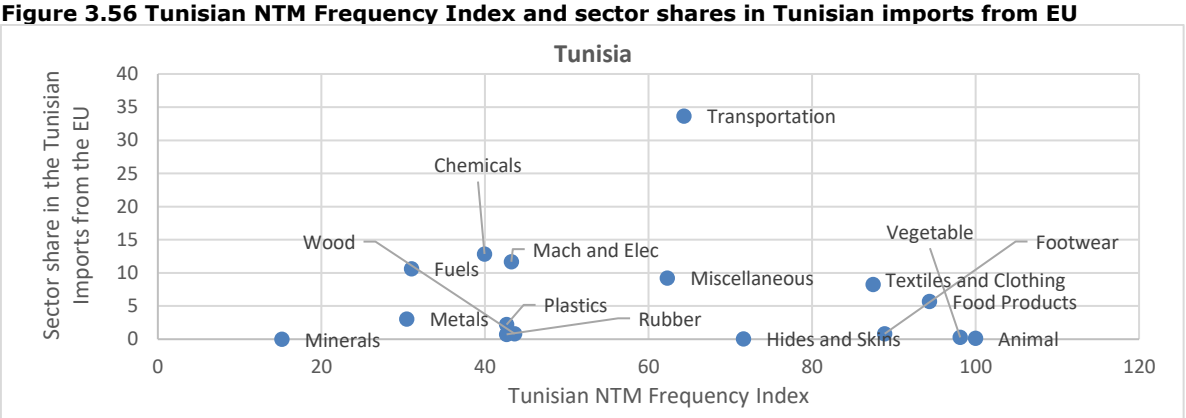
Compared to the other three countries, there are fewer sectors at the bottom left of Figure 3.55, indicating a low frequency ratio and a low AVEs. In Tunisia, the sectors in which goods are imported are mostly between a frequency ratio of between 40 and 70%, with AVEs between 6% (for machinery and electrical equipment) and 43% (for wood). Consequently, among the SMCs for which data exist, it is probably in Tunisia where NTMs are slightly more constraining on European imports.

Figure 3.55 Tunisian NTM Frequency Index and AVE, by sector



Source: UNCTAD NTMs TRAINS Database and Cadot et al. (2018).

Figure 3.56 Tunisian NTM Frequency Index and sector shares in Tunisian imports from EU



Source: UNCTAD NTMs TRAINS Database and own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

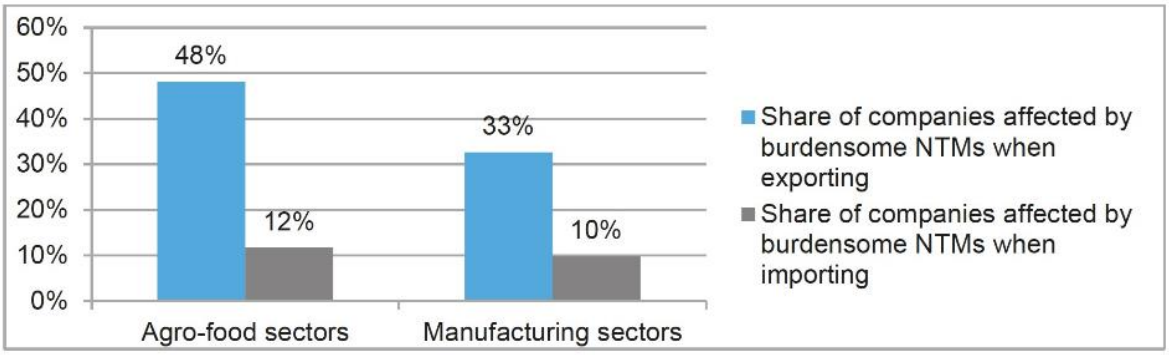
3.5.4.5. Global incidence of NTMs: the firms' perception

Another source of information on NTMs in the region are the ITC surveys[211] conducted among companies in 24 countries, including in Egypt, Jordan, Morocco and Tunisia, as well as in the EU. These surveys provide information on firm perceptions of burdens associated with NTMs.

The perception of NTMs by European firms exporting to and importing from SMCs

Among the EU firms, 36% of exporters reported restrictive regulations or related obstacles that act as important impediments to their export activities (against 50% on average for developing countries covered in the sample). These constraints appear to be perceived as more burdensome by exporting firms operating in the agricultural sector (48% reporting restrictive regulations) than by firms in the manufacturing sector (33%). EU's importers report to be constrained less than exporters in both the agricultural and manufacturing sectors (12% and 10% of importing firms reporting restrictive regulations respectively) (Figure 3.57).

Figure 3.57 Share of EU firms affected by burdensome NTM by main sector



Note: A company is considered to be 'affected' if it declares that at least one of its products is adversely affected by a regulation applied by one of its partner countries, its home government or the EU.
Source: Navigating Non-Tariff Measures: Insights from a Business Survey in the European Union (ITC business survey in the EU, 2015-2016).

The survey distinguishes between 150 destination markets. Table 3.22 shows, for each SMC and a number of comparator countries, the number of export transactions reported by EU firms to face burdensome NTMs, the number of transactions that are not and the resulting percentage of transactions reported as facing burdensome NTMs. The first column gives the ranking of the country according to the number of products exported that are reported to face burdensome NTMs. The top 6 of these partners and Turkey have been added in Table 3.22. Figure 3.58 shows the last column of the Table 3.22, i.e. the percentage of transactions that were reported to face burdensome NTMs. It follows that SMCs are not, for EU firms, the partners with the most constraining NTMs. In terms of the number of transactions facing the NTM constraint, we can find Egypt (12th), Algeria (22nd), Morocco (26th), Tunisia (30th), Lebanon (47th) and Jordan (49th). In terms of the percentage of European transactions facing the NTM constraint, the first SMC is Lebanon (69.3%) followed by Algeria (60.4%), Egypt (59.3%), Jordan (47.3%), Morocco (46%) and Tunisia (45.6%). However, considering their long-standing cooperation and the implementation of trade agreements for at least 15 years, one might have expected lower percentages and thus more fluidity in trade flows from the EU to SCMs.

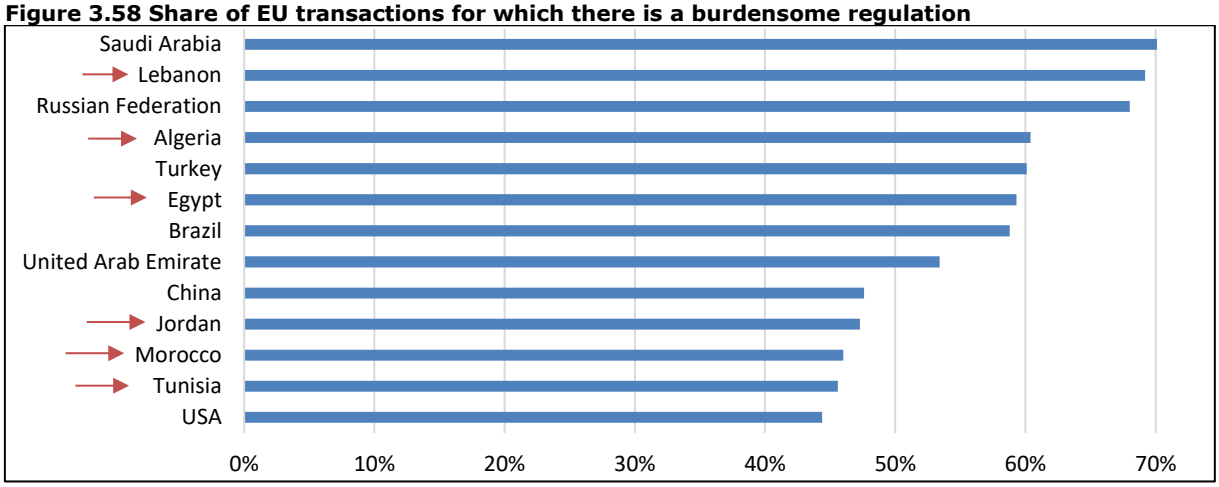
[211] NTM Survey results are available at www.ntmsurvey.org.

Table 3.22 EU Transactions facing burdensome NTMs by destination for SMCs and some other partners

	Ranking for the number of transactions for which there is a burdensome regulation	Number of transactions for which there is a burdensome regulation	Number of transactions for which there is NO burdensome regulation	Share of transactions for which there is a burdensome regulation
Egypt	12	134	92	59.3%
Algeria	22	84	55	60.4%
Morocco	26	69	81	46%
Tunisia	30	51	61	45.6%
Lebanon	47	27	12	69.2%
Jordan	49	26	29	47.3%
Russian Federation	1	609	287	68%
USA	2	455	570	44.4%
China	3	356	392	47.6%
Saudi Arabia	4	235	100	70.1%
United Arab Emirates	5	227	198	53.4%
Brazil	6	217	152	58.8%
Turkey	8	190	126	60.1%

Source: Navigating Non-Tariff Measures: Insights from a Business Survey in the European Union (ITC business survey in the EU, 2015-2016).

Figure 3.58 Share of EU transactions for which there is a burdensome regulation



Source: Navigating Non-Tariff Measures: Insights from a Business Survey in the European Union (ITC business survey in the EU, 2015-2016).

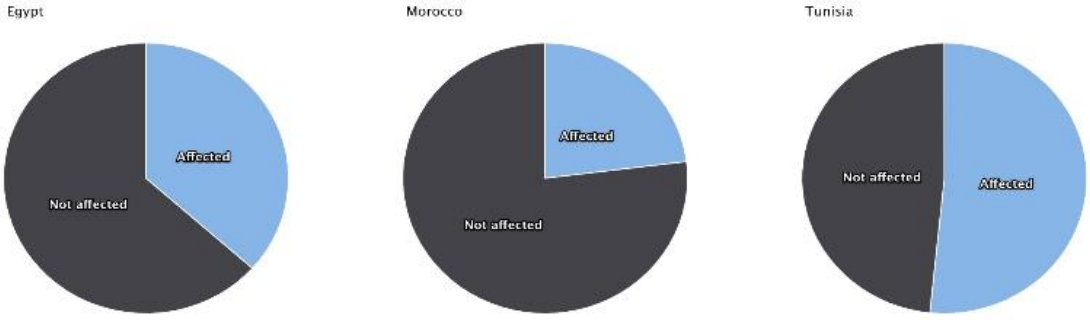
The perception of NTMs by SM firms (Egypt, Jordan, Morocco and Tunisia[212])

Burdensome NTMs are reported to affect 51.6% of exporting firms in Tunisia, 36.6% in Egypt and 23% in Morocco (Figure 3.59). For Tunisian and Egyptian importers, these shares are almost identical (49.1% and 33.5% respectively), but higher for Moroccan importers compared to exporters (Figure 3.60). For Jordan, the proportion of these companies is 64% when they export or import (Figure 3.61). It is thus striking that that SM firms report to be affected equally or more by NTMs related to importing than NTMs related to exporting, as this suggests that

[212] For Egypt, Morocco and Tunisia, the NTMs data are available online at www.ntmsurvey.org, but not for Jordan. For this country, the figures/tables come from the ITC report on NTMs in Jordan (2018). There is no date for Algeria and Lebanon.

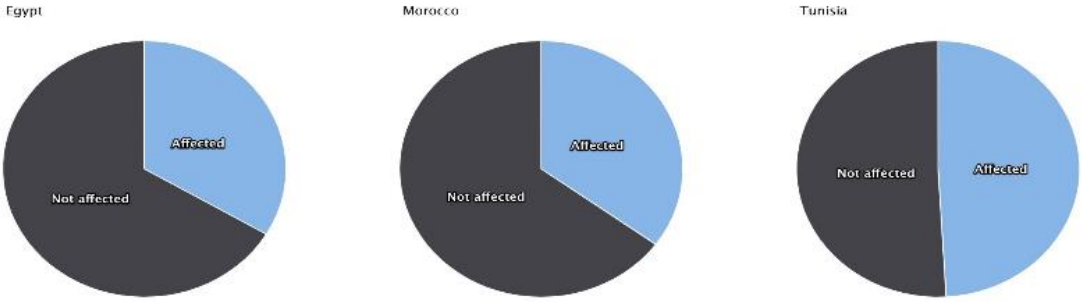
these countries own NTM regimes may be more restrictive that those faced in export markets (and these tend to be mainly EU markets).
The results of the enterprise surveys indicate also a significant difference across sectors (Figures 3.59 to 3.65). Agricultural firms face more impediments to trade than manufacturing companies, both for those that exporters and those that are importers, with the exception of Tunisia where, in the manufacturing sector, 49.8% of import firms report being subject to constraining NTMs against 33.3% reporting this in the agricultural sector. In the case of Tunisian agricultural exporters, 84.2% of them claim to face restrictive NTMs, against 39.9% reporting this in the manufacturing sector.

Figure 3.59 Share of exporters affected by NTM-related obstacles, all sectors



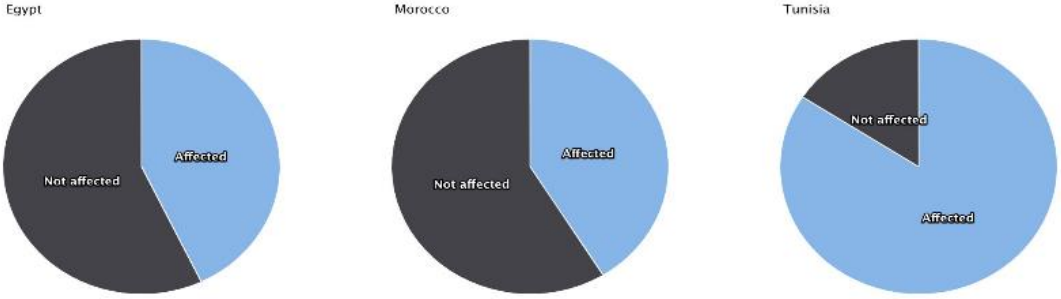
Source: NTM Business Survey (www.ntmsurvey.org), ITC.

Figure 3.60 Share of importers affected by NTM-related obstacles, all sectors



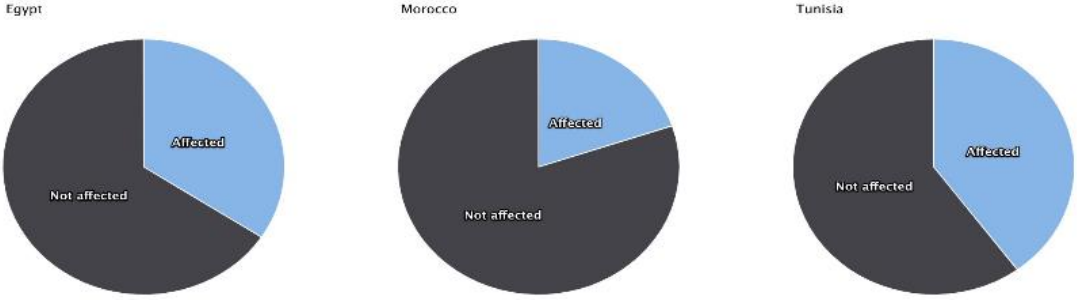
Source: NTM Business Survey (www.ntmsurvey.org), ITC.

Figure 3.61 Share of exporters affected by NTM-related obstacles in Agriculture



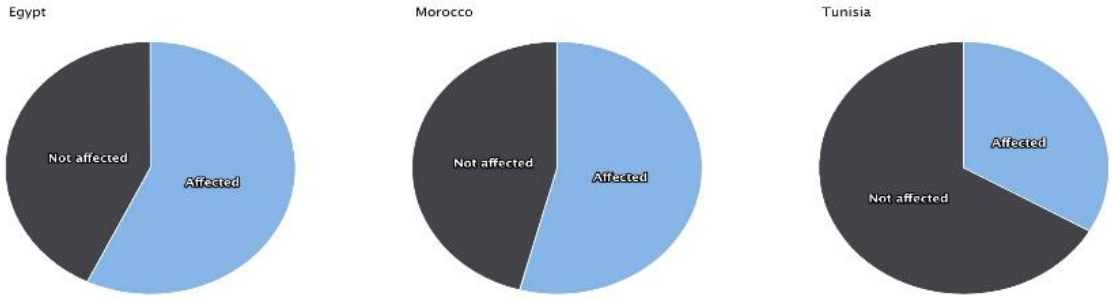
Source: NTM Business Survey (www.ntmsurvey.org), ITC.

Figure 3.62 Share of exporters affected by NTM-related obstacles in Manufacturing



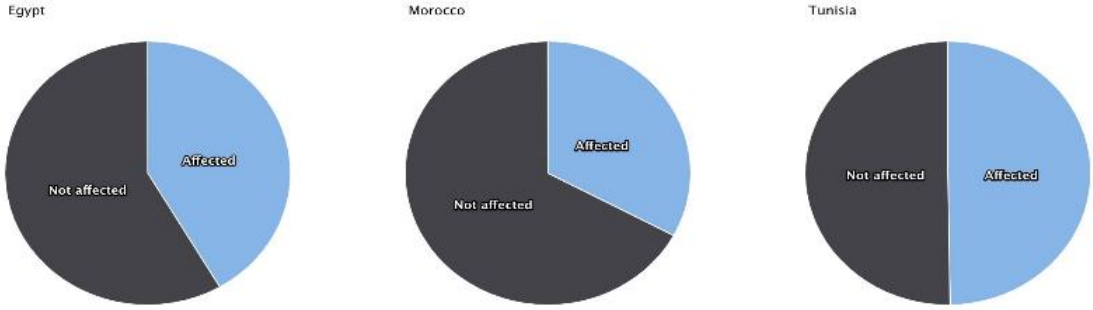
Source: NTM Business Survey (www.ntmsurvey.org), ITC.

Figure 3.63 Share of importers affected by NTM-related obstacles in Agriculture



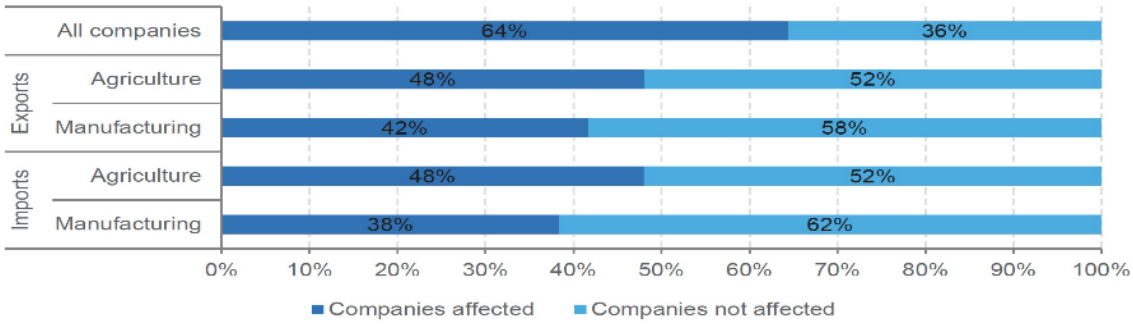
Source: NTM Business Survey (www.ntmsurvey.org), ITC.

Figure 3.64 Share of importers affected by NTM-related obstacles in Manufacturing



Source: NTM Business Survey (www.ntmsurvey.org), ITC.

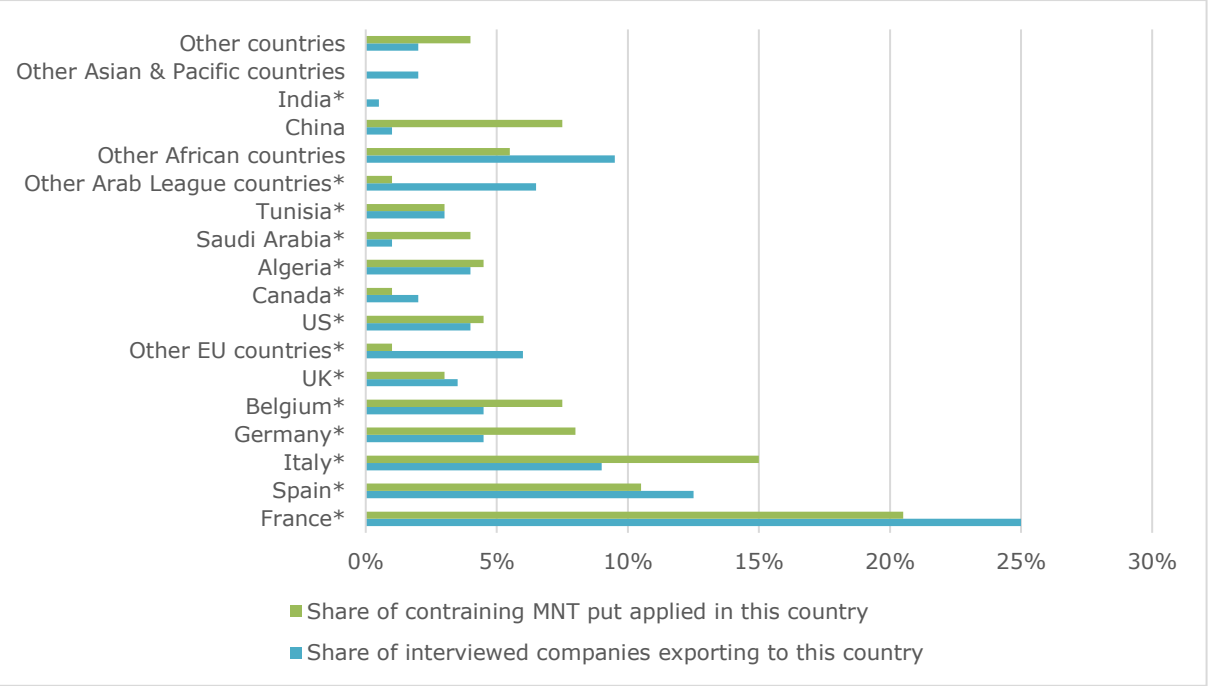
Figure 3.65 Share of companies affected by burdensome NTMs in Jordan



Source: ITC, NTM Business survey in Jordan, 2015–2016.

Enterprises affected by burdensome NTMs were asked to indicate which partners apply burdensome NTMs. In Egypt, Morocco and Tunisia, the EU is reported to be the partner of the exporting companies interviewed that applies the most constraining NTMs. In Morocco, more than one-third of the NTM cases reported by the enterprises are concern the EU. Figure 3.66 shows that France, Spain and Italy are the countries perceived to impose the most constraining NTMs. According to the ITC report (2012), it seems that, in addition to the European regulations common to the member countries, there are also country-specific procedures that represent additional obstacles for Moroccan exporting companies.

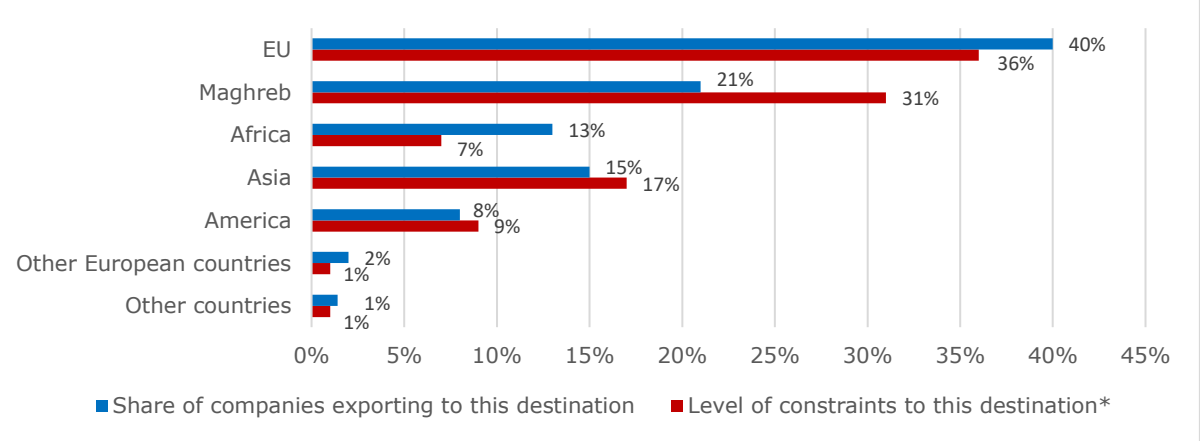
Figure 3.66 Who applies burdensome NTMs on Moroccan exports?



Source: ITC Report on NTMs in Morocco (2012).

In Egypt, the EU has the highest share of affected export firms (70.4%), followed by the COMESA (67.1%), the other agreements (63.5%), GAFTA (58.8%) and Agadir (51.5%) (Table 3.22). In Tunisia, the share of firms that export to each destination and the share of firms facing binding NTMs for each destination in the total number of firms facing binding NTMs is the highest in the case of the EU. Among the enterprises concerned by constraining NTMs, the highest proportion (36%) is recorded for companies exporting to the European market, followed by the Maghreb (31%), then Asia (17%), North America (9%) and Africa (7%) (Figure 3.67).

Figure 3.67 Who applies burdensome NTMs on Tunisian exports?



Source: ITC Report on NTMs in Tunisia (2014).
*Share of affected companies by burdensome NTMs to each destination in the total number of firms affected by burdensome.

In Jordan and Tunisia, it is the neighbouring countries that apply the most restrictive NTMs. In Jordan, countries in the League of Arab States are the source of 93% of all NTMs that export firms face. Saudi Arabia, Iraq and United Arab Emirates have the highest shares of affected Jordanian exporters (respectively 60%, 57% and 45%). On the European market, this share is only 20%, against 35% in the US market (Table 3.23).

Table 3.23 Who applies burdensome NTMs on Egyptian exports?

Region	Number of companies exporting to this destination	Number of companies affecting by burdensome NTMS	Share of affected exporters
GAFTA	519	305	58.8%
Agadir	101	52	51.5%
COMESA*	173	116	67.1%
EU	223	157	**70.4%**
Other agreements**	74	47	63.5%
ROW	113	60	53.1%

Source: ITC Report on NTMs in Egypt (2016).
*Ethiopia, Kenya, Libya, Madagascar, Sudan and Uganda.
**Mercosur, Russian Federation, United States and Turkey.

Table 3.24 Who applies burdensome NTMs on Jordan exports?

Region	Destination	Share of affected companies to this destination
League of Arab States (LAS)	Saudi Arabia	60%
	Iraq	57%
	United Arab Emirates	45%
	Kuwait	35%
	State of Palestine	38%
	Egypt	40%
	Qatar	27%
	Other LAS countries	26%
North America	United States of America	35%
	Canada	14%
Asia		15%
EU		**20%**
ROW		24%

Source: ITC, NTM Business survey in Jordan, 2015–2016.

3.5.4.6. Conclusions related to NTMs

NTMs, which generally aim to purse domestic policy objectives, may also have unintended effects. Depending on their nature, they may impact trade positively or negatively. While the coverage of NTMs in the Euro-Med FTAs is limited when they do have an impact on trade, they will also have an impact on trade effects of the FTAs evaluated. The economic literature and the public consultations held in the six SMCs, as well as the economic analysis, suggest that NTMs, which apply to EU-SMC trade, **may have larger effects on trade flows than tariffs** which, especially now after the implementation of the Euro-Med FTAs, are low. The public consultations revealed that NTMs, because of their lesser transparency and potentially higher trade restrictiveness, are still a major factor constraining the realisation of gains from tariff liberalisation as a result of the Euro-Med FTAs. Several instances of measures which impede trade have been reported in instances of both exports to the EU as well as to the SMCs (see the Consultations Annex G and Chapter 2 on the implementation of agreements).

To go beyond the account of consultations, which is due to its nature subject to biases[213], the foregoing section used the latest publicly available data to quantitatively characterise the nature of NTMs in the EU and SMCs, and shed more light on how they may have impacted Euro-Med trade during in the course of implementation of the Euro-Med FTAs.

The analysis was based on following elements:

- First, at the sectoral level, it calculated and put into perspective, for the EU and each SMC, the frequency ratios of NTMs, the AVEs associated with these measures estimated in the literature (to assess the "restrictiveness" of NTMs) and the sectoral distribution of trade between the EU and SMCs (to capture the "bilateral" effects of the NTMs);
- Second, results of ITC surveys on the perception of NTMs by enterprises as obstacles to their international activities were analysed for further insights.

[213] Even with well-structured interviews and public workshops, it is likely that the expressed trade concerns will be the most prominent for the best organised and most vocal industries, not necessarily by the industries that suffer the most from NTMs.

These elements converge towards similar conclusions:

In both the EU and SMC, and as compared to the rest of the world, NTMs tend to be a relatively frequent element of the trade picture, although they are not as frequent as in countries such as the United States, China or some Latin American countries. As in other parts of the world, NTMs **tend to concentrate in both the EU and SMC in the category of technical measures (SPS and TBT) which are considered more legitimate and relatively less trade restrictive than other types of NTMs**, although there are also some important differences across countries considered.

Moreover:

- for all sectors, the EU NTM frequency ratio is 94% for the EU, compared to 45.6% for SMCs on average). This means that almost all products imported by the EU are affected by at least one NTM, whereas on average only less than half of imports of SMCs are subject to at least one measure. Standards and regulations applied by the EU are also often seen as more demanding that those applied in less developed SMCs;
- In SMCs, the sectors characterised by both a high NTM frequency index and a high NTM AVE are, for all five countries, the three agricultural sectors (food, vegetable and animal products). In addition, depending on the country, NTMs also seem restrictive in textile-clothing, footwear, and hides & skins sectors. To the extent that these are not the key sectors of the EU's comparative advantage, the potentially negative impact of NTMs applied in SCMs on these products may be mitigated. And for SMCs these sectors are generally an important area of comparative advantage;
- In the EU market, the sectors characterised by both a high frequency index and a high AVE, such as food, wood, transport, vegetable, and textile & clothing products, are also areas where SMCs generally have a comparative advantage in international markets. This makes their exports to the EU more sensitive to the potentially negative impact of NTMs. In addition, the European market is the main destination of products exported by SMCs, whereas the market of these five Mediterranean countries represents only a small share of European exports.

Overall, the potential impact of remaining NTMs on Euro-Med trade and the associated potential future reform agenda seems **asymmetrica**l. For the reasons outlined above, it can be reasonably hypothesised that an implementation of a proportionally trade-friendly NTM policy stance in the EU and an implementation of an equivalent trade-friendly NTM policy stance in SMCs might have a greater impact on SMCs exports than on EU exports. Therefore, making the EU's NTMs as conducive as possible to Euro-Med trade seems relatively more important. For example, as there are indications that harmonisations of NTMs by SMCs based on the acquis communautaire may have a trade diversion effect, the EU could contribute to better functioning of the FTAs by making greater use of mutual recognition. Nevertheless, beneficial reforms focused on reducing unnecessary trade restrictiveness of these measures and basing them as much as possible on European and international standards can also be undertaken by SMCs themselves. In any case, because of the importance of Euro-Med trade for SMCs, EU's and SMCs' NTM policy reforms should be closely coordinated but this should take into account the differences in levels of development and, in particular, how NTMs affect competitiveness of the products of the SMCs in regional and wider world markets.

3.5.5. Role of FDI and services trade

3.5.5.1. Relationship between FDI and services and goods trade and their coverage in the Euro-Med FTAs

While the Euro-Med FTAs only partially cover services trade or FDI *per se* both of these activities are related in important ways to trade in goods, which is subject to significant liberalisation in these agreements. To the extent the FTAs influence trade in goods through tariff reductions, they influence the level of FDI and services trade in the Euro-Med region. Also, developments in FDI and services trade, which may be not directly caused by tariffs or trade in goods, may shape the effects of Euro-Med FTA tariff reductions.

FDI has long been seen as strongly related to cross-border trade in goods and this interdependence has grown and changed qualitatively in the recent decades as a result of the changing costs of international commerce and transfer of information and technology as well as

a result of a growing importance of global value chains (GVCs). FDI and goods trade have traditionally been thought of as either alternative or complementary ways of serving foreign markets. FDI can be a means of establishing similar productive activities in a different country and lower tariffs or transport costs related to FTAs can lead to relatively less FDI (i.e. a decrease in "market seeking" FDIs). On the other hand, since FDI is also a mean of organising activities along international supply chains (e.g. splitting up the production process across different geographical locations in order to benefit from the best quality inputs and to lower the costs of production), FDI and goods trade are also sometimes considered as complements and the FDI can lead to an increase in "outsourcing" FDIs).

Services, typically defined as products that are not embodied in a physical good and that effect changes in other products, persons, or institutions[214], also have features which distinguish them from goods as well as characteristics which make them closely related to goods. They are not subject to the kind of import tariffs goods trade is subject to, but they are often needed to enable trade in goods (from design, to transport and logistics or post-sale services). On the other hand, trade of physical products is often related closely to services (transport equipment is needed to provide transport services, business services are often involved in sales of physical products, etc.) and in many instances modern services industries are organised around and facilitate activities of advanced goods-producing agricultural and manufacturing industries.[215] FDI is also one of the principal methods of trade in services which often need to be produced and delivered in the same geographical location or at the same time (i.e. the foreign commercial presence mode of delivery of services in the GATS nomenclature).

The actual nature of the relationships between trade in goods, FDI and services is thus likely to depend on the specific industry or even on the firms in question, but the three activities have arguably become more interdependent in recent decades. The lower transport and communication costs that underpinned the development of GVCs have meant decreasing cost differences between supplying foreign markets by means of trade and foreign commercial presence. At the same time, FDI and services have become primary vehicles for locating and fine-tuning supply chain activities in different countries to take advantage of varying production costs and trade opportunities. The implication is that even small changes in goods and services trading conditions can shape incentives to foreign direct investment and vice versa. Therefore, regulations related to FDI and services have become integral parts of more modern trade agreements where they are as important as provisions on trade in goods. From this evaluation's point of view, even if provisions of the Euro-Med FTAs in the area of services trade and FDI are limited, to better understand the effects of lowering of tariffs on goods trade, it is thus important to understand the key developments in services and FDI.

Provisions of Euro-Med FTAs related to FDI and services

Provisions on FDI and services in the Euro-Med FTAs are limited although their coverage differs across the SMCs, depending on the WTO membership status of SMCs at the time of signing of the FTAs (see Annex D.3.4). Overall, the provisions of the Euro-Med FTAs in the area of FDI and services do not go significantly beyond what the SM WTO members (Egypt, Morocco, Tunisia and Jordan) and the EU committed to under the GATS in the WTO. While the FTAs with Lebanon and Algeria also refer to the GATS in similar ways to the four latter agreements, they are different in the sense that provisions of the EU-Lebanon FTA are conditional on Lebanon's membership in the WTO. In the case of Algeria, the FDI and services provisions are modelled on the GATS and similar provisions in other Euro-Med FTAs, but are not conditional on WTO membership and rather temporarily substitute for those that are implied by the GATS, meaning that Algeria-EU FDI and trade services are subject to more extensive provisions than is the case for Lebanon. Lebanon is thus the country for which the provisions of the FTA on FDI and services seem the least far reaching, although the country has committed not to introduce any measures that render the conditions for the bilateral supply of services more discriminatory than at the entry into force of the FTA, which in itself is a concrete commitment (See Appendix D.3.4 for more information on the provisions of the Euro-Med FTAs in the area of FDI and services in each SMCs).

[214] Definition from the Deardorff's Glossary of International Economics.
[215] Services are also often embodied in goods (i.e. the services that add to the value of the product in production).

3.5.5.2. Overview of developments in FDI restrictiveness and FDI trends

While the Euro-Med FTAs' provisions in the area of FDI are not extensive, they do provide some elements of a legal framework and improvements of market access for such activities. Moreover, after the entry into force of the FTAs European (and generally worldwide) firms may have decided to invest in the SMCs to benefit from the lower tariff regime and the associated better access to SMCs markets for final and intermediate products.

FTAs in general are expected to have a positive impact on FDI flows and the economic literature finds empirical support for this hypothesis. For example, Jaumotte (2004) studying a sample of seventy-one developing countries during the period 1980-99 found that the size of the market covered by an FTA had a positive impact on the FDI received by member countries and that this result was stronger in the 1990s when FTAs became more widespread. However, not all members of FTAs benefited to the same extent: countries with a relatively more educated labour force and a relatively more stable macroeconomic and financial situation tended to attract more FDI. More recently, Medvedev (2012) also studied a sample of developing countries over the period from the late 1990s–early 2000s and found that the FTA membership was associated with an increase in FDI inflows and that FDI inflows were related positively to the size of the economy of the FDI host country and the proximity between the host and home country of FDI.

Several factors suggest that, first, the base incentives for FDI related to the Euro-Mediterranean integration were strong to start with and, second, they improved as a result of liberalisation due to the Euro-Med FTAs documented earlier on in this chapter. As far as the former is concerned, the differences in the level of technological and economic development[216], the geographical and cultural[217] proximity between the EU and SMCs and the differences in the absolute sizes of economies between the EU and SMCs suggest strong incentives particularly for FDI into the SMCs to profit from lower costs of trade with the EU. This would certainly concern the FDI from the EU but the Euro-Med FTAs have improved the incentives for FDI coming from other regions. The creation of a FTA between the EU and SMCs may be an incentive also for non-European companies to invest in SMCs to take advantage of the import of semi-finished and intermediate goods from the EU at zero or lower tariffs, to take advantage of low trade barriers in the EU markets, or to satisfy the increasing demand for business services, transport and storage that may derive by an increase in trade flows between the EU and SMCS.

FDI decisions however are not based purely on economic and financial factors, but they also consider the political situation, macroeconomic stability and business environment and domestic regulation. The socio-political instability that has characterised the SM region in the last decade, the still high level of restrictiveness of inward FDI regimes in the region and the relatively high levels of protection in the services sectors, the low levels of integration into GVCs and the weak business environment may have discouraged FDI irrespective of the advantages created by the FTAs.

Restrictiveness of FDI policies in the region
Domestic regulations determine how easy it is to invest in a country and hence amplify or hinder the FTA's impact by discouraging or attracting FDI. FDI policies can be compared across countries or countries or groups of countries in a rigorous manner using the OECD data on FDI restrictiveness which collects qualitative data on different regulations relevant to FDI and 'quantifies' it in a form of quantitative index of regulatory restrictiveness (i.e. the OECD FDI Regulatory Restrictiveness Index[218]). It must be noted that, some, although not all, of changes in countries' FDI regulations recorded in the OECD data, may reflect the effects of provisions on FDI included in the GATS and the bilateral FTAs between the SMCs and the EU. This can be for example the case for restrictive regulations which may have differentiated between investors from different countries before the entry into force of the MFN provisions of the Euro-med

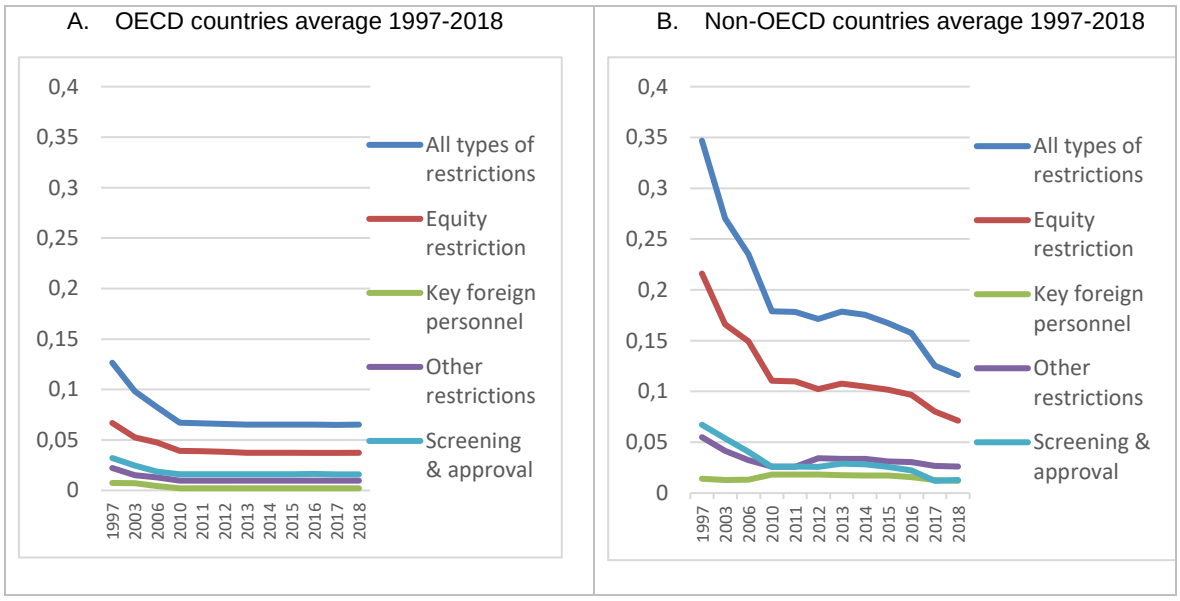
[216] FDI is normally expected to flow from more technologically advanced countries to countries which are less advanced but are more attractive in terms of labour and other costs of production. This where the FDI is likely to generate largest returns.
[217] Several EU countries have strong historical ties and large communities of migrants from the SM region.
[218] Data and methodology can be consulted here: https://www.oecd.org/investment/fdiindex.htm.

FTAs[219], or for regulations which were made less restrictive as a result of FDI-related commitments in the Euro-Med FTAs. As discussed above, the specific provisions of Euro-Med FTAs in the area of FDI were limited and where exactly they may have contributed to the lesser restrictiveness of the FDI regimes in the EU and SMC would require a specific historic and legal analysis of legislation which goes beyond the scope of this evaluation. Instead, in what follows, we use the OECD data on regulations applied on a multilateral basis to establish broad trends and the extent and distribution of the remaining restrictive measures across the four SMCs covered in the OECD data (Egypt, Jordan, Morocco and Tunisia, SMC4 in the remainder of this sub-section).

The OECD FDI Regulatory Restrictiveness Index portrayed in Figure 3.68, where 1 means the most restrictive policy stance and 0 the least restrictive stance, indicates a continued worldwide relaxation of FDI restrictions since the mid-1990s. It shows that restrictions on equity participation, screening and approval, key foreign personnel as well as other operational restrictions have been reduced in this period. This was particularly the case in thirty-six non-OECD countries (which encompasses developing and emerging economies including SMC4), although, on average, this country grouping still maintains more restrictive FDI policies than OECD countries (Figure 3.68 Panel B compared with Panel A).

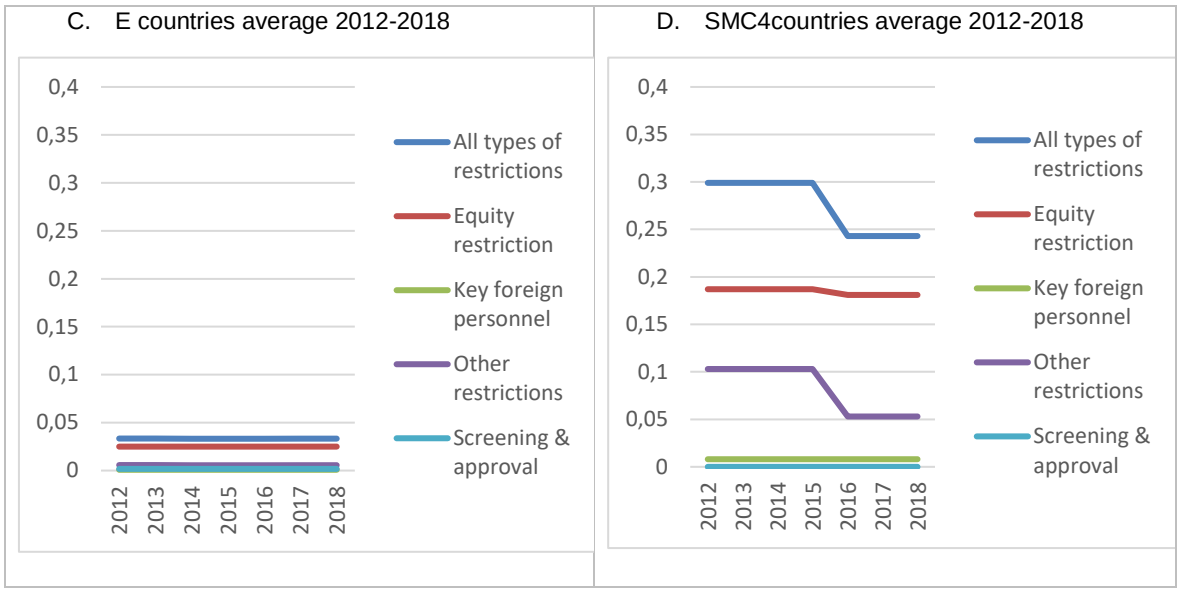
We also see that the EU countries on average have been recording much lower restrictiveness of inward FDI policies than the OECD grouping reflecting the fact that the EU has some of the least restrictive policies in the world when it comes to inward FDI (Figure 3.68 Panel C compared to Panel A). We see also that the SMC4 in the period 2012-18[220]: (1) have liberalised their FDI policies somewhat in the mid-2010s; (2) still maintain on average more restrictive FDI policies than the non-OECD grouping at large; (3) have maintained and still maintain much more restrictive inward FDI policies than the EU countries; (4) in the SMC4 it is the restrictions on foreign equity participation as well as other operational restrictions (such as land ownership or corporate organisation requirements) that contribute the most to the overall FDI restrictiveness; (5) in the mid-2010s the SMC4 reduced FDI restrictiveness in all types of restrictions, including in the areas of screening and approval, but the reduction has been the most pronounced in the area of other operational restrictions.

Figure 3.68 FDI regulatory restrictiveness, by restriction type, year and country grouping



[219] In practice, most domestic regulations are applied on a multilateral basis. It can be argued that this applies to, for example, foreign equity restrictions or FDI screening and approval regulations. However, certain regulations related to temporary movement of personnel or business travel may be specified and applied on a bilateral basis.

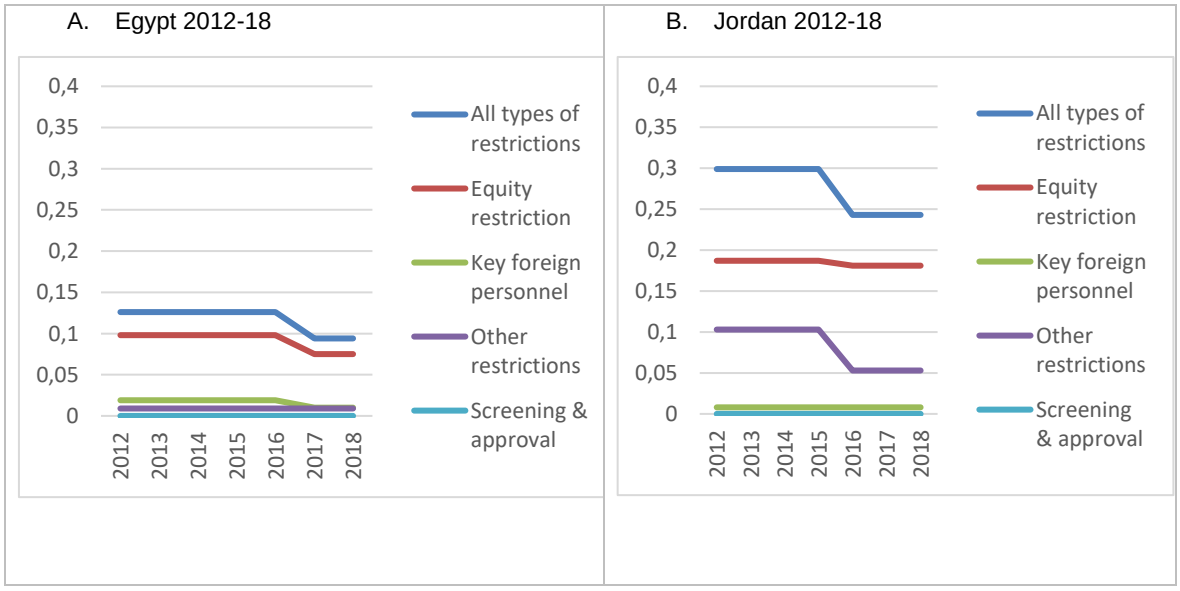
[220] Egypt is covered in the OECD data since 1997 for some years but this does not allow a comparison with the other SMCs.

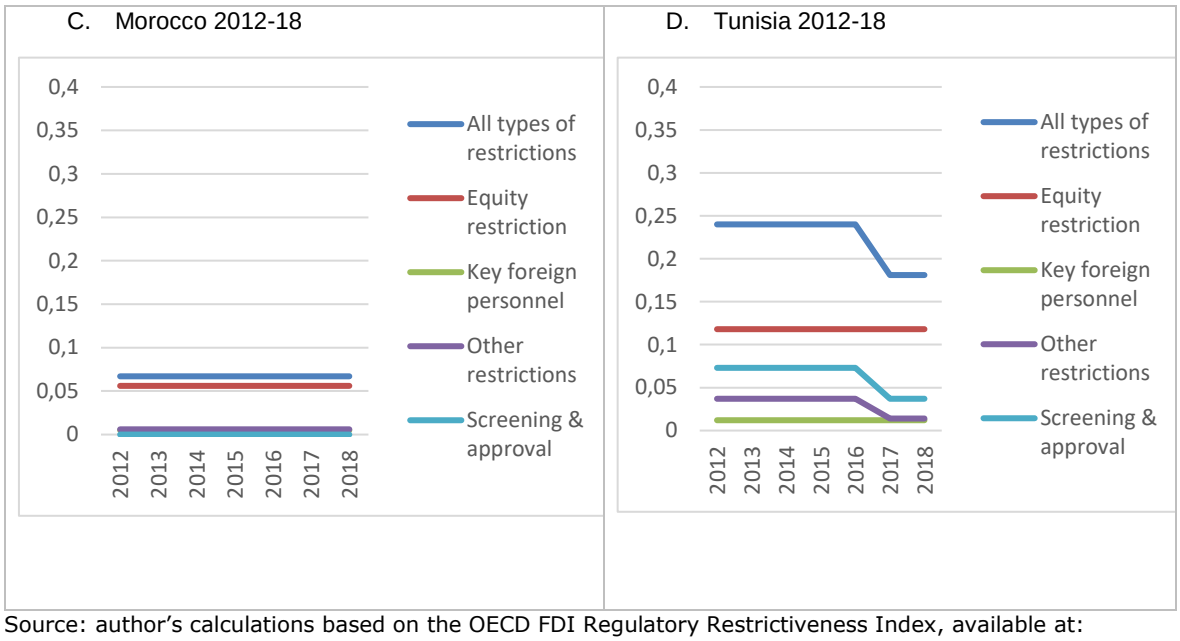


Note: values are, for each type of FDI restriction, averages across the countries covered in the OECD FDI Regulatory Restrictiveness Index in that particular year. Country coverage varies from year to year: from 12 in 1997 to 36 countries in 2018 for the non-OECD sub sample and from 34 in 1997 to 36 countries in 2018 for the OECD sub-sample.
*) The EU grouping contains only the 21 countries for which data was available in the period 2012-18.
**) The SMC4 grouping also contains SMC countries for which data was available in the 2012 period (these are Egypt, Jordan, Morocco and Tunisia).
Source: author's calculations based on the OECD FDI Regulatory Restrictiveness Index, available at: https://www.oecd.org/investment/fdiindex.htm.

When looking at specific SMCs in Figure 3.69, we see that **Jordan** has the most restrictive FDI policies among SMC4. Jordan's policies are also visibly more restrictive than on average in the non-OECD grouping. **Tunisia** is the second most restrictive country and, like Jordan, is still above the averages for non-OECD countries in 2018. **Egypt** has less restrictive regulations the restrictiveness of which approaches that of the OECD grouping and the remaining restrictions are manly foreign equity restrictions. **Morocco**'s inward FDI regulations have been on the other hand already somewhat below the OCECD average in the 2012-18 period and are close to the EU average, suggesting that Morocco has undertaken the deepest FDI liberalisation reforms among the countries in the region.

Figure 3.69 FDI regulatory restrictiveness, by restriction type, year and SMC country

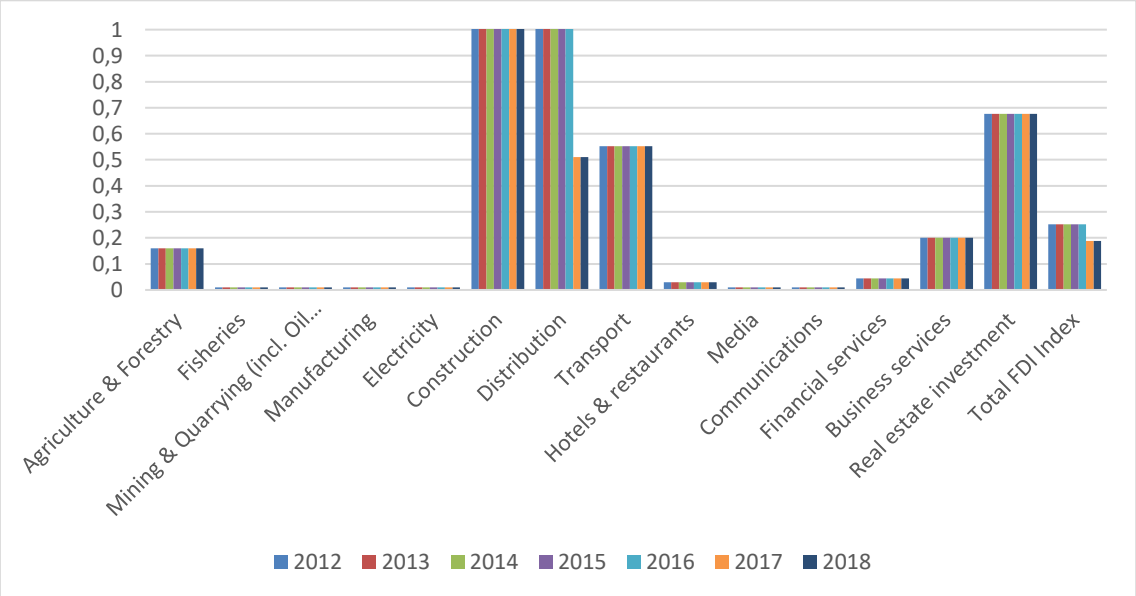




Source: author's calculations based on the OECD FDI Regulatory Restrictiveness Index, available at: https://www.oecd.org/investment/fdiindex.htm.

A further decomposition of measures taken in specific sectors of SMCs is possible, revealing a fair degree of heterogeneity (Figure 3.70). In **Egypt**, FDI in services sectors such as *Construction*, *Distribution*, *Real estate investment* and *Transport* is the most restricted and the absolute size of the index for these sectors suggests that some of them record the maximum level of restrictiveness as captured by this methodology. FDI in manufacturing and primary sectors is almost completely restriction-free, which reflects partially the fact that globally FDI restrictions in these sectors are less frequent. The data also show that there have also been relatively few changes in Egypt when it comes to FDI restrictions since 2012.

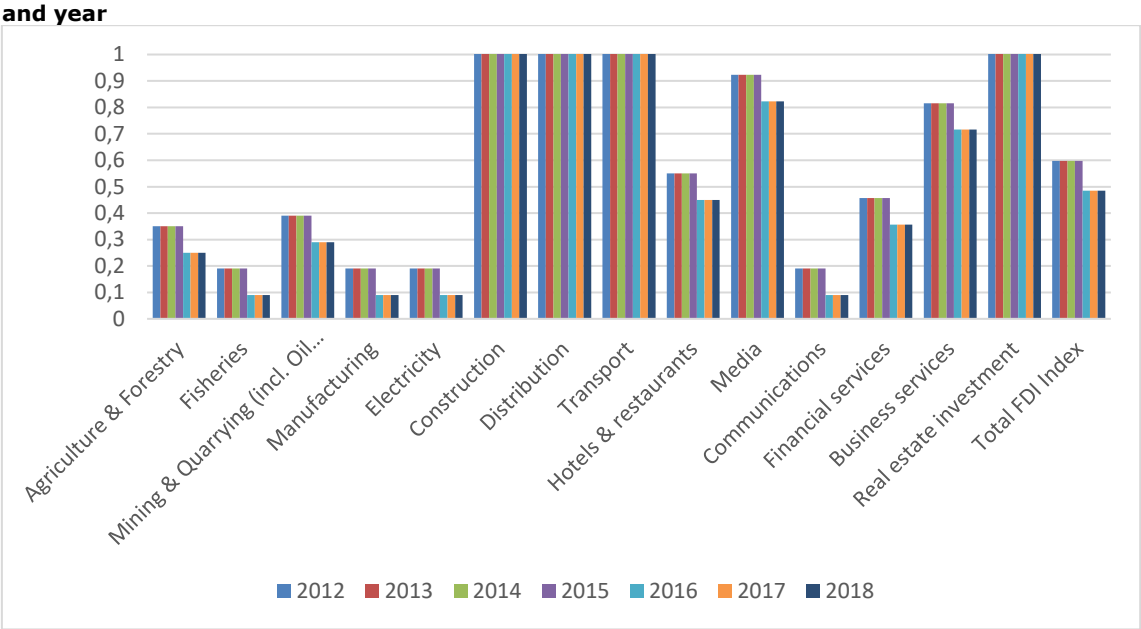
Figure 3.70 FDI regulatory restrictiveness in Egypt for all types of restrictions, by broad sector and year



Source: author's calculations based on the OECD FDI Regulatory Restrictiveness Index, available at: https://www.oecd.org/investment/fdiindex.htm.

In **Jordan**, FDI restrictiveness is more widespread across sectors, with several services sectors such as *Construction*, *Distribution*, *Transport* and *Real estate investment* recording maximum levels of restrictiveness and several other services sectors such as Business services recording significant levels of restrictiveness. Primary sectors and *Manufacturing* also record some restrictions, which contrasts with situation of the other SMCs covered in this database as well as global trends (Figure 3.71).

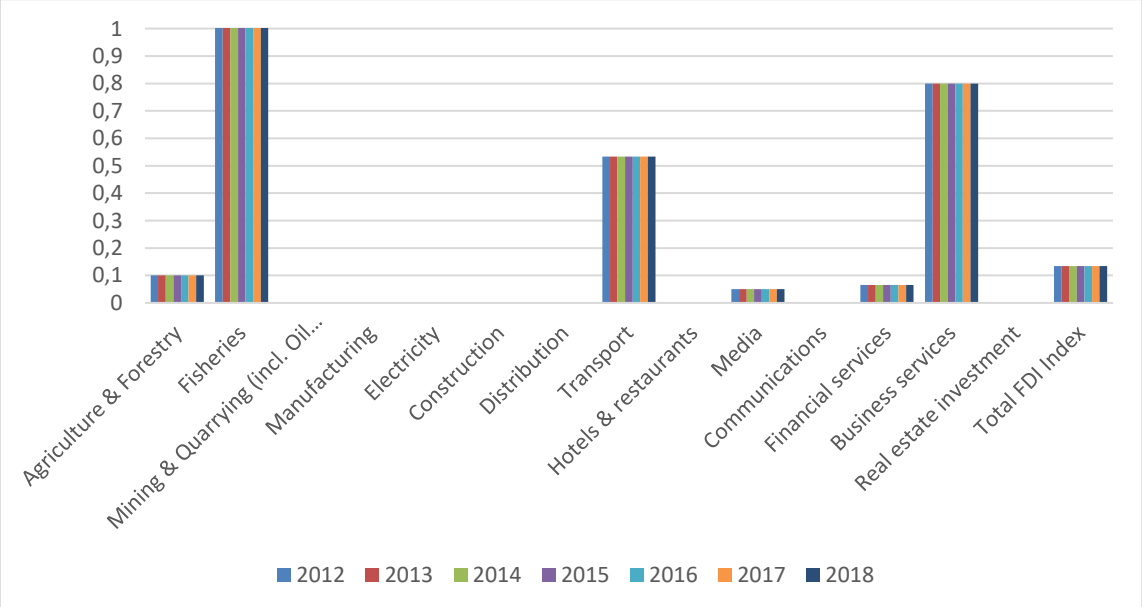
Figure 3.71 FDI regulatory restrictiveness in Jordan for all types of restrictions, by broad sector and year



Source: author's calculations based on the OECD FDI Regulatory Restrictiveness Index, available at: https://www.oecd.org/investment/fdiindex.htm.

Morocco's sectoral profile of FDI restrictions reflects its overall high levels of openness although FDI *Fisheries* records maximum level of FDI restrictiveness and *Business services* and *Transport* record moderate levels of restrictions. Primary sectors and *Manufacturing* do not record significant restrictions (Figure 3.72).

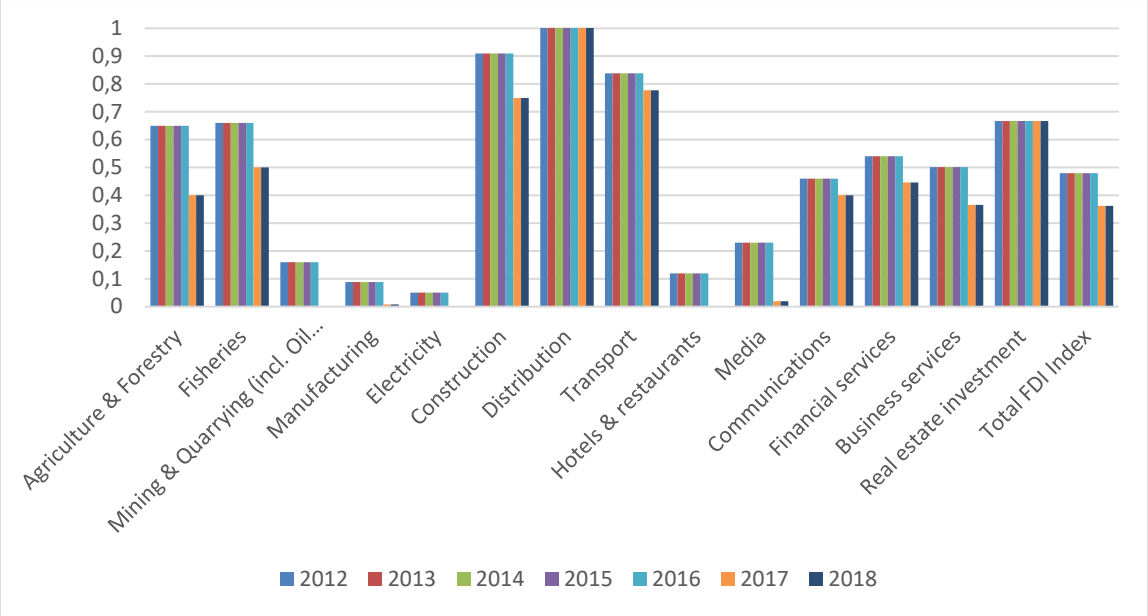
Figure 3.72 FDI regulatory restrictiveness in Morocco for all types of restrictions, by broad sector and year



Source: author's calculations based on the OECD FDI Regulatory Restrictiveness Index, available at: https://www.oecd.org/investment/fdiindex.htm.

In **Tunisia**, FDI restrictiveness is more widespread across sectors with several services sectors such as *Construction*, *Distribution*, *Transport* and *Real estate investment* recording high levels of restrictiveness and several other services sectors such as *Financial services* and *Business services* with significant levels of restrictiveness. Primary sectors record restrictions which are higher than in other countries in the region, and there are also some restrictions in *Manufacturing* (Figure 3.73).

Figure 3.73 FDI regulatory restrictiveness in Tunisia for all types of restrictions, by broad sector and year



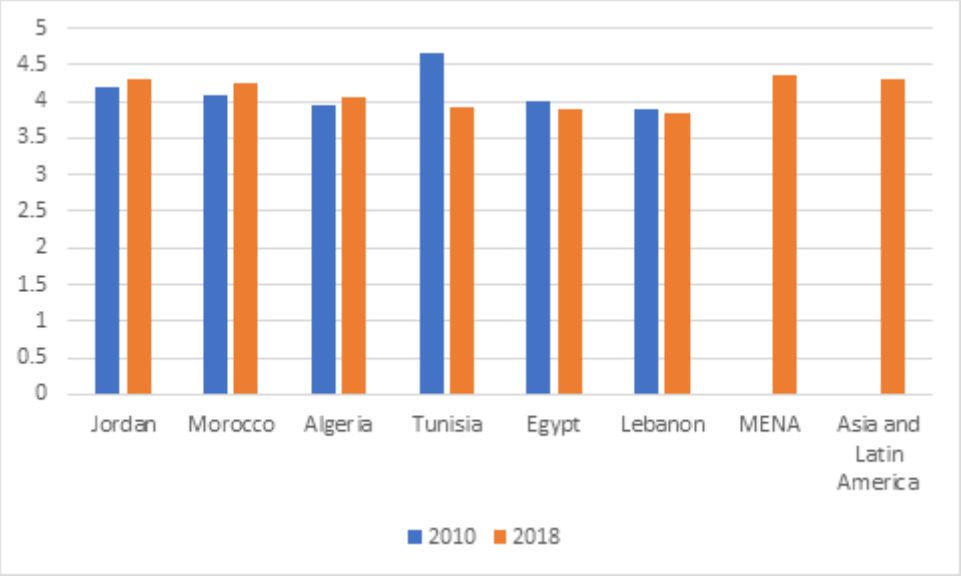
Source: author's calculations based on the OECD FDI Regulatory Restrictiveness Index, available at: https://www.oecd.org/investment/fdiindex.htm.

The Business and Investment Environment

Investment decisions are based on a large set of variables that go beyond trade costs and restrictions on FDI. Investors need to carefully evaluate the country's business and investment environment and its macroeconomic and political stability before starting a new activity in a foreign country.

The Global Competitiveness Index ranks 141 economies on the base of their productivity, pillars of growth and human development. As shown in Figure 3.74 SMCs present profound competitiveness deficit and are less competitive than the average MENA and Asian and Latin American countries. Among SMCs, Jordan, Morocco and Algeria are the most competitive countries and their competitiveness has increased since 2010. Lebanon and Egypt are the least competitive countries and their competitiveness has slightly decreased over time. Tunisia's competitiveness has strongly deteriorated since 2010: Tunisia went from being the most competitive country among to SMCs in 2010 to the 4th position in 2018.

Figure 3.74 Global Competitiveness Index (2010-2018), SMCs, MENA and Asia and Latin America



Source: WEF, GCI dataset (2019).

If we decompose the GCI into its pillars (Annex Table D.52), we notice that the main weaknesses of SMCs are the macroeconomic environment, the labour market efficiency, the financial market development and innovation. In all these factors all SMCs report a lower value than MENA and Asia and Latin America countries, except for the macroeconomic environment in Morocco and for innovation in Jordan. Looking at the change over time, the macroeconomic environment has deteriorated in all SMCs; the financial market development has worsened in all SMCs but Algeria and the labour market has become even less efficient in all SMCs but Morocco and Algeria. All these elements may discourage FDI despite the lower tariffs related to the FTA, the geographical proximity, and cultural ties. The statistical analysis shows that an improvement in the macroeconomic environment and financial development is positively correlated to an increase in FDI inflows in SMCs (Annex Table D.53 in Annex D).

As discussed above, the EU-FTA may attract 'outsourcing' FDIs, i.e. European and worldwide firms that relocate in SMCs the production of intermediate goods and semi-finished products to take advantage of the lower labour costs. However, the bad performance of SMCs in the labour market efficiency or the low level of business sophistication may discourage this type of investments and limit the advantages derived by the FTA. The correlation between the increase in FDI inflows in the 2010-2018 is positively related to an improvement in the labour market efficiency and business sophistication, suggesting that improvement in these areas may attract more FDI (Annex Table D.53 in Annex D).

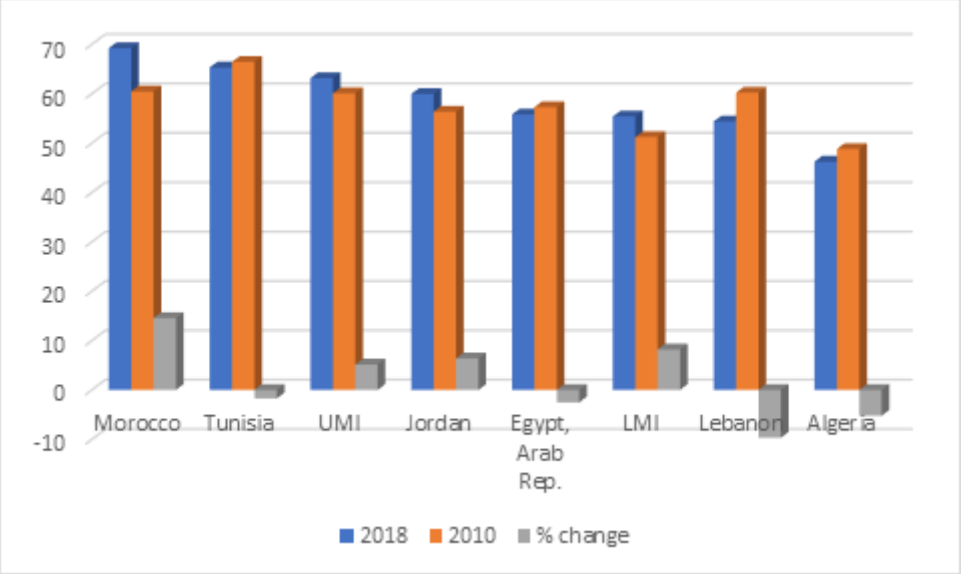
In terms of competitiveness strengths, SMCs perform more strongly than MENA and Asia and Latin American countries in terms of market size. Algeria, Egypt and Morocco have a larger market size than comparable countries and all SMCs have improved in this pillar. The large and increasing market size may attract "market seeking" FDIs despite the incentive created by the FTA to replace local production with trade. The correlation between the change in market size and FDI inflows in SMCs is negative[221] suggesting that trade in goods may replace FDI investments (Annex Table D.53 in Annex D).

Finally, Infrastructure and Institutions are key factors in attracting FDI. Only Egypt, Jordan and Morocco report similar institution and infrastructure level as Asia and Latin America countries. While Infrastructure has improved in all SMCs countries (but Tunisia), Institutions have generally deteriorated (but Algeria and Morocco). The statistical analysis shows a positive association between an improvement in these pillars and FDI inflows (Annex Table D.53 in Annex).

With regards to the business environment (Figure 3.74), the Doing Business Indicators show that Morocco, Egypt and Tunisia are more business friendly than the average LMI country. In contrast, Jordan, Lebanon and Algeria lag behinds UMI countries (see Section 3.5.5 for a more detailed discussion of the Doing Business Index in SMCs). Morocco is the country with the most business-friendly environment among SMCs and it has also recorded the largest improvement since 2010, overtaking Tunisia as regional leader. Tunisia is the second most business-friendly country in SMCs but its attractiveness has deteriorated since 2010. Morocco and Tunisia business environments are even friendlier than UMI countries. Jordan's Doing Business score is close to the UMI country average and it has significantly improved since 2010. Egyptian business environment is similar to the average score in LMI country, but its business appealing has deteriorated since 2010. Lebanon perform much worse than UMI countries in term of business environment and it has recorded the largest decrease in the Doing Business score among SMCs. Algeria is the country with the least business friendly environment among SMCs and its attractiveness has even worsened since 2010. Countries with a more business friendly environment would be able to attract more foreign investment since it would be easier for the foreign investors to establish and run a business. The correlation between the change in the Doing Business score and the FDI inflows in SMCs is positive but not-statistically significant (Annex Table D.53 in Appendix)

[221] It's worth noting that Egypt and Morocco are the only two SMCs to report an increase in both the market size and FDI inflows in the period 2010-2018.

Figure 3.75 Doing Business Scores in SMCs, LMI and UMI countries (2010 – 2018)



Source: Doing Business Database, 2020.

SMCs countries have also set up different measures to attract foreign investment. They aim at simplifying the investment process (such as the creation of Special Economic Zones; simplified registration procedures and hiring procedures for foreign workers) and decreasing the costs faced by foreign investors (for example the reduction of corporate taxes for investment in specific locations, a reduction in social security contributions for recruitment of young employees; exemption from VAT; reduction on telecommunication costs and training grants for Moroccan employees)[222]. Algeria is the only SMC to have introduced measures that restrict FDI.

FDI trends

In order to understand the impact of the EU-FTA on the FDI between the EU countries and SMCs we considered the trends in FDI before and after the AA implementation, covering the period 1990-2018. Ideally the best indicator to use would be the EU FDI outflows and inflows towards and from the SMCs. Unfortunately, comparable data on the bilateral FDI outflows between the EU and SMCs are scarce and doesn't allow a comparison of the periods pre- and post- the AA implementation. Moreover, comparable data on EU FDI inflows from SMCs are not available. To overcome this data issue, we used UNCTAD data on the worldwide FDI inwards into SMCs over the period 1990-2018 and we will report a snapshot of the EU investment in SMCS over the most recent period. Although the use of worldwide FDI flows is just a second-best choice, it's a plausible solution. Indeed, the creation of a FTA between the EU and SMCs may be an incentive also for non-European companies to invest in SMCs to take advantage of the import of semi-finished and intermediate goods from the EU at zero or lower tariffs or to satisfy the increasing demand for business services, transport and storage that may derive by an increase in trade flows between the EU and SMCS.

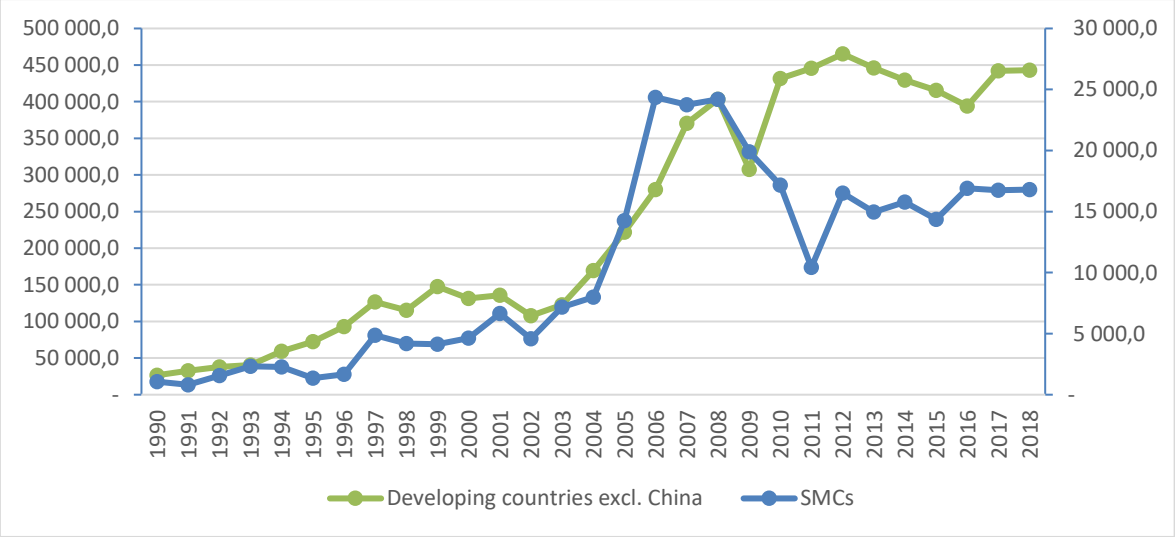
Total FDI flows from the world

Considering the overall inflows of FDI into the SMCs we can identify three periods (Figure 3.75, 3.75 and 3.76). During the 1990s FDI inflows into the SM region generally increased but the region seems to have missed somewhat on the worldwide investment boom, as inflows of FDI did not grow as fast as in other parts of the world (Figure 3.72). During the early 2000s, FDI into SMCs followed and even outperformed the worldwide FDI's surge as testified by the increasing values of FDI inflows as well as the corresponding shares in FDI inflows into developing countries (Figure 3.73). This period has also broadly overlapped with the period when the Euro-Med FTAs were entering into force and were being implemented. In the aftermath of the financial crisis, however, FDI sharply decreased in all SMCs, and more so than in other developing regions, pushing the share of SMCs' in the developing countries' total inward FDI back to the levels seen in the 1990s (Figure 3.74). Many factors may underly these

[222] For an overview of the reforms implemented in the SMCs see EBRD's Transition Reports (2017-2018, country reports - https://2019.tr-ebrd.com/countries/#); Santander (https://santandertrade.com/en/portal/establish-overseas) and OECD(2018).

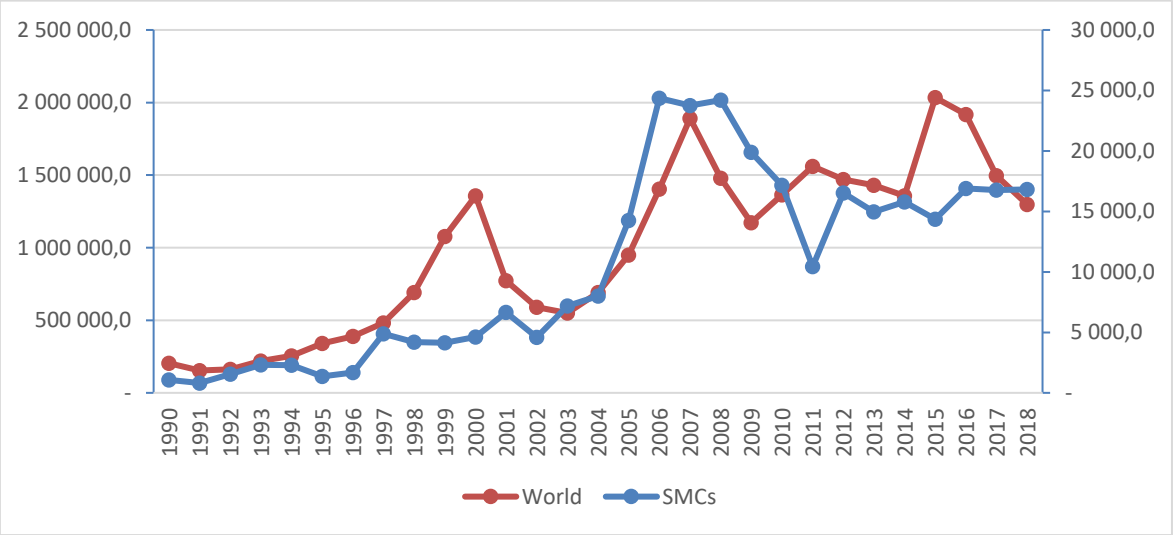
developments, including the entry into force and implementation of the Euro-Med FTAs which largely overlapped with the FDI 'boom' in the region in the 2000s. However, during this period SMCs have also benefitted from a more stable political situation globally and in the region and from implementation of domestic reforms to diversify and liberalise their economies. The drop in level and share of SMCs' FDI in the 2010s can in turn be explained by the world-wide slowdown of FDI in the aftermath of the 2008-09 financial and economic crisis as well as by the political destabilisation that occurred specifically in several countries of the region after the crisis (i.e. the Arab Spring).

Figure 3.76 Inflows of FDI into SMCs and other developing countries[223] - million US$, current prices



Note: Left-hand side axis refers to *Developing countries excl. China*; right-hand side axis refers to the six SMCs. countries.
Source: own calculations using UNCTAD's FDI Database.

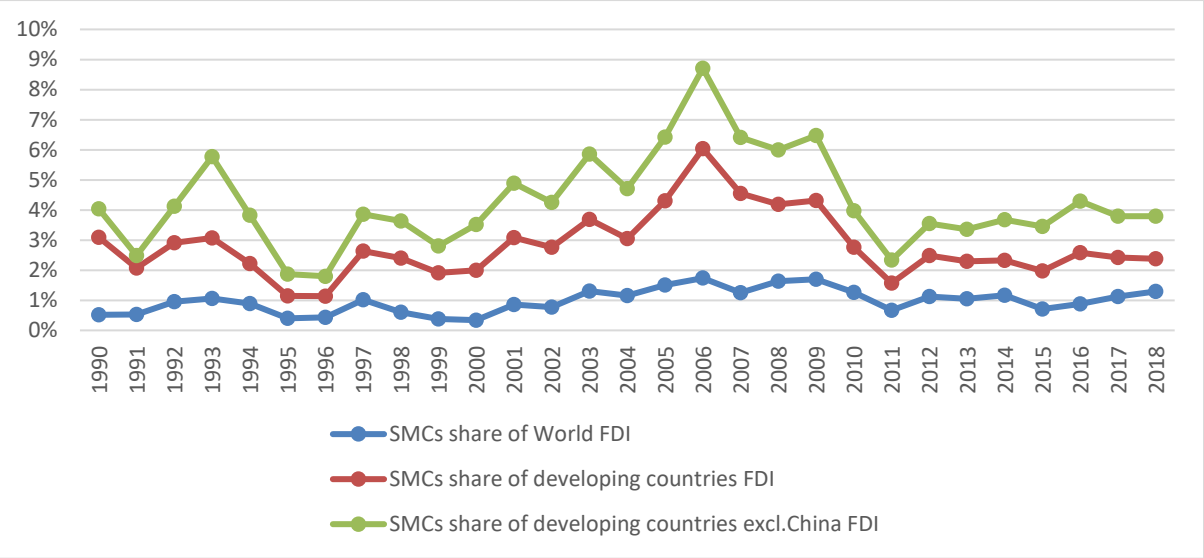
Figure 3.77 Inflows of FDI into SMCs and the World (million US$, current prices)



Note: Left-hand side axis refers to *World*; right-hand side axis refers to the six SMCs. countries
Source: own calculations using UNCTAD's FDI Database.

[223] Excluding the offshore financial centres in the Caribbean: Anguilla, Antigua and Barbuda, Aruba, the Bahamas, Barbados, the British Virgin Islands, the Cayman Islands, Curaçao, Dominica, Grenada, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Sint Maarten (Dutch part) and Turks and Caicos Islands.

Figure 3.78 Shares of SMCs in global FDI inflows



Source: own calculations using UNCTAD's FDI Database.

Considering each SMCs' FDI performance separately, the correlation between the entry into force of the FTA and the increase in FDI is more evident in **Algeria**, **Egypt**, **Jordan** and **Morocco**. In those countries, FDI inflows grew faster in the period between the entry into force of the FTA and the 2008-09 crisis than before the entry into force of the FTA. In **Tunisia**, the inflows of FDI slowed down somewhat in the corresponding periods while in **Lebanon** the deceleration was more dramatic (Table 3.25). A more favourable picture is presented by the ratios of average yearly FDI inflows to GDP which increased after the entry into force of the FTAs for all six SMCs (this is also the case if we include the financial crisis and the Arab Spring periods). In addition, the increases have been larger than those observed for other developing countries, albeit to a different degree for each SMC (Table 3.26). With respect to this measure, **Egypt** and **Jordan** have outperformed other developing countries in terms of their FDI integration after the entry into force of the FTAs, while **Algeria** and **Morocco**, that still lag behind other developing countries in terms FDI to GDP ratios, have managed to close the gap somewhat.

Table 3.25 Growth of FDI inflows prior to and after the entry into force of the FTAs (1990-2018)

Growth rates for the corresponding periods

	Before entry into force of FTA	**After entry into force of FTA**	***Difference in percentage points***	**Period between FTA entry into force and 2008-09 crisis (FC)**	***Difference in percentage points FTA-FC***
Algeria$^{\Delta}$	23.3	-30.2	-53.5	34.5	11.2
Egypt$^{¥}$	8.7	-27.9	-36.6	58.3	49.7
Jordan$^{\alpha}$	-13.1	17.3	30.4	51.4	64.6
Lebanon$^{\eta}$	237.5	-0.1	-237.6	6.9	-230.6
Morocco$^{\mu}$	62.6	49.7	-12.9	117.3	54.7
Tunisia$^{£}$	59.6	19.7	-39.8	40.2	-19.4

Note: the superscripts denote different reference periods: Δ: Before:1990-2004, After:2005-2018; ¥ Before:1990-2003, After:2004-2018; α Before:1990-2001, After:2002-2018; η Before:1990-2005, After:2006-2018; μ Before:1990-1999, After:2000-2018; £ Before:1990-1995, After:1996-2018.
Source: own calculations using UNCTAD's FDI Database.

Table 3.26 Ratios of average yearly FDI inflows to GDP in SMCs and other developing countries prior to and after the entry into force of the FTAs

	FDI Inflows/GDP			FDI Inflows/GDP ratio with Developing Countries (excl. China)		
	Before entry into force of FTA	After entry into force of FTA	Period between FTA entry into force and 2008-09 crisis (FC)	Before entry into force of FTA	After entry into force of FTA	Period between FTA entry into force and 2008-09 crisis (FC)
Algeria$^{\Delta}$	0.6	1.1	1.4	0.3	0.3	0.4
Egypt$^{¥}$	1.2	3.8	6.5	0.8	1.2	2.0
Jordan$^{\alpha}$	2.2	8.4	11.9	0.8	2.8	3.9
Lebanon$^{\eta}$	5.5	8.8	13.8	2.2	2.8	4.0
Morocco$^{\mu}$	1.5	2.8	3.1	0.9	0.9	0.9
Tunisia$^{£}$	2.4	3.1	3.4	2.1	1.1	1.2

Note: the superscripts denote different reference periods: Δ: Before:1990-2004, After:2005-2018; ¥ Before:1990-2003, After:2004-2018; α Before:1990-2001, After:2002-2018; η Before:1990-2005, After:2006-2018; μ Before:1990-1999, After:2000-2018; £ Before:1990-1995, After:1996-2018.
Source: own calculations using UNCTAD's FDI Database.

In the early 2000s, in addition to the worldwide FDI's surge and the AA implementation, other factors may explain the acceleration in FDI such as the implementation of a series of privatisation programmes and the stable political situation that characterised the region.

During the 2000s **Morocco** has implemented different reforms and privatisations such the privatisation of Maroc Telecom and Régie des Tabacs that explains the FDI peaks in 2001 and 2003, respectively (Bouoiyour and Rey, 2005). In 1991, **Egypt** launched the Economic Reform and Structural Transformation Program (ERSAP) and privatisation was one of the key pillars. The programme moved at a slow pace until 2003, when the government pushed for further wave of reforms and privatisations. Between 2004 and 2006, 77 companies were privatized with an annual average of 25 enterprises (Badr El Din, 2014). **Algeria** officially launched the privatization process for government-owned corporations in 1995. In May 2000, German multinational Henkel acquired a 60% stake in Algerian State-owned detergent manufacturer ENAD, and in 2004 acquired the remaining 40%. In 2001, Indian group Lakshmi Niwas Mittal (now ArcelorMittal) acquired a 70% stake in SIDER, the Algerian state-owned steel company (Kichou, 2011). In 2003, Kuwaiti group, National Mobile Telecommunications bought the third GSM licence for $421 million. During the period 1998 – 2008 the Government of **Jordan** privatized fourteen SOEs – in telecommunications, electricity, air transport, mining and other sectors (Mako, 2012). Moreover, in 2000s the political situation in Jordan has improved creating a better place for investment after a troublesome decade and may have contributed to attract FDI in the aftermath of the AA implementation. During the 1990s the unstable political situation in the region and Jordan government's decision to support the Saddam Hussain's regime have hindered investment and kept the FDI inflows close to zero. The peak in FDI reached in 2008 was the result of a USD 10 billion investment by Al Maabar International, an Abu Dhabi-based company, in a large real estate development in Aqaba on the Red Sea.

The link between the AA implementation and the FDI increase is weaker in **Tunisia** and **Lebanon**, where FDI grew at a lower rate after the AA came into force. In the case of **Tunisia**, FDI inflows were following a stable path in the period 1994-2005. The increase in FDI in this period was due to favourable investment policies that encouraged the participation of foreign firms (Ayadi and Mattoussi, 2017) and the ongoing privatisation process (UNCTAD, 2006). After reaching two peaks in 2006 and 2008 due to large specific deals224, FDI started to decline in

[224] In 2006 two Dubai firms invested over 3 billion to purchase 35% interest in Tunisie Telecom, accounting for 68% of total FDI in Tunisia in that year (Bahramitash and Esfahani, 2016). According to UNCTAD it is the third largest FDI deals by private equity firms in Africa over the period 1996–2012 (WIR, 2013). This

the aftermath of the financial crisis and since then has struggled to recover. In **Lebanon** the surge in FDI started in 1997, well ahead of the entry into force of the FTA and reached a record-high of $4.4 billion in 2009. In this period, the FDI inflows mainly directed toward tourism and telecommunications225 (UNCTAD, 2018), were driven by a series of economic and political reforms[226], in addition to the FTA with the EU which entered into force in 2006. The restrictive FDI provisions included in the AA and the geographical and sectoral composition of the Lebanese inward FDI may also explain the low correlation between the AA implementation and the FDI increase. Indeed, during 2000s most of the Lebanese FDI came from the Gulf countries (mainly UAE, Kuwait and Saudi Arabia) and were directed towards non-tradable sectors (real estate, hotels and tourism) (UNCTAD, 2018)[227] and were not directly affected by the EU-FTA's. Moreover, the poor business and investment environment that characterises Lebanon, may have discourage foreign firms to invest in the country to take advantage of the larger market created by the EU-FTA. However, in both Tunisia and Lebanon the ratio of FDI to GDP has increased in the aftermath of entry into force of the FTAs and Lebanon has improved its investment integration in comparison to other developing countries (Table 3.26).

During the last decade, the financial and economic crisis of 2008-09 and the Arab Spring that followed have contributed, although in different degree, to the reductions in FDI inflows into all SMCs which have not really recovered since, eroding the gains that seem to have occurred in the aftermath of the AA implementation[228]. SMCs has experienced a slower recovery than other developing countries, indeed the share of FDI going to SMCs in comparison to other developing countries has strongly deteriorated (SMCs represented 5.7% of FDI in developing countries from 2000 to 2009, the share felt to 3.6% in 2010-2018) (Figure 3.77). Since 2012 FDI are increasing again in SMCs but they haven't reached the 2000s level yet. Although the AA was in force in all countries, SMCs have been affected and have reacted to the economic and social turmoil in different ways, suggesting that although AA could have smoothed the negative impact, country specific features have played a key role.

In **Algeria**, the country attracting the least FDI relative to GDP among SMCs[229], FDI was almost untouched by the financial crisis (FDI keep increasing after 2008 when they sharply decreased at a global level) but they were negatively affected by the political turmoil in the region, by the fall in the oil price and by the by the "49%-51% rule" imposed in 2009 by the government on foreign investment in all sectors of activity. Foreign investors were obliged to set up an Algerian company with a share capital held at least at 51% by one or more Algerian nationals residing in Algeria (thus limiting foreign investment in an Algerian entity to 49% of its share capital). Indeed, FDI start decreasing in 2012 (Figures 3.78 and 3.79), reaching a minimum in 2015 due to a 87% fall in announced greenfield investment (WIR, 2015) The unfriendly business environment and its deterioration over the last decade have further slowed down the recovery and reduced the investment incentives created by the EU FTA.

operation was part of a series of mega-projects in the banking, telecom, energy, and construction and public works sectors, essentially initiated by Gulf State investors in the region.

[225] In 2004, two mobile licences were granted to Alfa (managed by Global Telecom Holding, ex-Orascom Telecom Holding, headquartered in The Netherlands) and to MTC Touch, now Touch (subsidiary of Zain Group, headquartered in Kuwait) (UNCTAD, 2018).

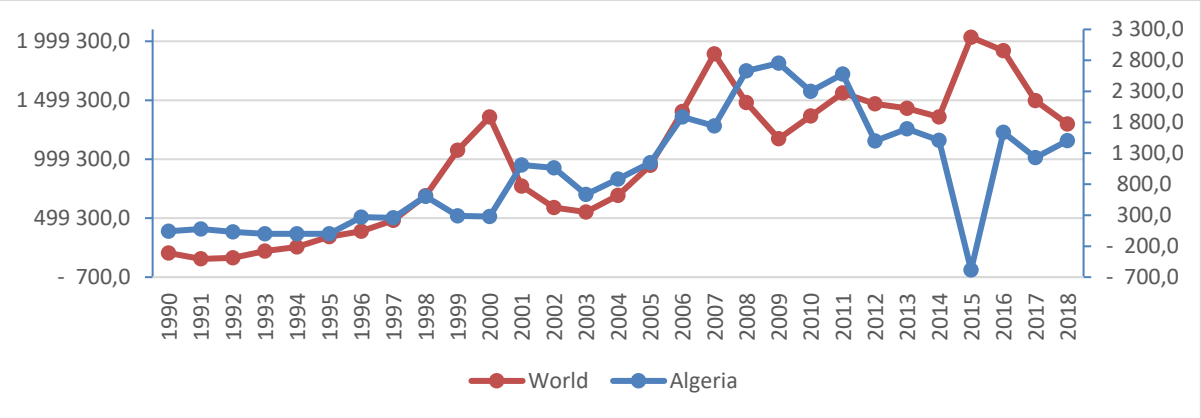
[226] The privatization of the postal system (Atala et al., 2016), the lifting of travel restrictions by the United States on their citizens and companies and the introduction of a pegged exchange rate with the dollar, which significantly reduced inflation. The reconstruction effort attracted many real estate investors. In 2001, Lebanon also passed a new investment law (Law 360 of 16 August), which introduced new incentives and assigned to the Investment Development Authority of Lebanon (IDAL) superseding authority to grant investment licences and permits. In the same year, some restrictions on foreigners' access to land and real estate were lifted (Law 293 of 3 April) (UNCTAD, 2018). In 2008 the FDI restrictions for offshore companies were lifted (Law 19 of 5 September 2008 amending Decree 46 of 24 June 1983).

[227] Rafiq Hariri (the Lebanese prime minister from 1992 to 2004) opened the country to GCC investment as a post-war reconstruction strategy after the end of the civil-war in 1999 (Baumann, 2017).

[228] Indeed, if we compare the average values of the variables of interest over the period AA implementation-2018 and AA implementation 2008, the latter are generally higher.

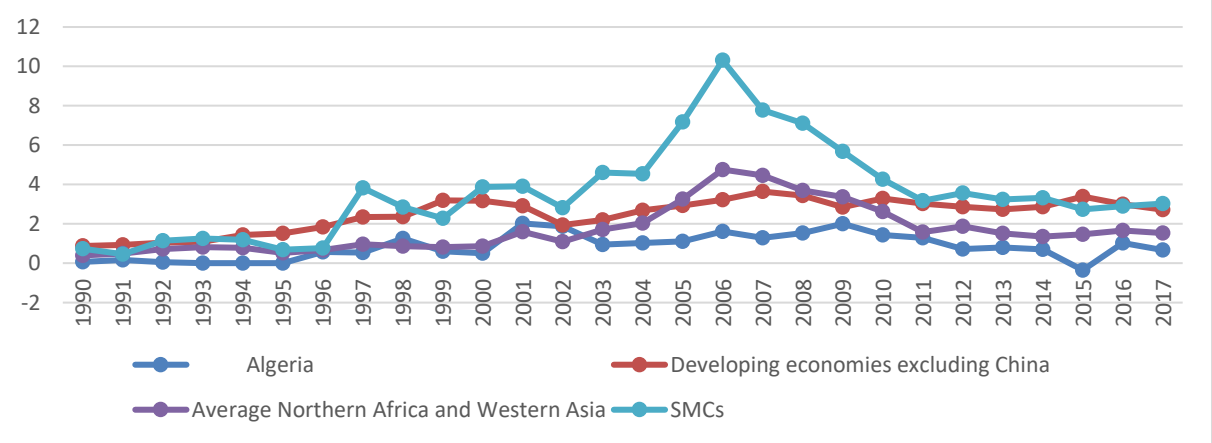
[229] On this indicator, Algeria scores also much lower than other developing countries on average (Table 3.61).

Figure 3.79 FDI inflows into Algeria and the World (million US$; current price)



Note: Left-hand side axis refers to *World*; right-hand side axis refers to Algeria.
Source: UNCTAD FDI Database.

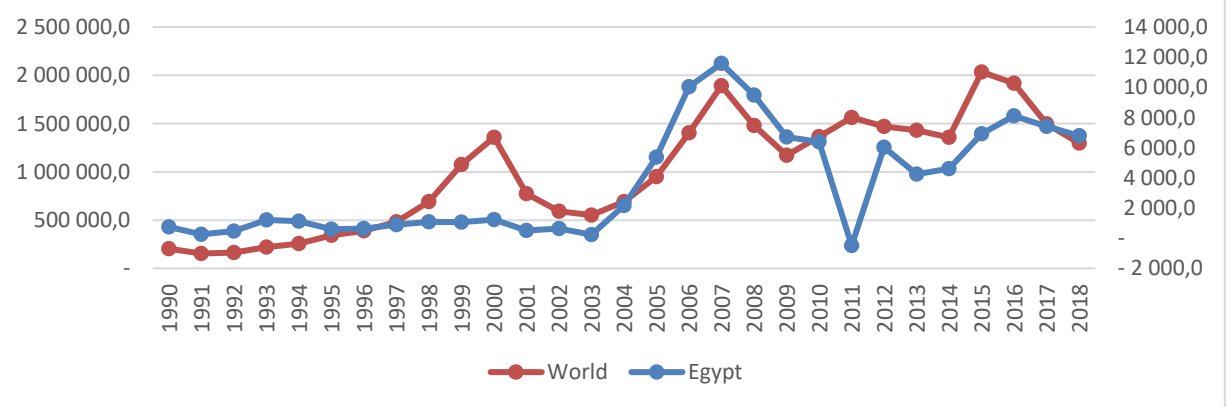
Figure 3.80 Ratio of FDI inflows to GDP: Algeria, developing countries excluding China and SMCs



Source: UNCTAD FDI Database.

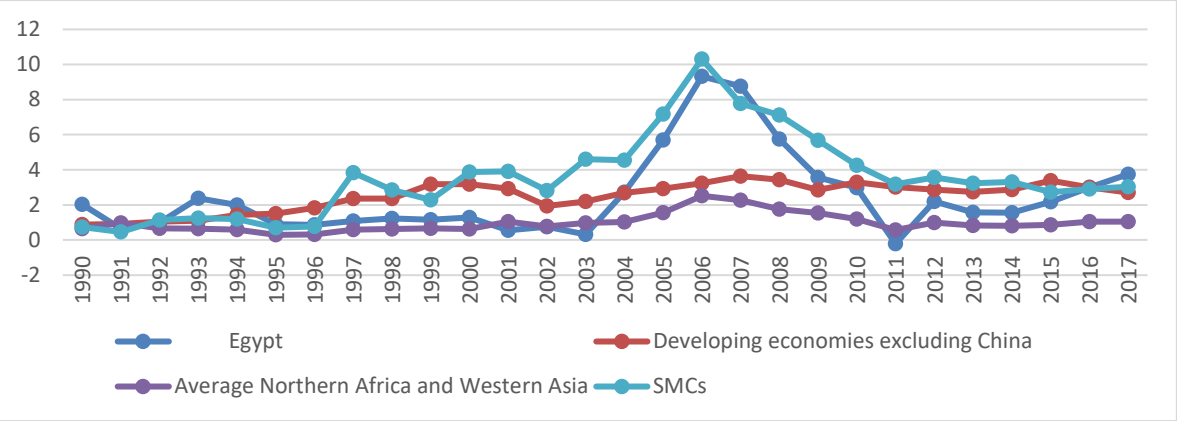
In **Egypt** FDI decreased sharply because of the global economic crisis and following the socio-political revolution of 2011 but since 2013 has been growing again at a steady rate (Figures 3.80 and 3.81). The recovery in Egypt has been remarkable. In 2017, after almost a decade of a weak investment integration, Egypt outperformed again other developing countries in the ability to attract FDI as it did in the early 2000s. In 2017 and 2018, Egypt became the largest recipient of FDI inflows in Africa (UNCTAD, WIR 2019) which came across as a markedly improved performance since 2012 when Egypt was not even classified among the top 5 African FDI destinations. The low FDI barriers, the large and increasing market size and the good infrastructure are among the factors that may explain the increase in Egyptian FDI after 2009.

Figure 3.81 FDI inflows into Egypt and the World (million US$; current price)



Note: Left-hand side axis refers to *World*; right-hand side axis refers to Egypt.
Source: UNCTAD FDI Database.

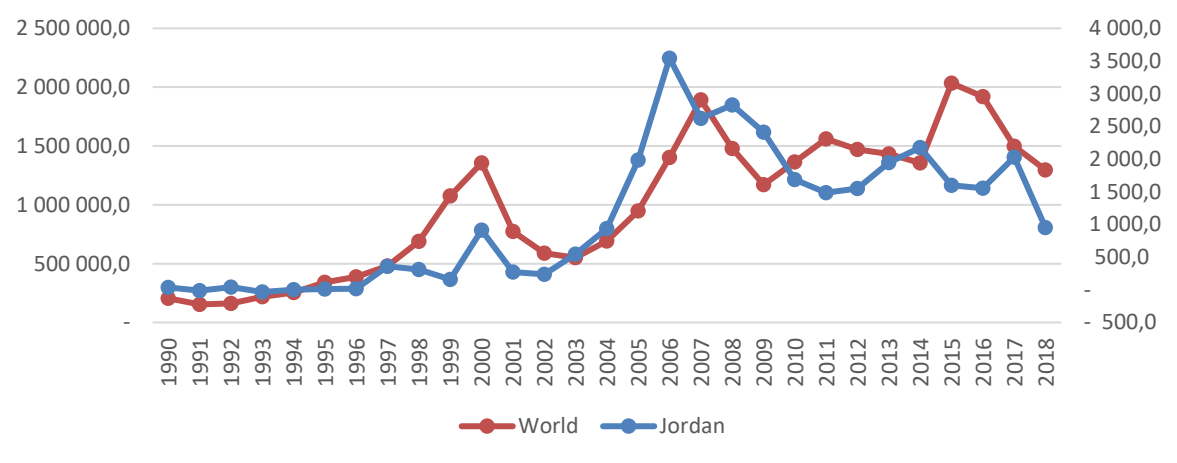
Figure 3.82 Ratio of FDI inflows to GDP: Egypt, developing countries excluding China and SMCs



Source: UNCTAD FDI Database.

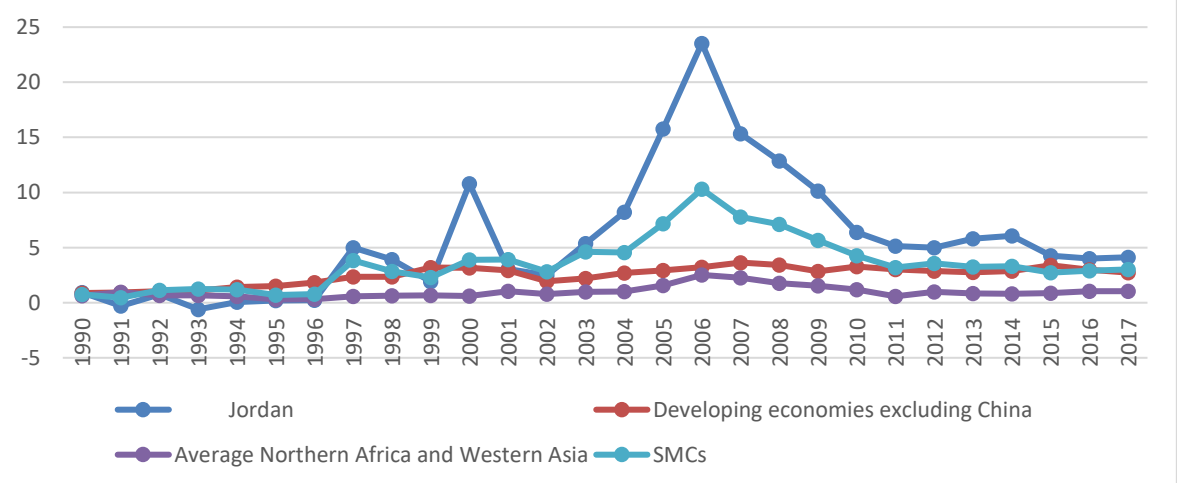
In **Jordan** FDI has declined due to the 2008-09 crisis followed by geopolitical instability, and since then have struggled to recover (Figure 3.82). In 2017, inflows dropped to USD 949 billion, their lowest level in a decade. Nevertheless, inflows have remained very high relative to the size of the economy and Jordan still outperforms on average neighbouring countries and other developing economies. However, the positive gap has strongly deteriorated since 2009 (Table 3.62 and Figure 3.83) despite the further improvement in its business and investment environment.

Figure 3.83 FDI inflows into Jordan and the World (million US$, current value)



Note: Left-hand side axis refers to *World*; right-hand side axis refers to Jordan.
Source: UNCTAD FDI Database.

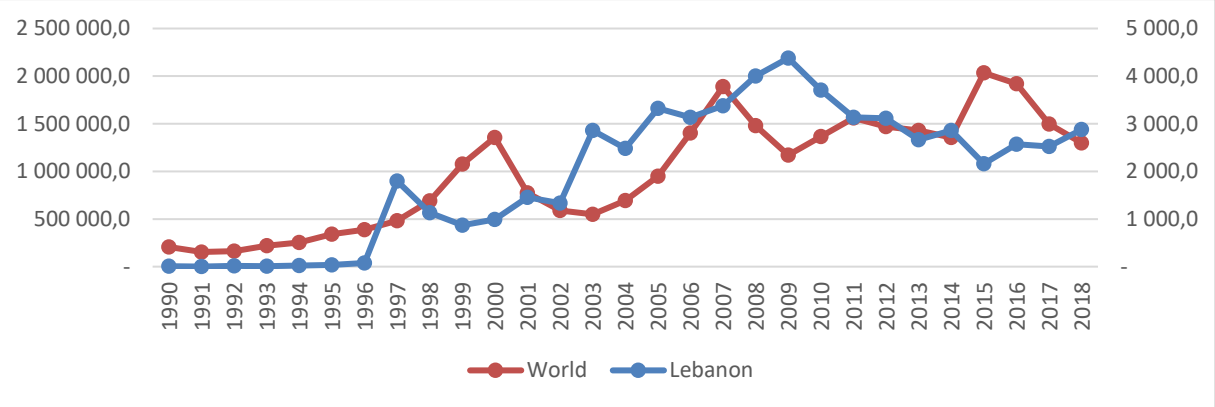
Figure 3.84 Ratio of FDI inflows to GDP: Jordan, developing countries excluding China and SMCs



Source: UNCTAD FDI Database.

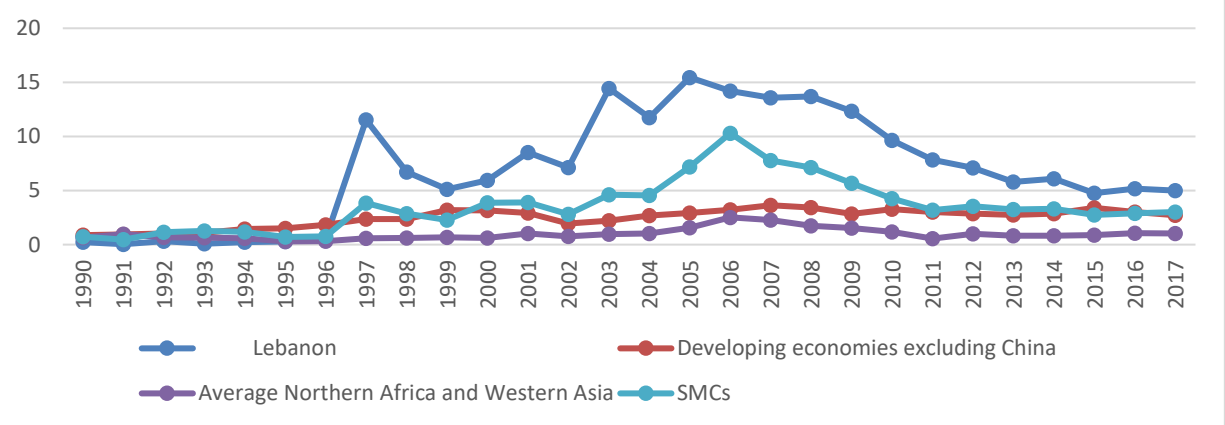
In addition to the 2008-09 crisis and the political instability in the region, FDI in **Lebanon** has negatively affected by a drop in oil prices affecting some of the traditional investors as well as by an influx of refugees resulting from the conflict in Syria (UNCTAD, 2018). Gulf countries have decreased their investment in Lebanon owing to a fall in the oil price in 2014 and the political tensions created by the Iran's war. In the same period FDI inflows from the EU have increased (mainly from UK and France) and were mainly directed towards the service sector (see next section). Despite the decline, FDI inflows have shown resilience in comparison to other countries in the region (Figures 3.84) and the ratio of FDI to GDP in Lebanon remains above that of, on average, neighbouring countries and other developing economies[230] (Table 3.26 and Figure 3.85), although the positive margin has shrunk considerably. OECD (2018) suggests that the stability of FDI inflows into the country may indicate that investors in the region see Lebanon as a haven for their investment.

Figure 3.85 FDI inflows into Lebanon and the World (US$m, current value)



Note: Left-hand side axis refers to *World*; right-hand side axis refers to Lebanon.
Source: UNCTAD FDI Database.

Figure 3.86 Ratio of FDI to GDP: Lebanon, developing countries excluding China and SMCs



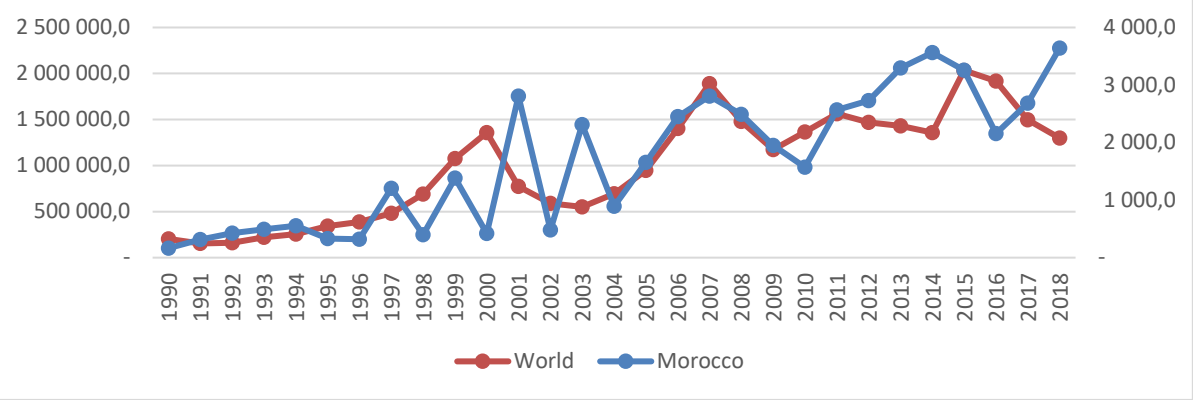
Source: UNCTAD FDI Database.

Morocco's FDI has recovered from the 2008-09 crisis much quicker than other SMCs. Inward FDI started increasing again in 2011, exceeding USD 3.5 billion in 2014 (Figure 3.86). Contrary to other countries in the region, Morocco managed to attract a stable and increasing flow of FDI also during the Arab Spring and the positive trend seems to continue in contrasting with a worldwide decline in FDI. This can in part explained by the country's more stable political

[230] During the 2000s Lebanon high FDI/GDP may be explained by the relative low GDP value (until 2015 only Jordan had a lower GDP value than Lebanon among SMCs) and the large investment made by the Gulf countries in real estate, hotels and tourism. These sectors accounted for 83% of total interments in the period 2003-20015 (OECD, 2018). Since 2015, the increase in the Lebanese GDP (it's now 4th among SMCs) and the decrease in GCC FDI have contributed to shrink the FDI/GDP ratio.

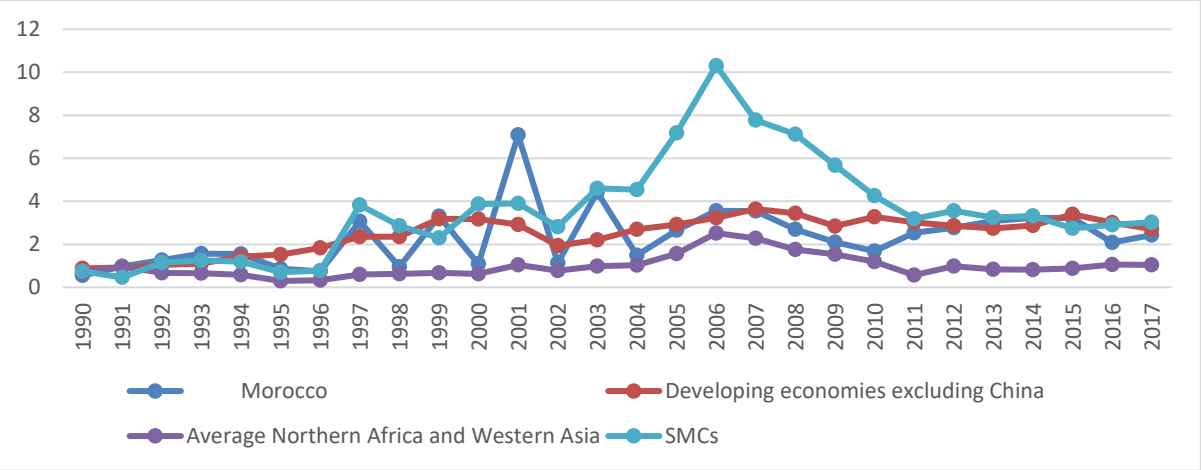
situation, a large and increasing market size, the low FDI restrictions, the further improvement in the business and investment environment and the launch in 2014 of a vast project of economic modernisation program (Industrial Acceleration Plan 2014-2020). Moroccan labour market is less efficient than in developing countries and MENA, but contrarily to other SMCs, it has improved since 2010. The good performance is evident also in terms of the FDI intensity ratio which shows that since 2011 Morocco has closed the gap with other developing countries and SMCs (Table 3.26 and Figure 3.87).

Figure 3.87 FDI inflows into Morocco and the World (US$m, current value)



Note: Left-hand side axis refers to *World*; right-hand side axis refers to Morocco.
Source: UNCTAD FDI Database.

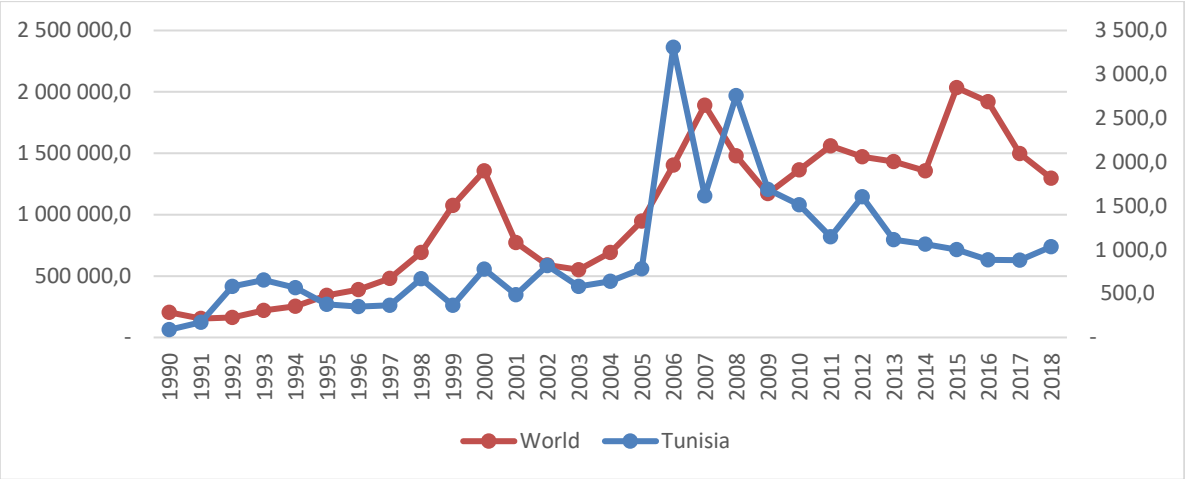
Figure 3.88 Ratio of FDI inflows to GDP: Morocco, developing countries excluding China and SMCs



Source: UNCTAD FDI Database.

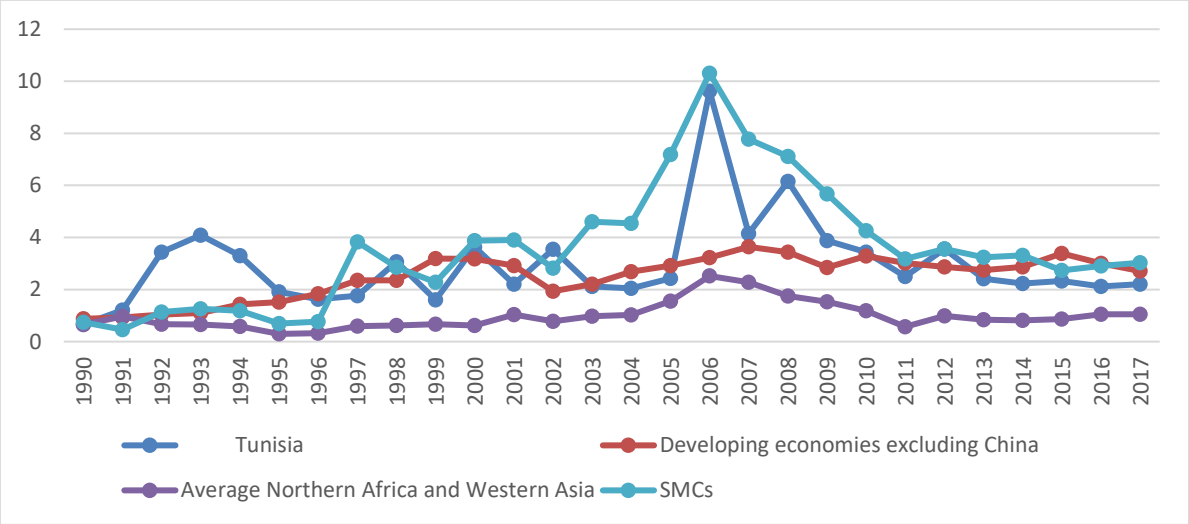
Both the 2008-09 crisis and the 2011 **Tunisian** Jasmine Revolution had a negative impact on inward FDI in the country which has not recovered since then owing to the fragile political and economic situation. Since 2010 Tunisia rank lower both in the Doing Business and the Global Competitiveness Index. FDI inflows have declined steadily over this period (see also UNCTAD WIR, 2018). In 2017, they amounted to USD 880 million, a decrease of 1% compared to 2016, and 45% and 73% compared to, respectively, 2012 and the peak of 2006 (Figure 3.88). The positive gap with respect to other developing countries in terms of the ratio of FDI inflows to GDP turned negative in 2013, marking the difficulties Tunisia has been facing in attracting FDI since then (Figure 3.89 and Table 3.26).

Figure 3.89 FDI inflows in Tunisia and the World (US$m, current price)



Note: Left-hand side axis refers to *World*; right-hand side axis refers to Tunisia.
Source: UNCTAD FDI Database.

Figure 3.90 FDI inflows as a share of GDP: Tunisia, developing countries excluding China and SMCs



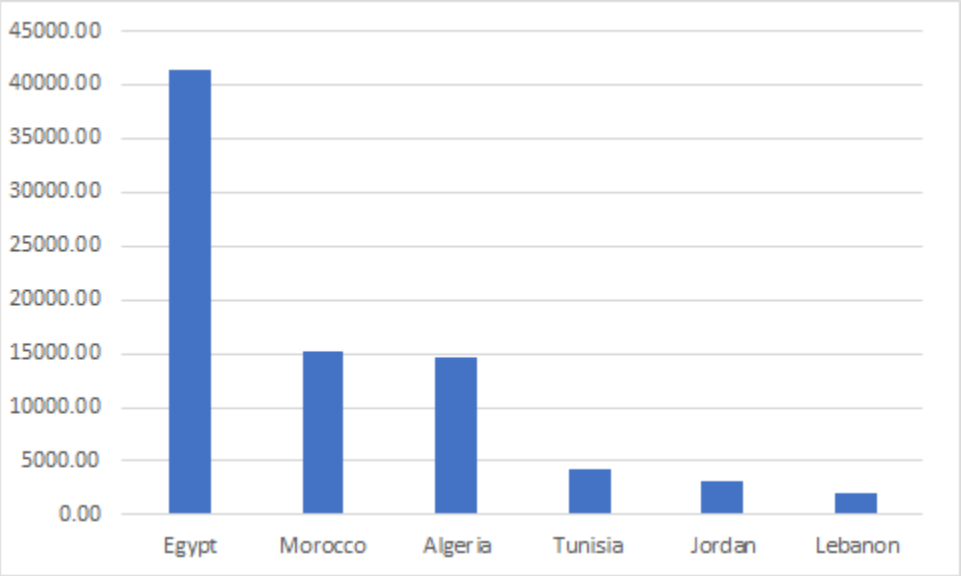
Source: UNCTAD FDI Database.

Considering the FDI increase in the aftermath of the EU-FTA implementation and the recovery from the financial crisis and the regional turmoil, Morocco and Egypt seems the countries that have benefited the most from the AA. Foreign firms, attracted by the new investment opportunities created by the EU FTA, have increased their investment in Egypt and Morocco thanks to their business-friendly environment characterised by low FDI barriers, a large and increasing domestic market and good infrastructure. The improvement in the business-environment and economic and political stability are essential conditions to attract FDI and maximise the gains from trade liberalisation. Total FDI inflows from the EU.[231]

Looking at the bilateral trade flows between EU and SMCs, Figure 3.90 shows that in 2018 most EU investment in SMCs were directed towards Egypt. Morocco and Algeria ranked 2nd and 3rd but the gap with Egypt is consistent. Lebanon is the country that attracted the lowest share of EU FDI.

[231] Owing to the lack of data on EU FDI inflows into SMCs, we use EU FDI outflows towards the SMCs from the Eurostat database.

Figure 3.91 European FDI in SMCs in 2018 (€m)



Source: Eurostat, Balance of Payment, EU direct investment positions (BPM6).

During the period 2014-17 the trend in EU investment into SMCs is in line with the worldwide investment pattern in the region (Table 3.27). EU has increased the investment in SMCs during the period 2014-2017 but the increase was smaller than the FDI expansion in Developing Countries excluding China and the World. SMCs managed to attract more European and Worldwide investment than MENA countries. Looking at the individual SMCs we notice that Algeria's FDI, from both the EU and World, have increased at the lowest rate in the period 2014-2017 and Tunisia has experienced a contraction of European and worldwide investment. EU investment in Lebanon differ the worldwide FDI inflows in the country. Indeed, despite being the country that attracted the lowest share of EU FDI, Lebanon has experienced the largest acceleration in FDI inflows from the EU. During 2010s Gulf countries have stepped down as major investors in Lebanon owing to the fall in the oil price in 2014 and the political frictions created in the region by the Iran's war. In the same period, EU investment in Lebanon have increased and in 2017 the Europe accounted for 31%[232] of foreign companies in Lebanon, holding the largest share (IDAL, 2018). UK investments ranked at the top (9% of total European investments)[233], followed by France (7%) and Switzerland (7%) and are mainly directed towards services, including ICT, Consulting and Financial Advisory. Thanks to the high skill labour force (Lebanon score in high education and training in the GCI is well above those of MENA and Asia and Latin America countries and rank second among SMCs, see table 3.25), Lebanon is positioning itself as a regional hub for service sectors (UNCTAD, 2018).

In Morocco, Jordan and Lebanon the increase in EU investment has been larger than the EU inflows in MENA countries (1.19%). However, the EU FDI increase is lower than those experienced by other developing countries (6.82%). Lebanon is the only country to report a larger increase in EU FDI inflows than developing countries (excluding China).

The EU-FTA by itself seems not enough to attract massive EU FDI inflows in SMCs. FDI barriers, a poor business and investment environment and regulations may undermine the benefits created by the FTAs and discourage foreign investment.

Table 3.27 FDI stocks in SMCs originating in the EU and the World (Average Yearly Change in 2014-17, %)

FDI Stock Yearly Change 2014-2017(%)	
	Home country

[232] The EU FDI share in Lebanon went up to 51% in 2019 and France is the main investor accounting for 22% of the total European investment (IDAL, 2019).
[233] Since 2015, the UK is part of a joint initiative with the Lebanese central bank that established the UK-Lebanon Technology Hub connecting start-ups in the knowledge economy with global investors and the Netherlands supported the DSH Agri-Food Innovation Hub (OECD, 2019).

Host Country	EU	World
Algeria	0.78	2.81
Egypt		7.83
Jordan	3.36	5.63
Lebanon	16.33	4.14
Morocco	4.52	7.56
Tunisia	-0.88	-2.48
SMCs	2.61	4.25
World	7.46	8.12
Developing Countries Excl.China	6.82	6.19
MENA	1.19	3.80

Data: EU: Eurostat (EU Outward FDI towards SMCs); World: UNCTAD (SMCs Inward FDI from the World).

Finally, SMCs investments in the European Union in 2018 were small (EU inward FDI amount to €1.8bn versus €13.3bn of EU outward FDI in 2018[234]) and represented only a small share of the investment made by the EU in SMCs (Table 3.28). Among SMCs, Lebanon and Morocco are the main investors in the EU. Lebanon is the only SMC to be a net investor in the EU235. Tunisian and Jordanian investment in the EU are the lowest among SMCs but their inward and outward FDI stocks are the most balanced. Finally, Egypt is the country with the largest positive balance suggesting that EU investment in the country are much larger than the Egyptian investment in the EU.

Table 3.28 EU-SMCs FDI Stock in 2018 (€ billions)

	EU Inward stocks	EU Outward stocks	Balance
Lebanon	4.8	2.3	-2.6
Morocco	2.1	17.9	15.8
Algeria	1.3	14.4	13.1
Egypt	1.1	38.2	37.1
Jordan	0.8	2.9	2.1
Tunisia	0.8	4	3.2

Source: https://ec.europa.eu/trade/policy/countries-and-regions/.

Sectoral distribution of FDI

FDI Inflows from the World

Another important aspect to consider to understand the potential impact of the FTAs on FDI is its sectoral distribution. An FTA, by creating a larger market and decreasing the cost of trading with the EU, could potentially attract investment in the *Manufacturing* or *Agriculture* towards the goods that were covered by the tariff provisions of the FTA as well as the intermediate goods and services that are needed in the production of these products. Moreover, since an FTA is expected to increase the trade volume in the region, we could also expect an increase in FDI directed to the services related to the commercialisation and the shipment of those goods. As a result, after the entry into force of the FTAs we should see an increase in FDI in *Agriculture*, *Manufacturing, Transportation and Storage* and *Commercial services*. On the other hand, an increase in FDI in the *Construction, Real estate* or *Utility* sector may be related less to the FTA.

SMCs are quite heterogenous group of countries in terms of the sectoral distribution of FDI, reflecting their different economic specialisations (Table 3.29). Over the period 2016-2018, FDI into Algeria, Egypt and Jordan was quite concentrated (the Top 3 sectors account for more 90%

[234] Owing to the lack of time series in EU inward FDI stock from the SMCs we can only present a snapshot of this indicator.
[235] The negative EU-Lebanon FDI balance indicates that EU investment in Lebanon are lower than Lebanese investment in the EU.

of total FDI in each of the SMCs). In Algeria, the FDI inflows were mainly concentrated in Oil and Gas, Manufacturing and Transportation and Storage, reflecting the investment laws that had been put in place to boost a diversification in FDI. In Egypt most of FDI went to the Construction (46.38%) and Utilities (44.24%). In Jordan Utilities attracted 74.19% of all FDI inflows.236 Lebanon, Morocco, and Tunisia presented a somewhat more diversified FDI structure. In Lebanon FDI was directed mostly towards Information and Communication (47.14%). In Morocco, FDI was directed towards Manufacturing (46.54%). In Tunisia, FDI concentrated mainly in Manufacturing (34.61%) and Oil and Gas (23.72%) (Table 3.29). Overall, the distribution of FDI in SMCs shows that only a small share of FDI was directed towards Manufacturing or Commercial services, the sectors related more directly to the FTAs provisions.

Table 3.29 FDI inflows distribution by sector in SMCs (% of total FDI Capital Expenditure; average values 2016-2018)

Industry Sector	Algeria	Egypt	Jordan	Lebanon	Morocco	Tunisia
Mining, Quarrying, and Oil and Gas Extraction	30.53%	0.00%	0.00%	0.00%	11.18%	23.72%
Manufacturing	29.82%	1.69%	1.81%	2.48%	46.54%	34.61%
Construction	7.65%	46.38%	9.93%	7.46%	11.10%	0.00%
Real Estate and Rental and Leasing	0.00%	0.25%	2.56%	18.93%	1.42%	0.30%
Transportation and Storage	29.72%	1.26%	0.35%	10.89%	10.94%	3.55%
Accommodation and Food Services	0.00%	0.00%	2.17%	0.00%	4.35%	10.10%
Utilities	2.05%	44.24%	74.19%	0.00%	6.05%	12.09%
Finance and Insurance	0.10%	0.21%	1.02%	6.01%	1.55%	5.97%
Information and Communication	0.00%	0.00%	6.10%	47.14%	2.33%	5.13%
Professional, Scientific, and Technical Services	0.07%	4.77%	0.43%	6.85%	2.53%	2.62%
Retail Trade	0.00%	0.00%	0.18%	0.00%	0.72%	0.34%
Educational Services	0.00%	0.00%	0.00%	0.00%	0.18%	0.53%
Administrative and Support and Waste Management and Remediation Services	0.06%	0.36%	0.25%	0.24%	1.12%	1.03%
Wholesale Trade	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Health Care and Social Assistance	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%
Industrial	0.00%	0.84%	0.00%	0.00%	0.00%	0.00%
Creative Industry	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%
Agriculture, Forestry, Fishing and Hunting	0.00%	0.00%	1.01%	0.00%	0.00%	0.00%

[236] Jordan saw an increase in renewables investment thanks to financing of utility-scale photovoltaic system and wind energy projects aimed at meeting the country's growth in power demand (Frankfurt School-UNEP Centre/BNEF, 2018). In 2016 Guangdong Yudean Group, a Chinese business engaged in wind generation, and YTL Power International Berhad, a Malaysian investment holding company, acquired 45% and 15% stakes respectively in Attarat Power Company, a Jordan-based company engaged in the management of a 554 MW power plant, for U$1.3b (Ernst&Young, 2017).

Arts, Entertainment, and Recreation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Source: the fDi Markets Dataset and own calculations.

If we look at the change in the FDI composition after the entry into force of the FTAs, we notice that *Construction*, *Transportation and Storage; Utilities*, and other services sectors, which include *Finance* and *Insurance*, *Information* and Communication, and *Professional, scientific, and technical services* have increased their shares in FDI in 2003-05[237] and 2016-18 (Table 3.30). Focusing on the sectors potentially more affected by the FTA we notice that between these two periods FDI in Transportation and Storage and Professional, Scientific and Technical services have recorded the largest increase.

Table 3.30 FDI Capital Expenditure (CAPEX) by Sector – Aggregate Value for SMCs (US$m, current price)

Capex Industry Sector	Total Value 2003-2005	Share 2003-2005	Total Value 2016-2018	Share 2016-2018	Difference in the share (percentage point)	Difference in values (%)
Mining, Quarrying, and Oil and Gas Extraction	6619.9	0.12	5105.8	0.05	-0.07	-22.9
Manufacturing	16311.7	0.30	10837.0	0.10	-0.20	-33.6
Construction	10777.2	0.20	38645.2	0.36	0.16	258.6
Real Estate and Rental and Leasing	606.6	0.01	553.4	0.01	-0.01	-8.8
Transportation and Storage	1109.7	0.02	5759.2	0.05	0.03	419.0
Accommodation and Food Services	5401.2	0.10	751.3	0.01	-0.09	-86.1
Utilities	6620.6	0.12	38711.8	0.36	0.24	484.7
Finance and Insurance	407.5	0.01	508.0	0.00	0.00	24.7
Information and Communication	779.5	0.01	795.1	0.01	-0.01	2.0
Professional, Scientific, and Technical Services	2109.8	0.04	4088.8	0.04	0.00	93.8
Retail Trade	599.0	0.01	99.1	0.00	-0.01	-83.5
Educational Services	190.7	0.00	28.2	0.00	0.00	-85.2

[237] The 2003-2005 period fits well with the period of entry into force of the FTAs in all SMCs but Tunisia, where the FTA was already implemented since 1996 (see Table 1.1. in Chapter 1).

Administrative and Support and Waste Management and Remediation Services	1998.5	0.04	446.5	0.00	-0.03	-77.7
Wholesale Trade	140.8	0.00	0.5	0.00	0.00	-99.6
Health Care and Social Assistance	0.0	0.00	1.5	0.00	0.00	0.00
Industrial	147.1	0.00	650.5	0.01	0.00	342.2
Creative Industry	104.3	0.00	8.4	0.00	0.00	-91.9
Agriculture, Forestry, Fishing and Hunting	0.0	0.00	44.5	0.00	0.00	0.00
Arts, Entertainment, and Recreation	160.0	0.00	0.0	0.00	0.00	-100.0
Total	54084.0	1.00	107034.8	1.00	0.00	52950.8

Source: the FDI Markets Dataset and own calculations.

Looking at the geographical breakdown of sectoral FDI Table 3.30 shows that Transportation and Storage increased in Algeria, Egypt, Lebanon and Morocco. **Egypt** is reinforcing its role as a logistic hub in the region leveraging on its strategic geopolitical position (WB, 2019). Among other initiatives, the country approved a law in May 2010 to facilitate the implementation of PPPs and accelerate plans to expand its infrastructure (WB, 2011). In 2017, Egypt's government announced its Transport Master Plan, an investment project that outlines actions through to 2027 to further expand its ports, development fast and efficient links between Cairo International Airport and the Suez Canal, exploit the Nile River as an economic corridor connecting Egypt to Sudan, Kenya and the Horn of Africa (PwC, 2017). In 2008, **Morocco** launched the 2008-2012 national strategy for the development of trade logistics, aimed at enhancing competitiveness and trade growth by promoting an optimal management of goods flows that will to reduce logistics costs (WB, 2011). The 2012-2016 Strategy of the Ministry of Equipment, Transport and Logistics (METL) continued the policy of developing transport infrastructure with a budget of €2.7bn, with 88% of the programme contract completed by the end of 2016 (OECD, 2018). Transportation and Storage has recorded a substantial increase in FDI inflows in **Algeria** together with the Oil sector, a sector that traditionally attracts most of Algerian FDI. According to the Ministry of Transport, in 2010-14, €35.7bn were invested in the Transportation and Storage sector. The private sector played a leading role accounting for 83.5% of total spending in 2014 and contributing €14.2bn to GDP, up from €8.6bn in 2010 and €7.6bn in 2008 (PwC, 2018).

The maximum level of restriction recorded by **Jordan** in Transportation and the high level in **Tunisia** may explain the shrinking in FDI in this sector. Moreover, the Jordan-EU-FTA doesn't grant the MFN status to EU companies investing in the Jordanian Transportation sector, except for shipping agencies. The shipping sector in Jordan, that thanks to this provision may potentially attract more foreign investments, largely depends on the export and re-export of goods in neighbouring countries. The political instability in Iran, Syria and Palestine that has decreased he trade volumes in these countries, may further explain the slowdown in FDI in Transportation in Jordan (PwC, 2015). In all these countries there is scope to reduce the FDI restriction in Transportation and Storage, attract more FDI and take more advantage from the FTA. Indeed, in all these countries, among the most restrictive sectors only Transportation and Distribution have a closer link with FTA. In Egypt, Jordan and Tunisia FDI restrictions in Transportation are much higher than in Communication, Financial and Business Services; and in Morocco FDI restrictions in Transportation are much higher than in the Communication and Financial sector, but lower than in Business Services (recall Figures 3.70 through to 3.73).

Regarding commercial services, FDI in Finance increased in Tunisia, Morocco and Egypt; FDI in Information and Communication increased in Jordan, Lebanon and Morocco and FDI in Professional, scientific and technical services went up in Tunisia, Morocco and Egypt (Table 3.31). Morocco and Egypt report the lowest FDI barriers in Communication and Finance. Egypt

has the lowest FDI restrictions in Business Service, followed by Tunisia, Morocco and Jordan. In Tunisia FDI in commercial services is attracted by the large pool of skilled and competitively compensated engineers, and the intense investment in physical capital, especially in telecommunication networks. These factors have enabled the expansion of knowledge-based sectors, such as engineering and architecture; accounting; legal services, and ICT-enabled services supplied by telecom and internet providers (WB, 2011).

"Digital Tunisia 2020" is the 5-years National Strategic Plan launch in 2016 to promote ICT development. The broader digital strategy includes e-government projects, expanding households' and schools' digital infrastructure (for example by improving broadband technology), strengthening the e-business sector, and encouraging foreign businesses to outsource digital services to Tunisia. In particular, the 'Start-Up Act' launched in 2018 is a project included in the "Digital Tunisia 2020" aimed at increasing the number of start-ups, especially in the high-tech sector. Most of the projects are implemented as public-private partnerships (Carnegie, 2018). In Morocco the creation of the Casablanca Finance City has attracted major MNEs such as BNP Paribas, AIG, BCC and Microsoft (WDI, 2015). Among Egypt strategic goals there is the boost of FDI inflows in the ICT sector. The government has established four tech parks in the country that offer local and foreign firms access to modern infrastructure like high-speed broadband and uninterrupted power supply. Since September 2018, companies operating in these zones benefit from 50% tax exemption (PwC, 2019).

Finally, while in the aggregate FDI in Manufacturing contracted in SMCs, in Morocco it increased in the most recent period (Table 3.30). Morocco's negligible FDI restrictions, its comparative advantage in manufacturing and ad hoc regulations may explain why Morocco attracts so many FDI in this sector. In particular, the Moroccan special economic zones, the tax incentives and the easy access to markets in Europe have attracted different carmakers: Peugeot, Nissan and Renault have largely invested in Morocco's growing automotive industry, which has attracted $4.6bn in greenfield investment since 2010 (WIR, 2019). Russia's Kamaz, Turkey's Otokar and Ford of the US have also invested in Moroccan plants. In December 2017, Chinese automotive specialist, BYD, announced plans to establish four new electric vehicle manufacturing facilities in the country (Klasa, 2019). However, important investments in manufacturing were realised also in other SMCs countries, mainly from Chinese MNEs attracted by the prospects of an easier access to the European market and a growing local demand (Liste et. all., 2012). In **Egypt**, the Chinese textile manufacturer Shandong Ruyi Technology Group signed an agreement with the Suez Canal Economic Zone to develop a textiles factory there. Shandong Ruyi will be investing $830 million in the new factory (WIR, 2019). Nissan, the Japanese car producer, is also expecting to expand its production site in Egypt. Different Chinese carmakers are investing in **Algeria**. The Chinese Shaan Xi signed a US$100 million deal with the Algerian GM Trade for the launch of a car-assembling factory in Setif (eastern Algeria) and a contract with the Algerian Fandi Motors for the assembling of two types of Shaan Xi cars. The Chinese Jiangxi Changhe Automobile signed an agreement with Fandi Motors for the assembling of two models of the Chinese group's minibuses (Liste et. all., 2012). In 2014 also Tata, the Indian car producer company, invested in Algeria (WIR, 2015).

The impact of the EU-FTA seems more evident in Morocco and Egypt, the countries with the least restrictive FDI provisions and the most business-friendly environments. Morocco have gained the most in term of FDI increase after the AA implementation. It records the largest increase in Worldwide FDI inflows and attracted more EU FDI than MENA countries. The gains were widespread across different sectors, indeed FDI increased in all the sectors related to the EU-FTA. Egypt is the second-winner, since it reported an increase in FDI in three sectors (Transportation and Storage, Finance and Insurance and Professional Services). On the contrary, the increase in FDI in Algeria and Jordan was more limited and FDI raised only in the Transportation and Storage and Information and Communication, respectively.

Table 3.31 Difference in the CAPEX Value 2016-18 VS 2003-05 (US$m, current value)

Difference in the CAPEX Value 2016-2018 VS 2003-2005						
Industry sector	**Algeria**	**Egypt**	**Jordan**	**Lebanon**	**Morocco**	**Tunisia**
Mining, Quarrying, and Oil and Gas Extraction	324.9		-850.2		264.4	-1253.2
Manufacturing	-5486.5	-1239.1	-1452.4	-695.9	3617.6	-218.3

Construction	-150	29203.7	0	-1760.6	574.9	
Real Estate and Rental and Leasing	-28.3	178.5	-381.8	71.8	102.7	3.9
Transportation and Storage	3259.2	536	-30.4	15.3	889.5	-20.1
Accommodation and Food Services	-450.8		-177.2	-2095.3	-1647	-279.6
Utilities	-1047.6	29563.8	3276.5		731.1	-432.5
Finance and Insurance	-33	31.9	-15.3	-59.6	143.7	32.8
Information and Communication	-476.4		261.5	137	144.8	-51.3
Professional, Scientific, and Technical Services	-32.3	1798.4	-8.5	-51.3	257	15.7
Retail Trade	-17.5		-41.2	-8.8	-382.3	-50.1
Educational Services	-14.6		0		-7.8	-140.1
Administrative and Support and Waste Management and Remediation Services	6.8	-1648.5	10.1	0.9	92.6	-13.9
Wholesale Trade	-1.3		-17.4	-45.8	-75.8	
Health Care and Social Assistance					1.5	
Industrial		503.4				
Creative Industry		-95.9				
Agriculture, Forestry, Fishing and Hunting			44.5			
Arts, Entertainment, and Recreation				-160		
Total	-4147.4	58832.1	618.2	-4652.3	4707	-2406.7

Source: the fDi Markets Dataset and own calculations.

FDI inflows from the European Union

Data for the FDI inflows from the European Union are available only for Morocco and Egypt and cover the bilateral FDI inflows with selected European Countries (see Table 3.32). Data shows that EU FDI towards Egypt is equally distributed across *Mining, Manufacturing and Services*, while EU FDI towards Morocco is mainly directed towards *Services* (52%). Looking at the sectors more impacted by the EU-FTA, EU FDI inflows in Egypt have increased in *Manufacturing, Transportation and Storage,* and *Professional, Science and Technical services;* and in Morocco in *Manufacturing, Transportation and Storage,* and *Finance and Insurance.*

Table 3.32 Sectoral FDI Inflows in Egypt and Morocco from Selected European Countries, 2014-17

	Egypt		Morocco	
	Share	Yearly % Change	Share	Yearly % Change
Mining and quarrying	39.27	74.60	19.61	-48.66
Manufacturing	35.07	147.59	29.46	19.03
Construction	16.73	44.70	13.70	-8.51
Utilities	0.09	330.03	5.17	458.00
Services	37.42	3.69	52.04	9.96
Real estate activities	8.70	0.00	0.00	0.00
Transportation and storage	3.74	2.41	3.86	3.33
Accommodation and food	0.23	-46.13	7.56	-39.14

Financial and insurance	63.67	-39.51	44.35	5.74
Information and communication	13.48	-9.21	7.14	-10.85
Professional, scientific and technical activities	30.81	45.59	31.85	-38.96
Wholesale and retail trade; repair of motor vehicles and motorcycles	12.81	0.80	35.13	-5.43
Education	0.00	0.00	0.00	0.00
Administrative and support service activities	0.00	0.00	0.00	0.00
Human health and social work activities	0.00	0.00	0.00	0.00
Arts, entertainment and recreation	0.00	0.00	0.00	0.00

Source: Eurostat, Balance of Payment, EU direct investment positions (BPM6).
The averages don't refer to the EU28 but to selected EU countries where data is available. See Table D.xx; Dxx; Dxx and Dxx for the country and sector decomposition.

Conclusion on FDI

The EU-FTA by creating a larger market has created the right incentives to invest in SMCs. However, behind-the-borders barriers and regulations may erode those benefits. The analysis of the FDI inflows into SMCs seems to support this hypothesis. Indeed, the relationship between the increase in FDI and the implementation of the AA is not homogeneous across SMCs. The level of FDI restrictiveness, the business and investment environment, the economic structure, the sectoral distribution of FDI and the geographical location of the investors all contribute to enhance or reduce the incentives created by the EU-FTA. Morocco and Egypt are the countries that have benefited the most from the investment opportunities created by the EU-FTA and managed to attract a rising share of FDI.

In **Morocco** the business and investment friendly environment matched with the low FDI restrictions, the economic structure skewed towards the manufacturing sector and the geographical ties with the EU may have induced firms to invest in Morocco to take advantage of the FTA. Indeed, FDI grew at a faster rate after the AA implementation and FDI inflows quickly recovered after the financial crisis. The increase in FDI was widely spread across all sectors that are closely related with the EU-FTA. In particular, Morocco is the only country in the SM region where FDI in Manufacturing increased.

In **Egypt** FDI inflows have raised in the aftermath of the AA implementation and they quickly recovered after the financial crisis. FDI increased in the Transportation and Storage, Finance and Insurance and Professional Service sectors, sectors related to the EU-FTA. The low FDI barriers, the large and increasing market size and the good infrastructure are among the factors that may explain the increase in Egyptian FDI after 2009.

Algeria, Jordan, Lebanon and Tunisia haven't fully exploited the investment incentive created by the FTA. In **Algeria** FDI increased at a faster rate in the aftermath of the EU-FTA and kept increasing until 2014 when the political turmoil in the region, the fall in the oil price and the introduction of unfriendly investment legislations posed a halt on foreign investment in the country. Algeria could better exploit the benefit of the FTA and attract more foreign investment by further diversifying its economy and improving its unfriendly business environment that has deteriorated since 2010. The large increase in FDI in the Transportation and Storage sector is a good example of the potential impact of the EU-FTA on FDI inflows in the country.

Although FDI inflows increased at a faster rate in the aftermath of the EU-FTA (supported also by the privatisation process), **Jordan** has struggled to recover since the financial crisis, despite the improvement in its business and investment environment. The high FDI restrictions may partly explain the negative performance in FDI. Moreover, among the sectors more closely related to the EU-FTA, FDI increased only the Information and Communication sector. The lack of FDI increase in Transportation and Storage, the sector that has recorded an increase in EU and Worldwide FDIs in SMCs, may be explained by the political instability in the neighbouring countries, mainly Syria, Iran and Palestine and the highly FDI restrictions that characterised the sector.

In **Lebanon** the weak correlation between the EU-FTA and the increase in FDI in the aftermath of the AA may be explained by the fact that during the 2000s the Gulf countries were major FDI's partners and they mainly invested in non-tradable sectors such as real estate, tourism and hotel. Hence the EU-FTA didn't create any incentive to increase this type of investment. The poor business and investment environment and the restrictive FDI provisions included in the AA may also explain the weak impact of the EU-FDI on Lebanese FDI inflows. More recently Gulf countries have step back as main investors in Lebanon owing to a fall in the oil price and the political tensions created by the Iran's war. In the same period FDI inflows from the EU have increased (mainly from UK and Netherlands) and were mainly directed towards the service sector. FDI inflow in Transportation and Storage and Information and Communication, services that are directly linked to the increase in trade promoted by the FTA, have increased since 2014. Lebanon could better exploit the benefit of the FTA and attract more foreign investment by decreasing its high barrier to FDI, improving its unfriendly business environment and its competitiveness that have deteriorated since 2010.

The link between the AA implementation and the FDI increase is weaker in **Tunisia**, where FDI grew at a lower rate in 2000s after the AA came into force. Both the 2008-09 crisis and the 2011 Tunisian Jasmine Revolution had a negative impact on inward FDI in the country which has not recovered since then owing to the fragile political and economic situation and the restrictive FDI barriers.

3.5.5.3. Overview of restrictions and trade in services in SMCs

Like FDI, services trade is not subject to a significant liberalisation as a result of the Euro-Med FTAs. However, we could expect that an increase in trade following the agreements would have increased the demand for commercial services that are related to trade in goods through different channels. Tariffs on goods may impact not only on the final demand of these goods but also on their services content (Prazeres, 2019). For example, about 30% of the value of an automobile comes from the services that go into its production. They include research, design and engineering services, distribution and logistics, and marketing and sales services, among others. If the demand for cars increases following a decrease in tariffs, a wide range of services providers could benefit from this both in terms of extensive and intensive margins.

Tariff reduction may also have an impact on the use of services that are key for moving goods across borders, such as maritime, air and road transport. An increase in the volume of trade in goods would imply an increase in the volume of shipped goods with implications for logistic services. For example, Lee and Cho (2017) found that goods FTAs had a positive impact on demand for transport services for multiple countries in their sample. A decrease in import tariffs following an FTA would also be expected to increase the SMC's involvement in GVCs. Given that services such as transport, logistics, communications, financial and business services are key to connect the different production stages in the global value chains (Heuser and Matoo, 2017), we could expect that the services providers, both domestic and foreign, are likely to gain from the FTAs and others may consider entering the market. The correlations for SMCs show that an increase in trade in goods and a reduction in tariffs increase trade in service, suggesting that FTA may have an indirect impact on services through the increase in trade in goods. The correlations are significant also if we control for year and country fixed effects, with imports of goods more significant than export in explaining the increase in service trade; and Transport trade more affected by trade in goods than trade in *Communications*, *Computer*, and *Insurance and financial service* (see Table D.18 and D.20-D.27 in Annex).

However, there is a possibility of domestic services being displaced by foreign services which in some contexts is interpreted as a risk associated with trade liberalisation (Diaz-Mora, Gandoy and González-Díaz, 2018). Given that the FTA does not include any provision on service trade liberalisation and SMCs present restrictive regulation on commercial services (see Box. 3.5), the risk of displacement associated with the FTA may be limited. Indeed, the correlation results do not provide a clear relationship between service output and trade in goods and services. The negative association between service value added and tariffs on manufacturing show that trade liberalisation in manufacturing may also increase service output. However, the correlation between the share of value added on GDP and trade in goods are negative, as well as the association with imports of *Transport* and *Communications*, *Computer*, and *Insurance and financial service* (see Table D.19 in Annex). Trade in goods and service trade imports (but Transport) are not correlated with productivity in services. The regression analysis confirms the weak link between service value added and trade in goods and services.

Level of protection in the service sector in SMCs countries

The environment in which services are delivered and traded would be an important factor in shaping the gains from the FTAs. The positive impact of the FTAs on services trade may however be counterweighed by restrictive services trade policies and regulations that typically characterise the sector. Such policies may distort incentives, discourage FDI, and limit SMC's integration within the region and with the rest of the world (World Bank, 2011). This problem may be particularly relevant in the SMCs countries where restrictions related to services trade remain high and where services provision is dominated by state-owned enterprises or domestic monopolies and incumbent enterprises. Despite the reforms implemented in the last decade in several SMCs, aimed at liberalising the financial sector, improving trade facilitation and simplifying business regulation, restrictive policies are still in place in *Financial services*, *Telecommunications*, *Retail and Distribution*, *Transportation* and *Professional services* (See Box 3.5). A revision of regulation in the sectors that are more related to trade in goods and hence potentially more affected by the FTA (such as Transportation, Financial and Professional Services and Retail and Distribution) may allow SMCs to increase their economic gains from the FTA.

Box 3.5 Level of protection in the service sector in SMCs countries

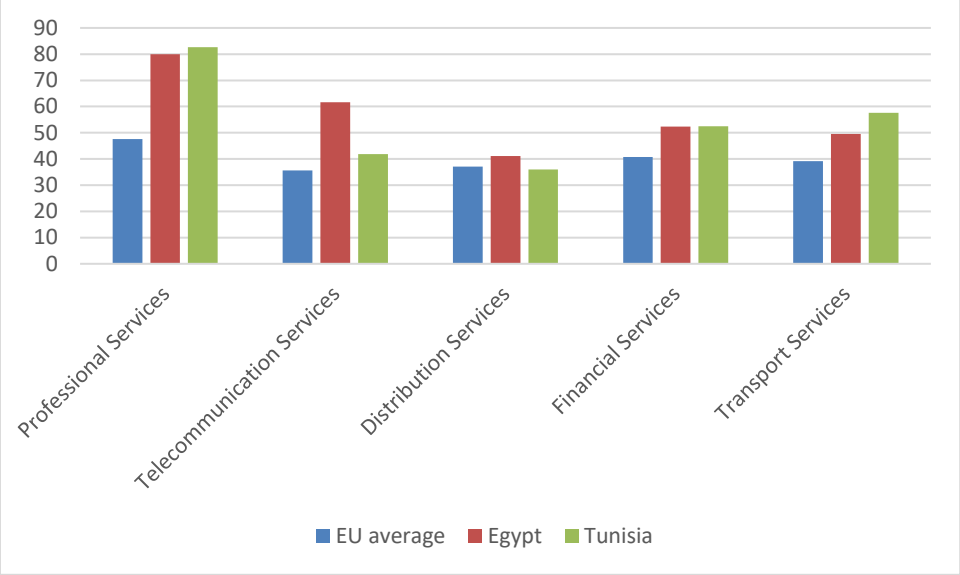
SMCs are not covered well by the existing databases on restrictions to services trade. The OECD Services Trade Restrictiveness Index database, which is a methodological reference in this area, does not include any of the SMCs and the WTO-World Bank's I-TIP Services database has data[238] only for Egypt and Tunisia in 2016 (Box Figure 3.2). This complicates any categorical comparisons across the SM region and an assessment of evolution over time.

Box Figure 3.2 shows the WTO- World Bank Services Trade Restrictions Index (STRI) index of services trade restrictiveness computed on the basis of the WTO-World Bank's I-TIP Services database as documented in Bochert et al. (2019) for five broad services sectors (Annex Figure D.13 shows the same data for the constituent sub-sectors). The index is a measure of the restrictiveness of an economy's regulatory and policy framework with respect to trade in services and is computed on the basis of information on around 115 regulations for 70 countries in 2016. It provides comparable information on services trade policies under three out of the four modes of supply in the GATS, namely cross-border supply (mode 1), commercial presence (mode 3) and presence of natural persons (mode 4) which are aggregated[239] in Box Figure 3.3 for clarity of presentation. The index ranges from 0 to 100, where 0 indicates that none of the restrictions underlying the index is applied, and 100 means that the subsector/mode is completely closed to foreign services and service suppliers.

The index shows that the regulations are more restrictive in all services sectors in Egypt and Tunisia than in the EU on average. Distribution services are the only exception: Tunisia and Egypt's regulations are close to EU standards (unless there is one specific standard). In 2016, modern distribution (I.e. hypermarkets, supermarkets and convenience stores) accounted for 22% of total turnover in Tunisia and in 2017 for 30% of total sales in Egypt, close to the EU's share (23% of total turnover). However, traditional distribution networks continue to dominate the Tunisian and Egyptian markets and FDI in the sector is highly restricted in Tunisia (Santander, 2020 a,b; OECD, 2019b). *Professional* services in Egypt and Tunisia are almost completely closed, reflecting high restrictions in *Legal* services but also in *Accounting* and *Auditing* (see Annex Figure D.13 for data on sub-sectors). Egypt has much more restrictive regulations in *Telecommunication* services than the EU and Tunisia, which is related to an almost completely closed fixed-line services sub-sector. Financial services are also more protected in the two SMCs and this is mainly due to restrictive regulation in *Commercial Banking*. *Transport services* are also more protected in the two SMCs although there is significant variation across the different transport modes: road freight transport is relatively deregulated in the EU as well as in Egypt and Tunisia, air transport is more protected and to a similar degree in Egypt, Tunisia and the EU, rail freight transport is more protected in Egypt and almost completely closed in Tunisia.

[238] Available on-line at: http://i-tip.wto.org/services/.
[239] To obtain an overall index which is presented in Box Figure X.1 and which combines the three modes of supply in a subsector-level index, the trade restrictions by different modes were weighted according to their importance for the supply of the respective services in each subsector, and then aggregated.

Box Figure 3.3 Trade restrictions across services sectors in the EU, Egypt and Tunisia (2016)



Note: the EU average is a simple average across scores of all EU countries included in the dataset.
Source: WTO- World Bank Services Trade Restrictions Index available at http://i-tip.wto.org/services/.

Some additional observations on the level of restrictiveness of services sectors in these and other SMCs can be made on the basis of the existing literature and earlier versions of the WB-WTO STRI which confirm that the level of protection is higher in SMCs than in developed countries and it is not homogeneous across SMCs and sectors. With regards to *Transport*, Algeria, Egypt and Lebanon have more closed policy regimes in the *Air transport* while Morocco, Jordan and Tunisia are fairly open. In contrast, trade in *Maritime transport* services is very restricted in Lebanon, Tunisia and Morocco and it is fairly open in Algeria, Egypt and Jordan. With regards to *Finance*, while Egypt has restrictive policies both in the *Insurance* and in the *Banking* sector, Lebanon and Morocco are fairly open in both these sectors. Jordan has the most restrictive *Banking* sector among SMCs and the least restrictive *Insurance* sector. In Algeria regulations in *Banking* are restrictive while they are moderate in Insurance. The opposite is true for Tunisia. With regards to *telecommunications*, Jordan is the only SMC that is fully open to FDI in fixed-line telecommunication services, but it is the most restrictive in mobile communication. The remaining SMCs are rather open and present the same STRI score both in the fixed-line and mobile communication services sector (with the exception of Tunisia that in 2016 shows an improvement in this sector) (UN-ECWASA, 2018). Although there is not a clear pattern among SMCs, some of the sectors that are more related to trade in goods and hence potentially more affected by the FTA (such as Transport, Finance and Insurance) are still highly restricted in some countries. A revision of these sectors' regulations may allow SMCs to increase their economic gains from the FTA.

Trends in services trade

SMCs' services trade with the world

Trade in services statistics of SMCs indicate some important differences with respect to tendencies seen in other countries. First, the ratio of services trade to GDP is higher than on average in low and middle countries (Table 3.33). In Lebanon, the ratio of trade in services to GDP is particularly high and it even exceeds that for trade in goods which reflects the country's position as an important services hub in the region. Secondly, except for Algeria, SMCs present also a positive balance of services trade which is unusual in counties with comparable incomes per capita. These 'anomalies' can be generally explained by the importance of the **tourism sector in the SMCs**. Personal travel accounts for 96.86% of travel service export and 91.15% of imports (Table 3.34). All SMCs apart from Algeria are net exporters of Travel services and this category of services is by far the main driver of the positive trade balances (Figure 3.91). Focusing on the service sectors more related to the EU-FTA, Figure 3.89 shows that while Morocco, Lebanon and Jordan are net exporters of *Communications*, *Computer*, and *Insurance*

and financial services [240], Egypt and Algeria are highly dependent on imports of services in this category. As far as Transportation services are concerned, all SMCs but Egypt are net importers. The geographical position of Egypt and the strategic importance of the Suez Canal are the main factors that explain Egypt's revealed strength in this sector.

Table 3.33 Services and Merchandise Trade as a Percentage of GDP

	Services Trade (% GDP)			Merchandise trade (% of GDP)		
	1990-2000	2001-2008	2009-2017	1990-2000	2001-2008	2009-2017
Algeria	3.2	7.3	8.4	44.4	60.2	55.8
Egypt	22.8	23.8	13.9	68.2	77.8	85.6
Jordan	49.6	38.5	32.6	24.7	33.2	32.9
Lebanon		83.3	65.3		54.8	55.2
Morocco	12.5	20.8	23.2	39.4	52.0	61.4
Tunisia	19.7	18.2	17.2	80.5	101.1	82.5
Low & middle income	8.1	9.7	8.4	35.1	49.8	43.6

Source: World Bank Development Indicators.

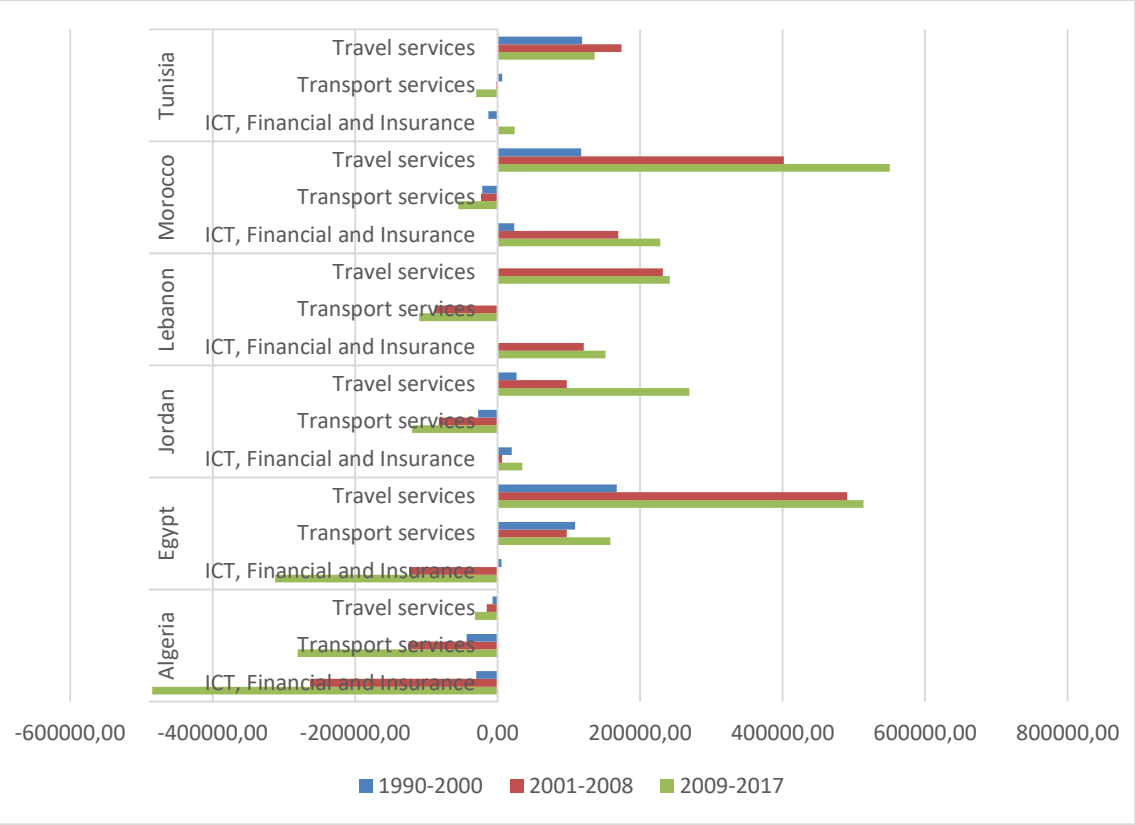
Table 3.34 Share of Personal Travel in Total Travel Service (Average share over the period 2005-2017

	Exports	Imports
Algeria	99.51	87.10
Egypt		96.02
Jordan	92.48	94.07
Lebanon	95.91	93.78
Morocco	98.62	87.14
Tunisia	97.78	88.79

Source: WTO.

[240] World Bank data classify services in four major categories: travel, transport, Communications, computer, etc. and Insurance and financial services. In Figure X.23 Communications, computer, etc. and Insurance and financial services have been merged into one group (ICT, Finance and Insurance). Communications, computer, information, and other services cover international telecommunications; computer data; news-related service transactions between residents and non-residents; construction services; royalties and license fees; miscellaneous business, professional, and technical services; personal, cultural, and recreational services; manufacturing services on physical inputs owned by others; and maintenance and repair services and government services not included elsewhere. Insurance and financial services cover various types of insurance provided to non-residents by resident insurance enterprises and vice versa, and financial intermediary and auxiliary services (except those of insurance enterprises and pension funds) exchanged between residents and non-residents.

Figure 3.92 Balance of trade in services by Sector in SMCs (in mln US$, current values)



Source: World Bank Development Indicators.

Since the 1990s, SMCs recorded a general increase in their commercial services (net of travel[241]) trade flows and this growth accelerated in the early 2000s and followed a more unstable path in the aftermath of the 2008-09 crisis and the Arab Spring (Figure 3.92 - Panel B).

The FTAs generally entered into force in in the period of the fast growth of services trade. Since the rise in services trade was not a specific feature of the region but was rather a **worldwide trend** (Figure 3.92 - Panel A), the FTAs could have been one of the factors that helped SMCs in expanding their services trade but they were definitely not the only factor. In **Egypt**, **Jordan** and **Morocco** exports and imports of commercial services started to increase when the FTAs came into force and all of these SMCs recorded higher growth rates in exports and imports of commercial services in the period between the entry into force of their FTAs and the 2008-09 crisis. In Egypt and Morocco service imports have gained more than exports. In Jordan the opposite is true: the increase in the service exports growth rate was higher than for service imports (Table 6.71). Given that the EU's and other developed countries' economic activity was severely affected during and after the crisis, it is not surprising that SMCs' trade in services contracted after 2008. However, while services trade in **Morocco** and **Jordan** kept increasing in the last decade, in **Egypt** the growth was more unstable.

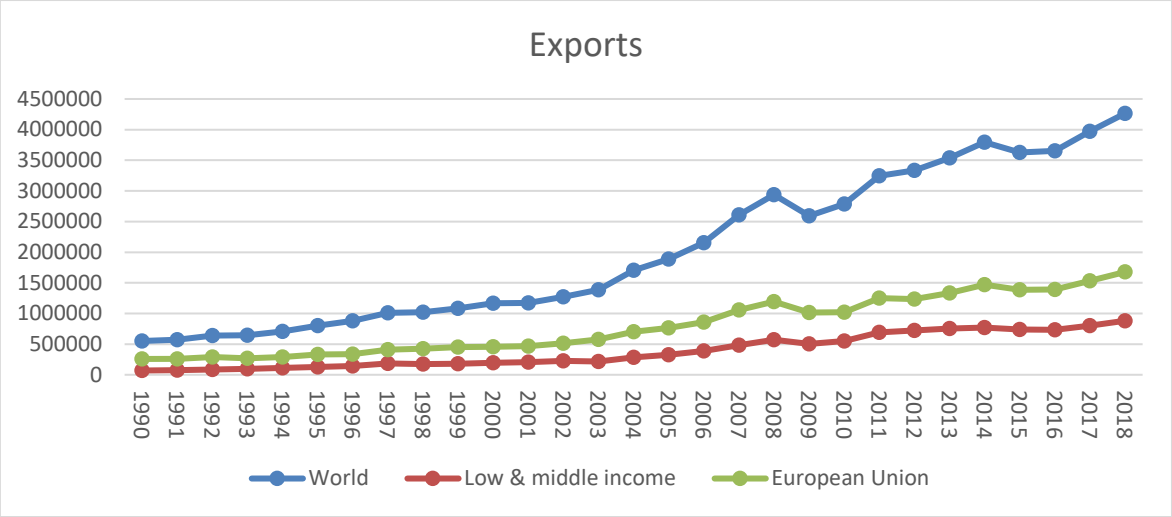
In **Algeria**, the correlation between the entry into force of the FTA and services trade flows (particularly imports) seems more visible since the increase was delayed with respect to other world regions and it coincided more clearly with the entry into force of the FTA. The correlation between the entry into force of FTA and the increase in services trade is somewhat weaker, in **Tunisia** where both services exports and imports were rising even before the AA implementation and started to accelerate only in the early 2000s.[242] The country's trade has contracted in the aftermath of the 2008-09 crisis and the Arab Spring and has not recovered

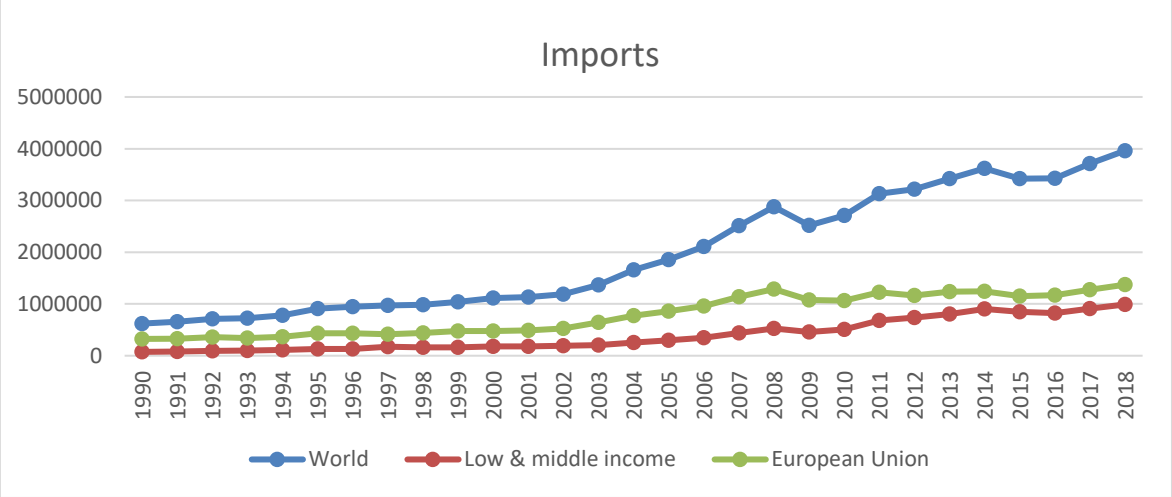
[241] Given that Travel is not related to the FTA and accounts for a large share of SMCs service trade, we will exclude it from the analysis.
[242] The average growth rate for commercial services exports were respectively 2.2% in the period 1996-2001 and 13.4% in the period 2002-2007.

since then. The contraction in service exports' growth rate has been more limited than for imports (Table 3.35). In **Lebanon** services' exports and imports were already increasing at a high rate before the entry into force of the FTA but their growth decelerated in the aftermath of the financial crisis and the Arab spring, with exports more impacted than imports in terms of s contraction.

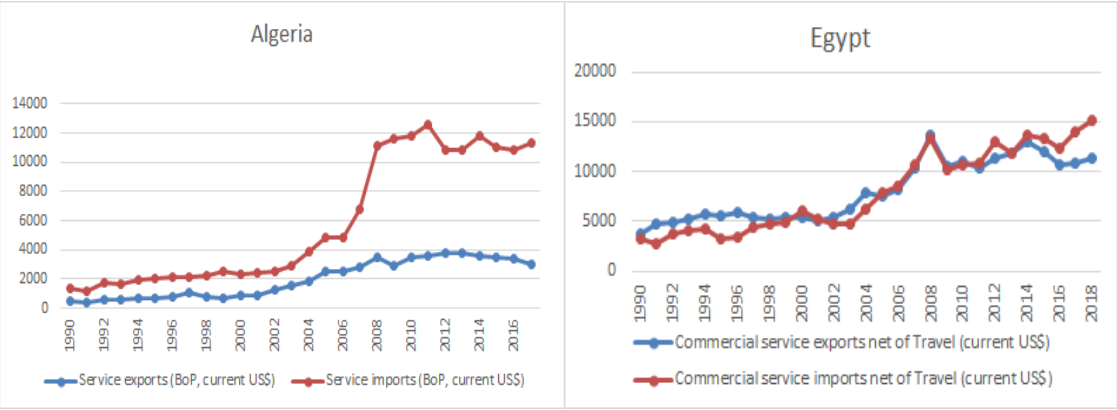
Figure 3.93 Exports and imports of commercial services net of Travel (BoP, current US$ mln) – SMCs, Developing Countries, EU and the World (partner = World)

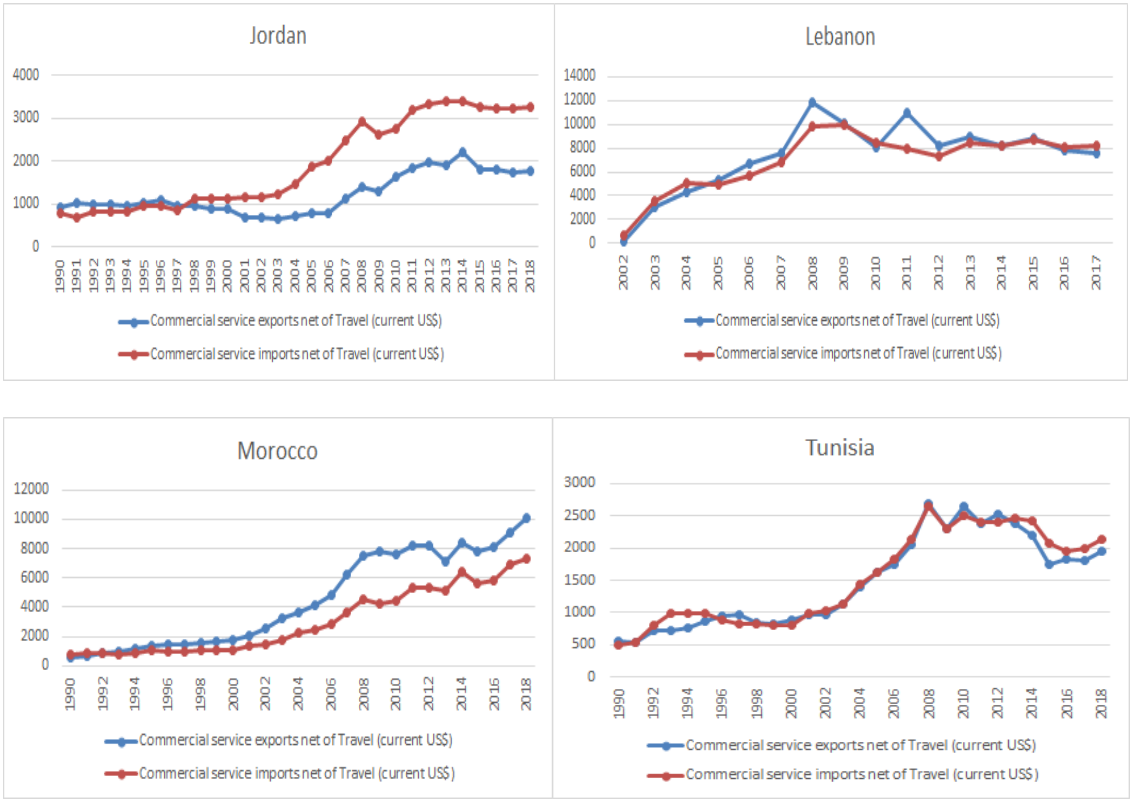
Panel A. World, low and middle-income countries and the EU





Panel B. SMCs





Source: World Bank World Development Indicators Data.
Commercial Service Data for Algeria are available from 2005 onwards. In the graph we present total service trade since commercial services net of travel account for 88% of them (exports and imports).

Table 3.35 Services exports and imports in SMCs: yearly growth rate pre and post the AA

Country	Sector	Average Yearly growth rate before FTA	Average Yearly growth rate after FTA	Difference in percentage points	Average Yearly growth rate after AA and before 2008-9 crisis	Difference in percentage points
Algeria[μ]	Services exports	12.5	4.6	-7.8	17.7	5.3
	Services imports	9.0	10.2	1.2	32.2	23.2
Egypt[η]	Comm Services exports (net of travel)	4.5	5.1	0.6	17.8	13.3
	Comm Services imports (net of travel)	4.4	9.2	4.8	23.5	19.1
Jordan[σ]	Comm Services exports (net of travel)	-2.1	6.9	9.0	11.7	13.7
	Comm Services imports (net of travel)	4.4	7.2	2.8	14.7	10.3
Lebanon[Δ]	Comm Services exports (net of travel)	31.1	5.4	-25.7	31.7	0.6
	Comm Services imports (net of travel)	20.7	5.4	-15.3	26.4	5.7
Morocco[æ]	Comm Services exports (net of travel)	12.7	10.4	-2.3	18.2	5.5
	Comm Services imports (net of travel)	4.5	11.5	7.0	17.5	13.0

Tunisia§	Comm Services exports (net of travel)	10.1	4.2	-5.9	9.7	-0.4
	Comm Services imports (net of travel)	16.0	3.8	-12.2	8.5	-7.5

Source: World Development Indicators and Author's calculation.
Commercial Service Data for Algeria are available from 2005 onwards. In the graph we present total service trade since commercial services net of travel account for 88% of them (exports and imports).
μ Growth Rate: Before AA: 1990-2004; After AA: 2005-2017 and AA-FC: 2005-2008;
ɳ Growth Rate: Before AA: 1990-2003; After AA: 2004-2017 and AA-FC: 2004-2008;
ɑ Growth Rate: Before AA: 1990-2001; After AA: 2002-2017 and AA-FC: 2002-2008;
Δ Growth Rate: Before AA: 1990-2005; After AA: 2006-2017 and AA-FC: 2006-2008;
æ Growth Rate: Before AA: 1990-1999; After AA: 2000-2017 and AA-FC: 2000-2008;
§ Growth Rate: Before AA: 1990-1995; After AA: 1996-2017 and AA-FC: 1996-2008.

Considering the sectoral composition of services trade, it would be expected that he entry into force of the FTAs would mainly have a positive effect on *Transportation* as well as *Communication*, *Computer*, *Insurance* and *Financial services.*[243]

Transportation is a key sector in service trade in all SMCs. Tables 3.36 and 3.37 show that *Transportation* accounts for the largest share of **Egyptian** exports (40.2% in the period after the AA) and imports (41.8%); while in **Jordan and Morocco** it represents a small share of exports (19.5% and 15.3%, respectively) and a significant part of imports (52.5% in Jordan and 38.5% in Morocco). In all three countries Transportation services have expanded both in terms of exports and imports. **Egypt, Jordan and Morocco** report higher growth rates in *Transportation* than in *Communication*, *Computer*, *Insurance* and *Financial services* and an acceleration in the growth of *Transportation* services trade (both exports and imports) after the entry into force of the FTA. As a result, the share of *Transportation* in total trade has increased in all countries (but Jordan). While imports of *Transportation* services increased more than exports and have gained more in terms of growth acceleration in **Egypt and Morocco**; the opposite is true in **Jordan**, where Transportation exports has expanded more than imports. In **Lebanon** *Transportation* accounts for a small share of both exports and imports (6.2% and 16.8%) and exports in the sector seems to have gained the most from the FTA. Indeed, exports in Transportation grew faster than in imports and it reported a larger acceleration in the growth rate after the AA implementation. Moreover, Transportation exports grew faster than exports in *Communication*, *Computer*, *Insurance* and *Financial service.* As a result, the share of Transportation in total exports increased. The opposite is true for Transportation imports that have increased at a lower rate than *Communication*, *Computer*, *Insurance* and *Financial* and their expansion has slowed down after the AA implementation. Finally, in **Tunisia** Transportation accounts for the largest share of imports (44%) and a smaller part of export (29%). Imports of Transportation services have gained more than exports despite a deceleration in their expansion after the AA. Indeed, Transportation imports' growth rate was larger than exports and the contraction in the growth rate after the AA was smaller in imports than exports. In Algeria Transportations account for 24.9& of Exports and 31% of Imports but it has decreased its share in both exports and imports after the FTA.

Communication, *Computer*, *Insurance* and *Financial services* account for more than one third of imports in all countries but **Jordan**, while only in **Lebanon, Morocco** they represent a large share of exports. The impact of the FTA on this sector seems positive but less pronounced than for Transport. Indeed, the increases in the trade flows are less widespread among the SMCs and more visible if we exclude the period after the 2008-09 crisis. In the period between the entry into force of FTAs and the 2008-09 crisis, in **Egypt**, **Jordan**, **Morocco**, and **Tunisia** *Communication*, *Computer*, *Insurance* and *Financial services'* exports grew faster after entry into force of the FTAs but this resulted in an increase of the share of this service category in overall services trade only in **Morocco** and **Tunisia** (which are also net exporters of this category of services). As far imports of service are concerned, **Egypt**, **Lebanon** and **Morocco** report higher growth rates for *Communication*, *Computer*, *Insurance* and *Financial services* after the AA implementation and in **Lebanon** it resulted in an increase of the share of this service category in overall services imports. Data up to 2017 show a similar picture but **Morocco** and

[243] Transport for example has been identified as the sector that has benefited the most from the entry into force of the FTA despite being highly restricted in most SMCs (Hoekman, 2016).

Tunisia recorded a small deceleration in the *Communication*, *Computer*, *Insurance* and *Financial services* imports growth in this period.

Travel services, which are the main traditional component of SMCs' services exports and which by their nature should not be significantly affected by the entry into force of the FTAs, nowadays indeed account for a smaller share of exports in most SMCs. This change can be explained by the political instability in the SMCs which discouraged tourism. The increase in *Transportation* and *Communication*, *Computer*, *Insurance* and *Financial* trade are consistent with the FDI trends discussed in the previous sub-section.

Table 3.36 Services exports in SMCs: growth rate and share of commercial services

Country	Sector	Average growth rate before FTA	Average growth rate after FTA	Difference in percentage points	Average growth rate after AA and before 2008-9 crisis	Difference in percentage points	Share Comm Services before FTA	Share Comm services after FTA	Difference in percentage points	Share Comm Serv after AA and before 2008-9 crisis	Difference in percentage points
Algeria[µ]	ICT, Financial and Insurance		4.1		14.4		41.3	67.9	26.6	59.4	18.1
	Transportation services		-0.9		5.6		41.6	24.9	-16.6	32.3	-9.2
	Travel services		0.4		22.2		17.1	7.1	-9.9	8.2	-8.9
Egypt[n]	ICT, Financial and Insurance	2.6	5.2	2.6	15.9	13.3	34.0	18.4	-15.7	22.0	-12.0
	Transportation services	2.8	7.9	5.1	19.9	17.1	32.9	40.2	7.3	32.5	-0.5
	Travel services	14.3	14.1	-0.2	19.4	5.1	33.0	41.4	8.4	45.5	12.5
Jordan[q]	ICT, Financial and Insurance	0.6	6.5	5.8	13.8	13.1	39.8	17.4	-22.4	19.7	-20.1
	Transportation services	-1.6	11.5	13.1	18.7	20.3	20.9	19.5	-1.4	18.1	-2.8
	Travel services	4.9	13.6	8.7	23.9	18.9	39.3	63.1	23.8	62.3	22.9
Lebanon[Δ]	ICT, Financial and Insurance	34.5	4.7	-29.8	33.9	-0.7	29.3	50.7	21.4	57.3	28.1
	Transportation services	5.8	15.8	10.1	5.5	-0.3	3.4	6.2	2.8	3.8	0.4
	Travel services	12.0	3.1	-8.9	2.1	-9.9	67.3	43.1	-24.3	38.9	-28.5
Morocco[æ]	ICT, Financial and Insurance	11.6	9.6	-1.9	16.9	5.3	35.0	37.4	2.4	36.4	-1.4

Country	Sector	Average growth rate before FTA	Average growth rate after FTA	Difference in percentage points	Average growth rate after AA and before 2008-9 crisis	Difference in percentage points	Share Comm Services before FTA	Share Comm services after FTA	Difference in percentage points	Share Comm Serv after AA and before 2008-9 crisis	Difference in percentage points
	Transportation services	15.0	11.3	-3.8	18.6	3.5	13.6	15.3	1.7	13.6	-0.1
	Travel services	6.4	8.5	2.1	16.1	9.7	51.5	47.3	-4.2	50.0	1.5
Tunisia§	ICT, Financial and Insurance	5.8	5.1	-0.7	8.1	2.3	15.9	20.7	4.8	15.6	-0.3
	Transportation services	11.3	3.4	-7.9	9.9	-1.4	24.5	26.6	2.2	25.9	1.5
	Travel services	11.3	0.5	-10.8	5.6	-5.7	59.6	52.7	-6.9	58.4	-1.2

μ Growth Rate: Before AA: 1990-2004; After AA: 2005-2017 and AA-FC: 2005-2008;
ɲ Growth Rate: Before AA: 1990-2003; After AA: 2004-2017 and AA-FC: 2004-2008;
ɑ Growth Rate: Before AA: 1990-2001; After AA: 2002-2017 and AA-FC: 2002-2008;
Δ Growth Rate: Before AA: 1990-2005; After AA: 2006-2017 and AA-FC: 2006-2008;
æ Growth Rate: Before AA: 1990-1999; After AA: 2000-2017 and AA-FC: 2000-2008;
§ Growth Rate: Before AA: 1990-1995; After AA: 1996-2017 and AA-FC: 1996-2008;
Source: World Development Indicators.

Table 3.37 Services imports in SMCs: yearly growth rate and share of commercial services

Country	Sector	Average growth rate before FTA	Average growth rate after FTA	Difference in percentage points	Average growth rate after FTA and before 2008-9 crisis	Difference in percentage points	Share Comm Services before FTA	Share Comm Services after FTA	Difference in percentage points	Share Comm Serv after FTA and before 2008-9 crisis	Difference in percentage points
Algeria[µ]	ICT, Financial and Insurance		11.3		44.5		39.1	63.1	24.1	61.2	22.2
	Transportation services		6.7		22.0		49.4	31.7	-17.7	32.6	-16.8
	Travel services		5.5		8.8		11.6	5.2	-6.4	6.2	-5.4
Egypt[n]	ICT, Financial and Insurance	6.1	8.4	2.4	19.2	13.1	52.2	41.2	-10.9	44.9	-7.3
	Transportation services	2.9	11.3	8.4	29.8	26.9	30.4	41.8	11.4	39.1	8.6
	Travel services	32.6	6.0	-26.6	18.1	-14.5	17.4	16.9	-0.5	16.0	-1.4
Jordan[q]	ICT, Financial and Insurance	7.6	5.7	-1.9	3.3	-4.3	33.5	21.3	-12.2	25.8	-7.8
	Transportation services	4.0	8.7	4.7	17.5	13.5	41.8	52.5	10.8	49.5	7.8
	Travel services	1.9	9.7	7.8	15.7	13.7	24.7	26.1	1.4	24.7	0.0
Lebanon[Δ]	ICT, Financial and Insurance	20.2	6.1	-14.0	30.7	10.5	34.9	48.9	14.0	53.0	18.1
	Transportation services	45.4	4.5	-40.9	13.4	-32.0	14.9	16.8	1.9	16.3	1.3
	Travel services	3.0	5.8	2.8	7.1	4.1	50.2	34.3	-15.9	30.7	-19.5
Morocco[æ]	ICT, Financial and Insurance	3.0	9.2	6.1	14.5	11.5	47.1	44.3	-2.8	44.0	3.1
	Transportation services	2.3	11.7	9.3	17.3	15.0	35.9	38.5	2.6	38.4	-2.5
	Travel services	11.0	8.5	-2.5	11.0	-0.1	17.0	17.2	0.2	17.7	-0.7

Country	Sector	Average growth rate before FTA	Average growth rate after FTA	Difference in percentage points	Average growth rate after FTA and before 2008-9 crisis	Difference in percentage points	Share Comm Services before FTA	Share Comm Services after FTA	Difference in percentage points	Share Comm Serv after FTA and before 2008-9 crisis	Difference in percentage points
Tunisia§	ICT, Financial and Insurance	14.2	2.9	-11.4	4.9	-9.3	45.5	31.6	-13.9	31.7	-13.8
	Transportation services	10.4	4.9	-5.5	10.3	-0.1	37.8	49.0	11.2	49.5	11.7
	Travel services	9.3	5.7	-3.5	4.9	-4.3	16.7	19.4	2.7	18.8	2.1

μ Growth Rate: Before AA: 1990-2004; After AA: 2005-2017 and AA-FC: 2005-2008;
ɳ Growth Rate: Before AA: 1990-2003; After AA: 2004-2017 and AA-FC: 2004-2008;
ɑ Growth Rate: Before AA: 1990-2001; After AA: 2002-2017 and AA-FC: 2002-2008;
Δ Growth Rate: Before AA: 1990-2005; After AA: 2006-2017 and AA-FC: 2006-2008;
æ Growth Rate: Before AA: 1990-1999; After AA: 2000-2017 and AA-FC: 2000-2008;
§ Growth Rate: Before AA: 1990-1995; After AA: 1996-2017 and AA-FC: 1996-2008;
Source: World Development Indicators.

SMCs services trade with the EU

Data on trade in services between the EU and SMCs are available only from 2010 to 2018. Despite the data constraints does not allow to carry on a pre- and post- AA analysis as in the previous section, we can still get an interesting picture by looking at the general trend in exports and imports during the last decade and the comparison with other EU partners (Table 3.38).

Egypt, Morocco, and Tunisia are the main EU import partner in services, and they report a positive trade balance with the EU as they do with the World. Once again, *Travel* is the main driver of the positive trade balance with the EU: if we exclude travel, the trade balance with the EU turns negative in **Egypt** and shrinks significantly in **Morocco**. The negative trade balance of Europe towards the SMCs in service is a peculiarity of these countries since the trade balance towards other developing countries, MENA and the Rest of the World is positive. **Algeria** is the third EU export destination in SMCs (after Egypt and Morocco). In line with other developing countries, Algeria imports more services from Europe than it exports, as it does from the World. Given the scarce relevance of the tourism sector in Algeria, *Travel* accounts for a small share of both exports and imports and hence does not drive a positive trade balance. **Jordan and Lebanon** are two exceptions: their trade balance is negative with the EU but positive towards the World. In **Jordan** the positive trade balance towards the world is due to the large importance of the *Travel* sector that brings tourists mainly from the Arab countries (they accounted for 63% of total tourists in 2004-05 (Shdeifat et all, 2006)). Since European tourists represent 13.1% of total tourists in Jordan, the *Travel* sector accounts for a smaller share of total exports to the EU and it may explain the small but negative trade balance. In **Lebanon**, most of the tourists in 2019 were from Europe, however since *Travel* accounts for a large share of both exports and imports, Tit cannot be identified as the main driver of the trade balance (trade balance towards the world is positive also if we exclude travel). The negative trade balance with the EU could be mainly be explained by the imports of European commercial services.

During the last decade, in **Egypt, Jordan, Lebanon and Morocco** imports of services from the EU has grown at a faster rate than exports and they report the highest growth rates among SMCs. In **Algeria**, the opposite is true, while Tunisia registered a contraction in both service exports and imports. EU trade relations with Developing countries, MENA and the Rest of the World have increased at a faster rate than towards SMCs. **Jordan and Morocco** are the only exception. EU exports to **Jordan** have increased at a faster rate than towards other developing countries and the rest of the world (in line with the positive trade balance registered by the EU); and EU exports to **Morocco** have grown at a similar rate of other developing countries. Finally, the gap between EU trade relations with SMCs and other countries is much larger in terms of imports, suggesting that SMCs should strengthen the exports of commercial services towards the EU.

Given the trend in service trade between the EU and SMCs in the last decade, it seems that the expansion of EU trade in services in SMCs is quite limited compared to other countries and it is mainly directed towards the imports of services from the EU. **Jordan and Morocco** are the only two SMCs countries where imports from the EU have grown at the same rate as other countries.

Table 3.38 EU-SMCs imports and exports: value, share and yearly growth rate (averages over the period 2010-18)

	EU Imports		EU Exports		Trade Balance
	Average Value	Average Yearly Growth Rate	Average Value	Average Yearly Growth Rate	Average Value
Algeria	1,545	0.31	3,121	-0.82	1,576
Egypt	5,477	1.08	3,916	4.21	-1,562
Jordan	553	2.34	935	7.38	382
Lebanon	992	3.83	1,435	3.91	443
Morocco	5,207	4.49	3,631	5.29	-1,576
Tunisia	3,243	-3.64	1,403	-3.06	-1,839
SMCs	2,836	1.40	2,407	2.82	-429

Developing Countries excl. China	198,220	8.99	227,894	5.68	29,674
MENA	4,400	8.67	5,807	11.01	1,407
World	1,511,397	6.70	1,752,625	6.92	241,228

Source: Eurostat.

Data on the composition of trade in service for Egypt and Morocco (Table 3.39 and 3.40) show a link between the FTA and trade in services that is coherent with the SMCs trade towards the World. Indeed, *Communication*, *Computer*, *Insurance* and *Financial* and Transportation (services related to trade in goods) account for the largest share of EU exports into Morocco and Egypt, while *Communication*, *Computer*, *Insurance* and *Financial* in Egypt and Transportation in Morocco account for the largest share of imports (if we exclude Travel). Imports of Transportation Service from the EU has grown at a faster rate than imports of *Communication*, *Computer*, *Insurance* and *Financial services* in both countries, while the opposite is true for exports. *Maintenance and Manufacturing related services* accounts for the smallest share of both exports and imports in both countries but record the largest increases in the last decade (but Manufacturing service's imports in Egypt that shrank).

Table 3.39 EU-Egypt Trade in Service: value, share and yearly growth rate (av., 2010-18)

	EU Service Exports			**EU Service Imports**			**EU Service Trade Balance**
	Average Value	**Average Share**	**Average Yearly Growth Rate**	**Average Value**	**Average Share**	**Average Yearly Growth Rate**	**Average Value**
Commercial Services excl. Personal Travel	3,465		4.69	3,320		2.32	145
ICT, Financial and Insurance	2,010	53.33	2.94	1,086	20.03	3.97	925
Transport	855	22.41	9.70	1,830	34.14	2.63	-975
Travel	420	11.19	2.99	2,311	42.30	0.47	-1,891
Manufacturing services on physical inputs owned by others	87	2.53	-16.46	41	0.76	286.75	46
Maintenance and repair services	99	2.51	22.32	18	0.34	35.93	81

Source: Eurostat.

Table 3.40 EU-Morocco trade in Service: value, share and yearly growth rate (av., 2010-18)

	EU Service Exports			**EU Service Imports**			**EU Service Trade Balance**
Sectors	**Average Value**	**Average Share**	**Average Yearly Growth Rate**	**Average Value**	**Average Share**	**Average Yearly Growth Rate**	**Average Value**
Commercial Services excl. Personal Travel	2,765		3.64	3,437		3.53	-671
ICT, Financial and Insurance	1,415	40.60	3.23	1,477	28.70	3.62	-61
Transportation	925	26.07	4.81	1,101	21.50	1.94	-176
Travel	921	25.16	14.33	2,156	41.50	7.33	-1,235

Manufacturing services on physical inputs owned by others	44	1.30	92.95	296	5.43	34.21	-252
Maintenance and repair services	85	2.32	43.97	35	0.63	46.66	50

Source: Eurostat.

3.5.5.4. Conclusions related to FDI and services trade

While the Euro-Med FTAs only partially cover services trade or FDI *per se* and the impact of these direct provisions seems limited, both of these activities are related in important ways to trade in goods, which is subject to significant liberalisation in these agreements. To the extent the FTAs influence trade in goods through tariff reductions, they influence the level of FDI and services trade in the Euro-Med region. Also, developments in FDI and services trade, which may be not directly caused by tariffs or trade in goods, may shape the effects of Euro-Med FTA tariff reductions.

Euro-Med FTAs do not go significantly beyond what the SM WTO members (Egypt, Morocco, Tunisia and Jordan) and the EU committed to under the GATS. The FTAs with Lebanon and Algeria also refer to the GATS in similar ways to the four latter agreements. However, in the case of Algeria, the FDI and services provisions of the FTA temporarily substitute for those that are implied by the GATS until Algeria joins the WTO. Provisions of the EU-Lebanon FTA are conditional on Lebanon's future membership in the WTO. Lebanon is thus the country for which the provisions of the FTA on FDI and services seem the least far reaching, although the country has committed not to introduce any measures that render the conditions for the bilateral supply of services more discriminatory than at the entry into force of the FTA, which is also a concrete commitment.

Analysis of the OECD data on FDI restrictiveness[244] which considers domestic regulations and measures how easy it is to direct invest in the EU and the four SMCs which are covered in this database (SMC4)[245] reveals that the EU has some of the least restrictive policies in the world when it comes to inward FDI and these policies are much less restrictive than those observed in SMCs. Egypt, Jordan, Morocco and Tunisia have liberalised their FDI policies by reducing all types of FDI restrictions somewhat in the mid-2010s but they still maintain much more restrictive inward FDI policies than the EU. In these countries it is the restrictions on foreign equity participation as well as other operational restrictions (such as land ownership or corporate organisation requirements) that are most restrictive.

Jordan has the most restrictive FDI policies among SMC4. Tunisia is the second most restrictive country and, like Jordan, is still above the average of FDI restrictiveness for the EU. Egypt has less restrictive regulations. Morocco's inward FDI regulations are close to the EU average, suggesting that Morocco has undertaken the deepest FDI liberalisation reforms among the countries in the region.

There is also a fair degree of heterogeneity across the different sectors when it comes to FDI restrictiveness. FDI in *Manufacturing* is relatively restrictions-free across the SMC4, allowing these countries to potentially benefit more on the FTA. Some restrictions remain in *Agriculture* and *Fisheries* in Jordan, Morocco and Tunisia, limiting the potential gains from the Protocol in Agriculture signed by Jordan and Morocco. The main restrictions across the region are in *Construction*, Transportation, *Distribution* and *Business* services.

As far as inflows of FDI into the region are concerned, many factors have underlined these developments, including the entry into force and implementation of the Euro-Med FTAs which largely overlapped with the FDI 'boom' in the region in the 2000s. However, during this period SMCs also benefitted from a more stable political situation globally and in the region and from implementation of domestic reforms to diversify and liberalise their economies. The drop in level

[244] The OECD FDI Regulatory Restrictiveness Index data and methodology can be consulted here: https://www.oecd.org/investment/fdiindex.htm.
[245] These are: Egypt, Jordan, Morocco and Tunisia.

and world share of SMCs' FDI in the 2010s can in turn be explained by the world-wide slowdown of FDI in the aftermath of the 2008-09 financial and economic crisis as well as by the political destabilisation that occurred specifically in several countries of the region after the crisis (i.e. the Arab Spring).

Considering each SMCs' FDI performance separately, the correlation between the entry into force of the FTA and the increase in FDI is more evident in Algeria, Egypt, Jordan and Morocco, where FDI inflows grew faster in the period between the entry into force of the FTA and the 2008-09 crisis than before the entry into force of the FTA. In Tunisia, the inflows of FDI slowed down somewhat in the corresponding periods while in Lebanon the deceleration was more dramatic owing to the additional negative impact of the Syrian war and a deterioration of the political relationship with Gulf countries.

FDI in Algeria, Egypt, Jordan and Morocco countries increased in sectors which would be expected to be affected more by the by the FTAs such as *Transportation* and Storage, which make the hypothesis of a positive impact of the FTAs on FDI stronger. However, while the aggregate FDI in *Manufacturing* increased in Morocco, it contracted in the other SMCs after the entry into force of the FTAs.

SMCs are not covered well by the existing databases on restrictions to services trade. However, the WTO-World Bank Services Trade Restrictions Index (STRI) index of services trade barriers for Egypt, Tunisia as well as the EU shows that regulations related to services trade are more restrictive in all services sectors in Egypt and Tunisia as compared to the EU on average. Some additional observations on the level of restrictiveness of services sectors in these and other SMCs can be made on the basis of the existing literature and earlier versions of the WB-WTO STRI which confirm that the level of protection remains higher in SMCs than in in the EU and it is not homogeneous across SMCs and individual sectors. Some of the sectors that are more related to trade in goods and hence potentially more affected by the FTA (such as Transport, Finance and Insurance) are still highly restricted in some SMCs. A revision of these sectors' regulations may allow SMCs to benefit more from the FTA.

Statistics on trade in services indicate a peculiar situation in SMCs: the ratio of services trade to GDP is higher in SMCs than on average in other low and middle countries and, contrarily to other similar countries, they are net exporters of services. These counterintuitive results, given the high level of service restrictions in SMCs, are explained by the large importance of Travel exports linked to the strong tourist sector in SMCs. Given that Travel is not related to the FTA and account for the largest share of service trade in SMCs, it was excluded in the statistical analysis.

Since the 1990s, SMCs recorded a general increase in their services trade flows and this growth accelerated in the early 2000s and followed a more unstable path in the aftermath of the 2008-09 crisis and the Arab Spring. The evidences show that in most SMCs imports of services has expanded more than exports in the aftermath of the FTA. Services trade generally grew faster in the period when the Euro-Med FTAs entered into force, particularly in **Egypt, Jordan and Morocco**. In **Algeria**, the correlation between the entry into force of the FTA and services trade flows (particularly imports) seems even more visible. The correlation between the entry into force of FTA and the increase in services trade is somewhat weaker, in **Lebanon** and **Tunisia** where both services exports and imports were rising even before the AA implementation and in both countries trade in services slowed down in the aftermath of the financial crisis and the Arab Spring. With regards to the service composition, *Transport service* is the sector that has expanded the most in the aftermath of the FTA, recording an increase in its export share in all SMCs (but Algeria and Jordan).

For both FDI and trade in services, the collected evidence suggest that the **FTAs were likely one of the important factors that helped SMCs in expanding their FDI and services trade through an increase in trade in goods,** although they were likely not the only factor (FDI and Services increased worldwide in the early 2000s and in many SMCs the entry into force of the FTA coincided with a period of political stability after a troublesome period) and their potential positive impact was weakened by the financial crisis, the Arab Spring and other regional instability. Given the increasing interdependence of trade in goods, FDI and trade in services in modern global value chains (GVCs) even small changes in goods and services trading conditions can shape incentives to foreign direct invest and vice versa.

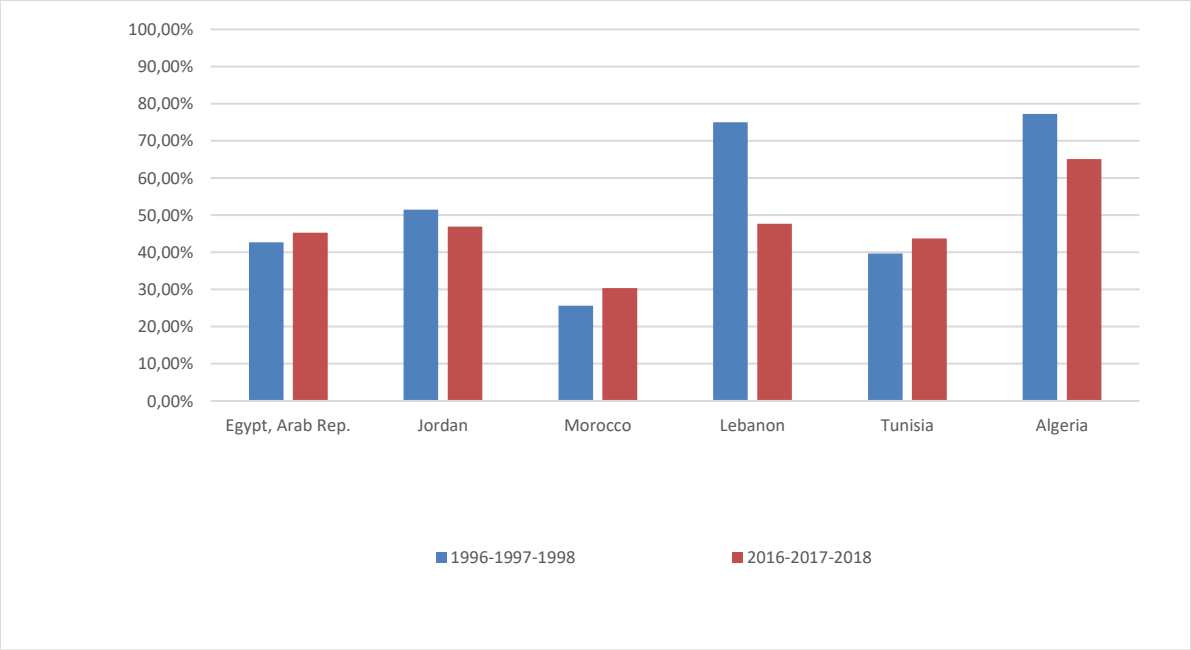
Therefore, regulations related to FDI and services have become integral parts of EU's more modern trade agreements (i.e. DCFTAs) where they are as important as provisions on trade in goods. This suggests that expansion of provisions in the area of services trade and FDI in future Euro-Med trade agreements can make a meaningful contribution to the achievement of objectives of the Barcelona Process and the Association Agreements and could allow SMCs to benefit more from trade liberalisation.

3.5.6. The ability to adjust to adjust to trade liberalisation—the business environment

As argued in the introduction to the economic analysis of the effects of Euro-Med FTAs (Section 3.1), the ability of countries to profit from trade liberalisation depends crucially on their ability to adjust to new market access conditions. The latter, in turn, is influenced strongly by the business environment and other factors which underpin competitiveness (and competitiveness can itself be influenced by the FTAs, see Sections 3.5.7 and 3.5.8).

Since the mid-1990s the productivity of the six SMCs vis-à-vis the average productivity of the EU improved somewhat in Egypt, Morocco and Tunisia, while it declined in Algeria, Jordan and Lebanon. However, apart from Algeria, productivity remains below 50% of the average EU levels (Figure 3.94). While labour productivity comparisons are a crude way of assessing competitiveness, they do suggest a considerable, and in some cases deepening, gap between the EU and SMCs.

Figure 3.94 Average GDP per capita of SMCs compared with the EU



Note: EU GDP per capita =100.
Source: Authors' own calculations based on the World Bank data for the period 1996-2018.

Institutional development and the functioning of product and factor markets also lag behind the EU as well as other countries with comparable income per capita levels. This has been acknowledged by stakeholders consulted in SMCs. The analysis presented in the remainder of this sub-section relies on the methodology introduced by the World Bank's Doing Business project in order to gauge some elements of the ability of SMCs to adjust to trade shocks in mid 2000s, when the implementation of the Euro-Med FTAs was in initial phases, and currently. We do not analyse all business environment areas covered by the Doing Business methodology (although these are captured in the overall Doing Business ranking with which we start this section) but focus on those that seem particularly relevant for structural adjustment (in particular starting, developing and closing the business) as well as the non-tariff aspects of trading across the borders covered in the Doing Business project. In all cases, the analysis intends to capture the longest time span possible. However, at times it needs to be adjusted to control for both data availability and methodological changes to achieve comparability of results. The World Bank's Doing Business methodology measures some aspects of the business climate and utilises the concept of the distance to the frontier where the scores take the values from 0

(the weakest performance) to 100 (the strongest performance).[246] Additionally, the section has been enriched with other data retrieved from the World Bank Doing Business, World Bank Enterprise Surveys, International Monetary Fund's International Financial Statistics and Financial Access Survey as well as the Global financial Inclusion Database[247] (Demirguc-Kunt et al., 2019).

Overall, the elements of **Algeria's** business environment analysed here suggest that the country comes across as the least conducive to doing business among the countries in the region (the poor business institutional framework is reflected also in the global ranking where Algeria ranked 166th in 2018 out of 190 economies included in the ranking). The country also had the lowest rank in 2010.

Morocco appears to currently have the most business-friendly environment, and it has progressed the most between 2010 and 2018, overtaking Tunisia, the regional leader, in 2010 (see Figure 3.40).

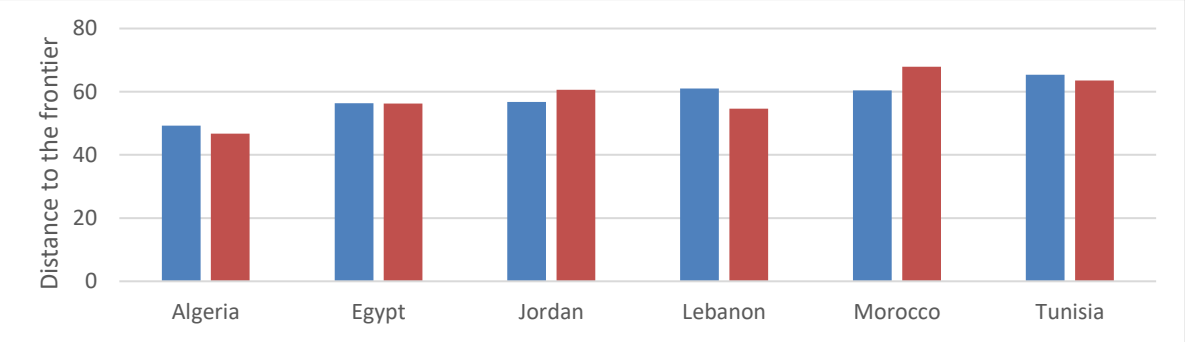
Tunisia outranked all the economies considered in the sample in 2010. Yet, its business environment deteriorated in the intervening years, making the country second best in 2018 (scoring 88th place globally).

The quality of **Egypt's** business environment in 2018 was much the same as in 2010. Egypt was the only country among the six SMCs considered which neither deteriorated nor improved in terms of institutional business environment (thus ranking, in 2018, as 128th globally).

Lebanon, on the other hand, experienced a significant decline as regards the conditions for running enterprises (see Figure 3.94 below where it is indicated that in terms of points, the Lebanese economy deteriorated between 2010 and 2018 nearly as much as Morocco improved). This marks an important change, as Lebanon appears to have had the same starting point as Morocco in 2010 and it used to be the third best performer in the country sample in 2010.

Jordan emerges as the second-best performer in terms of improving its business environment, in 2018, ranking as the third best country for entrepreneurial activities (behind Morocco and Tunisia and ranking as 103rd globally).

Figure 3.95 Ease of doing business - countries' overall scores (2010 vs 2018)



Note: Important to note that data for the global indicator are available for the period starting in 2010. No earlier data published by the World Bank (see database at: https://databank.worldbank.org/reports.aspx?source=doing-business).
Source: Authors' own based on the data from World Bank Doing Business and Rapport FEMISE Euro-Med 2019: Le secteur privé dans les pays méditerranéens: Principaux dysfonctionnements et Opportunités de l'entreprenariat social (Augier, P. et al, 2019).

[246] The exact interpretation is that, if a country scores a distance to frontier (DTF) of 25 in Doing Business, it means that it is 75 percentage points below the best performer (as constructed across all the 190 economies considered in the given time frame). It needs to be noted that the difference in scores observed over the years approximates the extent to which a given economy has modified its business institutional environment. In any given year, the metric captures the distance between a given economy and the best performer in the period. For more information see the discussion at: https://www.doingbusiness.org/en/data/doing-business-score and https://openknowledge.worldbank.org/bitstream/handle/10986/32436/9781464814402_Ch06.pdf.
[247] Available at: https://datacatalog.worldbank.org/dataset/global-financial-inclusion-global-findex-database; last access 30 October 2019.

Ability to adjust to a structural shock

In the reminder of this section, we discuss the four significant issues regarding doing business, included in the global indicator *Ease of doing business*. While they are not related directly to trading costs (these are covered in the next sub-section), they have particular significance for increasing the ability to adjust to a structural shock, namely: *starting a business*, *getting credit*, *enforcing contracts*, and *resolving insolvencies*. Other important dimensions of the business climate, such as the costs of shipping containers overseas, time needed to export a standard container are covered in the next sub-section.

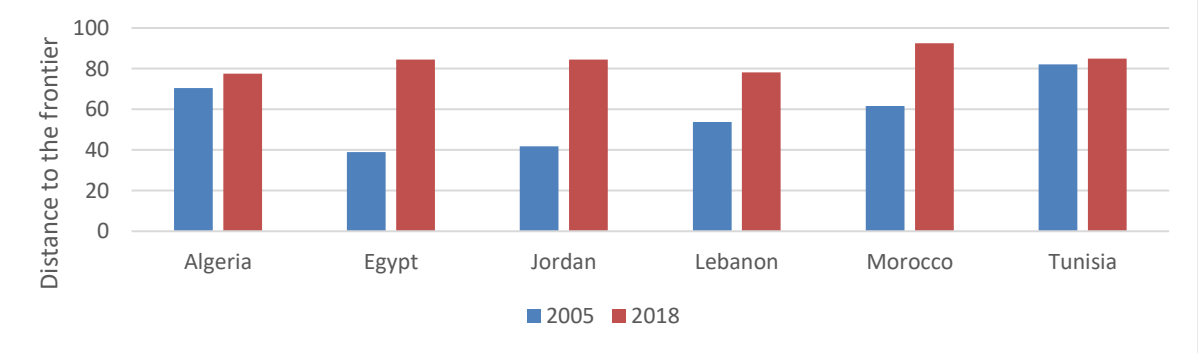
Starting a business

The last 14 years brought significant streamlining of processes associated with setting up companies in all the SMC countries: one-stop shops were introduced, relevant fees were reduced, and minimum capital requirements were either minimised or abolished completely.

In 2018, the differences across countries were less pronounced than in 2010 and followed the ordering of the general ease of doing business indicator (Figure 3.95). The changes that occurred may be misleading:

For example, it seems that **Morocco** enjoys the best business environment, yet empirical data provided by the World Bank regarding registration of limited liability companies indicates that there were 75% more companies registered in **Algeria** in 2014 as compared to 2006, much more than the analogous statistic for Morocco (+46%) but still less than for **Tunisia** (an increase of 99%)[248]. As the institutional framework does not seem to explain fully such counter-intuitive outcome, other factors, including cultural differences, entrepreneurial inclinations.

Figure 3.96 Starting a business - changes in institutional frameworks as depicted by the distance to the frontier approach



Source: Authors' own based on the data from World Bank Doing Business and Rapport FEMISE Euro-Med 2019: Le secteur privé dans les pays méditerranéens: Principaux dysfonctionnements et Opportunités de l'entreprenariat social (Augier, P. et al, 2019). Important to note that data for the partial indicators are available for the period starting in 2005 (see database at: https://databank.worldbank.org/reports.aspx?source=doing-business).

On average, setting up a business in **Algeria** requires going through 12 procedures and takes, as of 2018, about 20 days. The costs associated with these activities reach 11.1% of the average per capita income[249]. The current picture presents a very slight amelioration during a period of 14 years (2004-2018): the country started out with 14 procedures and a time of 25 days required to successfully commence business activities. The years 2016 and 2017 brought two reforms facilitated setting up a business: firstly, the requirement to obtain managers' criminal records was cancelled, secondly, financial thresholds for business incorporation were eliminated[250].

[248] Data unavailable for the remaining three economies.
[249] In line with data published in the World Bank Doing Business database (the entire database available at https://databank.worldbank.org/reports.aspx?source=doing-business; last access 30 October 2019).
[250] Information pertaining to reforms retrieved from: https://www.doingbusiness.org/en/reforms/overview/economy/algeria; last access 30 October 2019.

Morocco initially had the third best starting-a-business framework, yet in 2018 it outranked the other economies considered here. This sphere of Moroccan institutional structures evolved considerably, as reflected in the small number of procedures required to set up a company (4 in 2018, down from 12 in 2004) and the time associated with the process (9 days in 2018, as compared to 35 in 2004). The costs that one would be required to bear when registering a company also fell to 8% of the country's average per capita income (from 26.6% in 2004). The overhaul of the regulatory framework was mirrored in the dramatic decrease of capital requirements – initially one would be faced with an amount 7.6 times higher than the average per capita income (2004) while 8 years later it stood at 10.7% of the per capita income, only to be reduced to zero in the later periods[251]. These policy changes were associated with a series of reforms[252] which started as late as 2013. This is when the minimum capital requirements for limited liability companies were eliminated, then efforts were made to reduce the relevant fees associated with company registration (2014). The year 2015 brought cancellation of the requirement to file a declaration of business incorporation with the Ministry of Labour, and in 2017 online platforms enabling booking of names for companies were introduced. The last important reform (2018) allowed for a combination of the stamp duty payment with applications for business incorporation.

Tunisia's institutional frameworks for starting a business seemed stable over time. The economy boasts a reasonably small number of procedural steps (9, unchanged since 2004) that one is required to go through within the average time of 11 days (also unchanged since 2004) in order to register a company. Major changes were observed as regards the financial aspects of commencing business – the costs, even though low at the beginning of the period under scrutiny (11.9% of the average income per capita in 2004) declined to 3.9% in 2016 and 4.6% in 2018[253]. Not captured by the available data are two important changes occurring in 2019 and 2020: the Tunisian administration introduced a one-stop shop for starting a business, merging different registrations and procedures and mitigating the associated fees[254]. The capital requirements also became less stringent– from 343.8% of the per capita income (2004) through 32.7% (2005) and null in 2009, when the Tunisian regulators acted to eliminate the paid-in minimum.

In 2018, **Egypt** ranked closely to Tunisia, Morocco, and Jordan as regards starting a business. The relevant frameworks evolved dynamically since 2005. The number of procedures fell from 13 to 8 in 2009 and stayed at that level. Yet the most significant improvement occurred in terms of time and finances required to complete these procedures, as the former shrank from 39 days (2004) to 12 (in 2009). In 2017, the period extended to 14 and stayed at this level in 2018[255]. The fees associated with business registration initially amounted to 65.6% of the per capita income and went as high as 105.1% of that figure in 2006, only to drop to 29.1% in 2008 (due to a reform acting to lower registration fees and streamline one-stop shop processes) and to stabilise at around 7.4% in 2017. The minimum capital requirements followed a similar path: in 2004, they exceeded the average per capita income by 8.5 times, and declined to 12.9% of the per capita income in 2008 (due to the same reform mentioned vis-à-vis financial costs) and reached the level of 2% of per capita income in 2009 (Egyptian authorities decided to reduce the paid-in minimum financial requirement, abolished bar association fees and automated tax registration procedures). The data for the following years indicated that the requirement was neutralised completely[256]. The latest administrative changes[257] aimed to merge

[251] All the specific data presented in this section align with the data published in the World Bank Doing Business database (the entire database available at https://databank.worldbank.org/reports.aspx?source=doing-business; last access 30 October 2019).
[252] Information pertaining to regulatory reforms retrieved from: https://www.doingbusiness.org/en/reforms/overview/economy/morocco; last access 30 October 2019.
[253] In line with data published in the World Bank Doing Business database (the entire database available at https://databank.worldbank.org/reports.aspx?source=doing-business; last access 30 October 2019).
[254]Information pertaining to reforms retrieved from: https://www.doingbusiness.org/en/reforms/overview/economy/tunisia; last access 30 October 2019.
[255] In line with data published in the World Bank Doing Business database (the entire database available at https://databank.worldbank.org/reports.aspx?source=doing-business; last access 30 October 2019).
[256] A reform of 2010 acted to remove the capital requirements (https://www.doingbusiness.org/en/reforms/overview/economy/egypt; last access 30 October 2019).
[257] Not captured by the available data are two significant changes in the regulatory framework regarding starting business activities: in 2019 requirements to obtain a bank certificate were cancelled and in 2020 the one-stop shop's functioning was streamlined and the need to obtain a certificate of non-confusion was

all the procedural tasks associated with starting a business at the one-stop shop via implementation of a follow-up entity that is in charge of setting up communication with the tax and labour authorities on behalf of enterprises being set up.

Jordan's institutional frameworks related to starting a business ranked nearly on par with the Egyptian ones. In fact, the evolution of the Jordanian regulatory set-up mirrored the changes observed in Egypt, with the number of procedural steps required to set up a business stable at 7 since 2009 (a decline of 6 since 2004, caused chiefly by reforms of 2008 enhancing the processes at the one-stop shop as well as adding an appropriate representative agent to the municipality of Amman). The reduction of administrative tasks was accompanied by streamlining of the period needed to complete them, from 79 days in 2004 to 12 in 2010. These changes went in tandem with a reduction in the level of costs associated with registering a company. At the beginning of the period, they amounted to as much as 104% of the average per capita income. They plummeted to around 20% of that sum in 2014-15 and increased slightly in 2018 (+4 percentage points). The most significant improvement was observed with regard to capital requirements – it equalled 1,175.9% of the average per capita income in 2004 and fell to 24.2% of that sum in 2009, and further to 1% in 2012 (as introduced by a reform which reduced the minimum requirement from 1,000 Jordanian dinars to 1 dinar)[258].

Lebanon, as of 2018, is quite close to the best performers in the sample. At the procedural level, there are 8 steps to complete to register a company (as of 2011, a decrease by 1 step recorded in the previous periods).The time required to successfully complete them shortened as well: since 2011, it usually takes up to 15 days to go through the administrative tasks, while in 2004 it took 53 days (the most important change occurred in 2009 when the process of registering a company was streamlined and the time required to complete it reduced to 18 days). As with other economies, the costs associated with registering a company declined from well above 100% of the average per capita income (at 130.1% in 2004 specifically) to 33.6% of that sum in 2015[259]. Yet, they increased in the three following years and reached 42% in 2018. A similar tendency was observed with respect to the minimum capital requirements: in 2004, they amounted to 81.9% of the average per capita income and decreased towards 33% in 2015 before reaching 42.3% in 2018[260].

Getting credit and access to finance

Scrutiny of credit accessibility in the six MENA economies indicates that the most problematic issue in the region has been access to credit information and management of the said access. To alleviate the situation, several reforms were implemented. They usually focused on introducing the institution of a credit bureau and granting borrowers the right to access and inspect their own credit data. Yet, these reforms seem to have translated into economic reality only partially, as evidenced both by the prevalent low supply of loans in the respective economies and low numbers of borrowers (see Figure 3.96 for a summary of changes expressed in terms of distance to the frontier). It seems that Algeria and Jordan were the countries to have made the least progress (or, in the case of the latter even experience some regress (Panel B, Figure 3.96 – no data are available for Jordan). The most significant and positive changes appear to have occurred in Egypt (almost a triple growth in terms of distance to the frontier), Lebanon, Morocco (in both economies the distance to the frontier declined 2.6 times), and Tunisia (Panel A: 2005-2014) and – in later years, only in Morocco and Tunisia (Panel B: 2014-2018).

removed (see: https://www.doingbusiness.org/en/reforms/overview/economy/egypt; last access 30 October 2019).

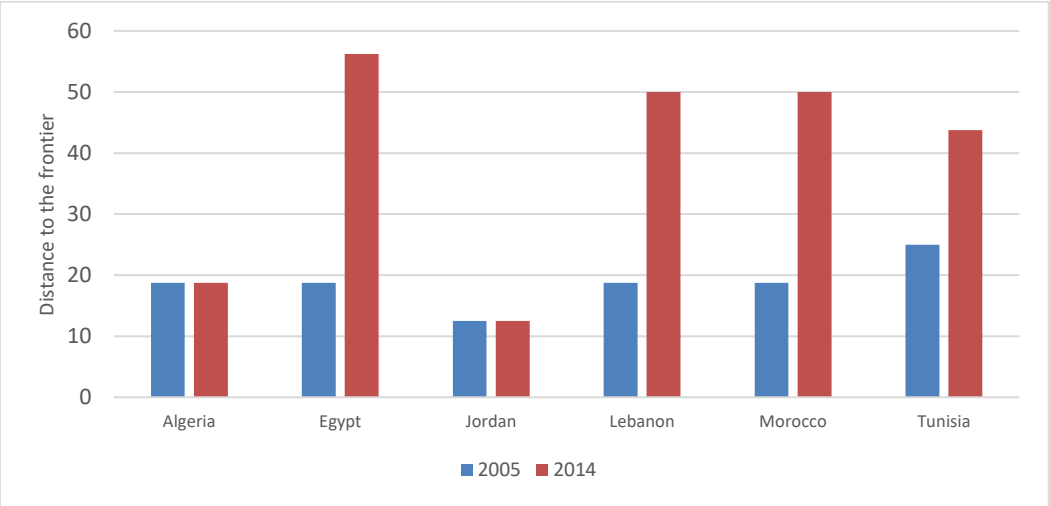
[258] Quantitative data in line with data published in the World Bank Doing Business database (the entire database available at https://databank.worldbank.org/reports.aspx?source=doing-business; last access 30 October 2019); information pertaining to reforms: https://www.doingbusiness.org/en/reforms/overview/economy/jordan; last access 30 October 2019.

[259] The observed decline may have been fuelled, at least in part by the fact that Lebanon eliminated the regulatory requirement of having the company books stamped (though this decision reversed the reforms implemented previously which allowed a combined registration of tax and company at LibanPost).

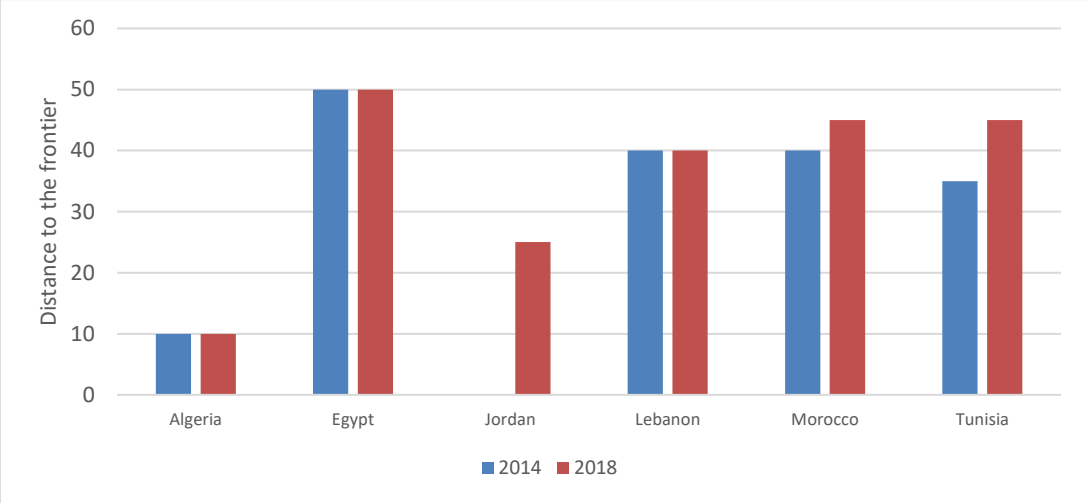
[260] Quantitative data in line with data published in the World Bank Doing Business database (the entire database available at https://databank.worldbank.org/reports.aspx?source=doing-business; last access 30 October 2019).

Figure 3.97 Access to credit - changes in institutional frameworks as depicted by the distance to the frontier approach
(note changes in the methodology - 2005-2014 [Panel A] and 2014-18 [Panel B])

Panel A. Period 2005-2014



Panel B. Period 2014-2018



Note: Important to note that in order to achieve comparability of the results, the year 2014 needs to be presented twice – according to the methodology which was binding for the period 2005-14 and from 2014 onwards.
Source: Authors' own based on the data from World Bank Doing Business and Rapport FEMISE Euro-Med 2019: Le secteur privé dans les pays méditerranéens: Principaux dysfonctionnements et Opportunités de l'entreprenariat social (Augier, P. et al, 2019).

The institutional background of **Algeria's** banking system labels the economy as the worst, regionally, in term of access to credit. The main contributors to this result are weak legal rights as well as inadequate (if not non-existent) depth of credit information[261]. Despite a slight amelioration in the Algerian credit information systems (via guaranteeing borrowers' right to inspect their personal data in 2012, eliminating the information pertaining to the minimum thresholds for loans in databases in 2013) and the subsequent increase in access to finance among the population, borrowing from commercial banks remained weak: in the years 2004-

[261] According to the quantitative data, the economy scored 0 points out of the 8 eligible in this category (see: the entire database available at https://databank.worldbank.org/reports.aspx?source=doing-business; last access 30 October 2019).

2008 only about 25.6 people per 1000 adults obtained a loan[262] (at the same time only 8.9% of companies resorted to bank financing to support their business); in 2009-2013 borrowing increased to 38.9 per 1000 adults and then – in the last 5 years – reached 42.2. Even though the numbers seem to have improved, the supply of credit to the domestic sector appears to reflect the institutional stagnation in the banking sector and its small size: measured as % of GDP, the domestic credit crawled up from an average of 12.11 (2004-2008) through 15.08 (2009-2013) to reach 22.22 (2014-2018)[263].

Morocco's access to credit saw significant amelioration over the 14 years considered. The most significant changes observed in this case pertained to improved access to credit information, allowing borrowers to inspect their own data in the relevant public registry (reform of 2009), setting up a private credit bureau which improved overall access to credit (reform of 2010) and started providing credit scores in 2017.[264] These changes reflected in the supply of loans to the private sector by banks – in the years 2004-2008 it stood at 48.84% of GDP, in 2009-2013 it increased sharply to 67.9% and stabilised around that level in subsequent periods (64.13% in 2014-2018)[265]. WB Enterprise Survey[266] conducted between May 2013 and December 2014 on a sample of 407 companies indicated that access to finance constituted a major obstacle for 27.7% of them (for the MENA region, the average was 27.5%, and the global one at 26.8%); 51.9% of firms surveyed had an open credit line or a loan (the average for the MENA region being 31.2% and for the 190 countries considered by the WB – at 33.8%) with the value of the average collateral required to obtain a credit at 165% of the loan (for MENA 188.2, the global average at 203.6%). In 2013 34.8% of Moroccan enterprises resorted to bank financing to engage in investment activities, which constituted a major increase in comparison to 2007 (only 12.3%)[267]. Moreover, it appeared that rejections were rare – only 6.1% of applications failed (as opposed to 10.4% in the entire MENA region and 11% globally).

Tunisia's ease of getting credit ranked on par with Morocco, with the strength of legal rights improving over time. Credit information ameliorated significantly which was catalysed by relevant reforms, including eliminating the minimum thresholds for credit recorded in the public registry's database (2008), commencing collection and distribution of credit information from banks and ensuring the rights of borrowers to inspect their data at central bank offices (2009). Credit reporting was further improved when the Tunisian authorities decided to distribute historical credit information (2017) [268]. The administrative changes reflected in the economic reality, with the number of borrowers (per 1000 adults) going from an average of 106.26 (2004-2008) through 171.64 (2009-2013) to 220.72 (2014-18)[269]. Simultaneously, the supply of loans to the private sector increased[270], starting from 48.89% of GDP for the first period, reaching 57.26% of GDP in the following 4 years and peaking at 65.79% of GDP on average in 2014-18.[271] At the same time, as one of the stakeholders consulted pointed out, access to

[262] International Monetary Fund Access to Finance Survey data available in the general database hosted by the World Bank: https://data.worldbank.org/indicator/FB.CBK.BRWR.P3; last access 30 October 2019. Presented are authors' own calculations based on the data retrieved from therein.
[263] International Monetary Fund's International Financial Statistics, data available in the general database hosted by the World Bank: https://data.worldbank.org/indicator/FD.AST.PRVT.GD.ZS; last access 30 October 2019. Presented are authors' own calculations based on the data retrieved from therein.
[264] Information regarding reforms available at: https://www.doingbusiness.org/en/reforms/overview/economy/morocco; last access 30 October 2019.
[265] International Monetary Fund Access to Finance Survey data available in the general database hosted by the World Bank: https://data.worldbank.org/indicator/FB.CBK.BRWR.P3; last access 30 October 2019. Presented are authors' own calculations based on the data retrieved from therein.
[266] Data available at: https://www.enterprisesurveys.org/en/data/exploreeconomies/2013/morocco; last access 30 October 2019.
[267] As for financing of daily business and working capital, the observed change was similar – with 30.2% of companies utilising loans to that end in 2007 and 49.3% in 2013 (for sources see footnotes 29-30).
[268]Information pertaining to reforms: https://www.doingbusiness.org/en/reforms/overview/economy/tunisia; last access 30 October 2019.
[269] International Monetary Fund Access to Finance Survey data available in the general database hosted by the World Bank: https://data.worldbank.org/indicator/FB.CBK.BRWR.P3; last access 30 October 2019. Presented are authors' own calculations based on the data retrieved from therein.
[270] Available information indicates that 22.9% of companies in Tunisia used loans to finance their investment; 44.7% of firms used credit to support their working capital base.
[271] International Monetary Fund's International Financial Statistics, data available in the general database hosted by the World Bank: https://data.worldbank.org/indicator/FD.AST.PRVT.GD.ZS; last access 30 October 2019.

financing may not be equal for all industries, with farmers facing particularly big difficulties in acquiring credit (on beneficial terms).

Egypt scores the highest in the region. Bu the analysis of available information indicates that its strength of legal rights remains close to Algeria's. However, Egyptian credit information is outstanding, which results from a series of relevant reforms: setting up a private credit bureau to distribute negative information and data on borrowers and allowing interested parties to inspect their credit information (2008/09) and expanding the credit bureau's database to include retailers (2010). Most recently (2019) the Egyptian authorities ameliorated access to credit via granting a nonpossessory security right in a single category of movable assets without the need for a description of the collateral. Thus, secured creditors are prioritised over other claims[272]. Empirical data suggest that the high scores were not mirrored in the economic reality: despite a growing number of borrowers (2004-08 – 47.5, 2009-13 – 80.39 and 2014-18 – 105.4 per 1000 adults[273]) the supply of bank loans to the private sector shrank considerably, going down from an average of 48.39% of GDP (2004-08) through 30.57% (2009-13) to 27.85% in 2014-18[274]. Similarly, firms seemed to avoid financing both their investment and working capital in the considered period (8.7% companies used loans to finance investment and 9.8% to support working capital in 2007; in 2014 the figures stood at 14.6% and 2.4% respectively[275]). A survey of 1814 companies conducted October 2016-November 2017 indicated that access to finance posed a significant problem to 23.4% of firms - thus only 6.6% of entities surveyed had an active bank loan (31.2% for the MENA region) and 20.9% of credit applications were rejected. Still, the value of the collateral (as percent of the loan amount) that was usually required amounted only to 158.2% (as compared to 188.2% in all MENA countries).[276]

Jordan seemed to lack legal rights throughout the period and as characterised by scant credit information structures. Jordanian reforms of the institutional environment pertaining to banking activities started very late in the period. In 2011, access to credit information was ameliorated via introduction of a private credit bureau and lowering thresholds for loans reported to the relevant public registry (a new bureau was established in 2018)[277].

Lebanon was passive as regards increasing credit accessibility (with moderately adequate credit information and weak legal rights). Lack of regulatory activity notwithstanding, the number of borrowers increased rapidly (an average of 177.92 per 1000 adults in 2004-08, 245.57 in 2009-13 and 215.63 in 2014-18)[278] as well as the supply of loans to the private sector scaled by Lebanese GDP (71.05% in 2004-08; 81.02% in 2009-13 and 97.74% in 2014-18)[279]. In contrast to other economies in the region, Lebanese companies used loans to finance investment and working capital much more frequently (figures for investment financing via credit stood at 23.8% of companies in 2009 and 53.1% in 2013; working capital was financed

[272] Information pertaining to reforms available at: https://www.doingbusiness.org/en/reforms/overview/economy/egypt; last access 30 October 2019.
[273] International Monetary Fund Access to Finance Survey data available in the general database hosted by the World Bank: https://data.worldbank.org/indicator/FB.CBK.BRWR.P3; last access 30 October 2019. Presented are authors' own calculations based on the data retrieved from therein.
[274] International Monetary Fund's International Financial Statistics, data available in the general database hosted by the World Bank: https://data.worldbank.org/indicator/FD.AST.PRVT.GD.ZS; last access 30 October 2019. Presented are the authors' own calculations based on the data retrieved from therein.
[275] World Bank, Enterprise Surveys data available in the general database hosted by the World Bank: https://data.worldbank.org/indicator/FD.AST.PRVT.GD.ZS; last access 30 October 2019.
[276] Data available at: https://www.enterprisesurveys.org/en/data/exploreeconomies/2016/egypt; last access 30 October 2019.
[277] In 2020 Jordan ameliorated access to credit as it implemented a legal regulation pertaining to secure transactions, amended the insolvency law and launched a unified registry of collateral. The authorities also provided credit scores to banks and other financial institutions thus ameliorating the credit information system. (all information regarding country reforms available at: https://www.doingbusiness.org/en/reforms/overview/economy/jordan; last access 30 October 2019).
[278] International Monetary Fund Access to Finance Survey data available in the general database hosted by the World Bank: https://data.worldbank.org/indicator/FB.CBK.BRWR.P3; last access 30 October 2019. Presented are the authors' own calculations based on the data retrieved from therein.
[279] International Monetary Fund's International Financial Statistics, data available in the general database hosted by the World Bank: https://data.worldbank.org/indicator/FD.AST.PRVT.GD.ZS; last access 30 October 2019. Presented are the authors' own calculations based on the data retrieved from therein.

externally by 51.3% of firms in 2009 and 40.2% in 2013)[280]. Out of the 561 companies surveyed between April 2013 and September 2014, 57.3% had an open credit line or a loan[281] (in this context it is important to note that the collateral required to obtain external financing equalled 207.7% of the loan value, a figure above the global value [203.6%] and the MENA-specific one [188.2%]).[282]

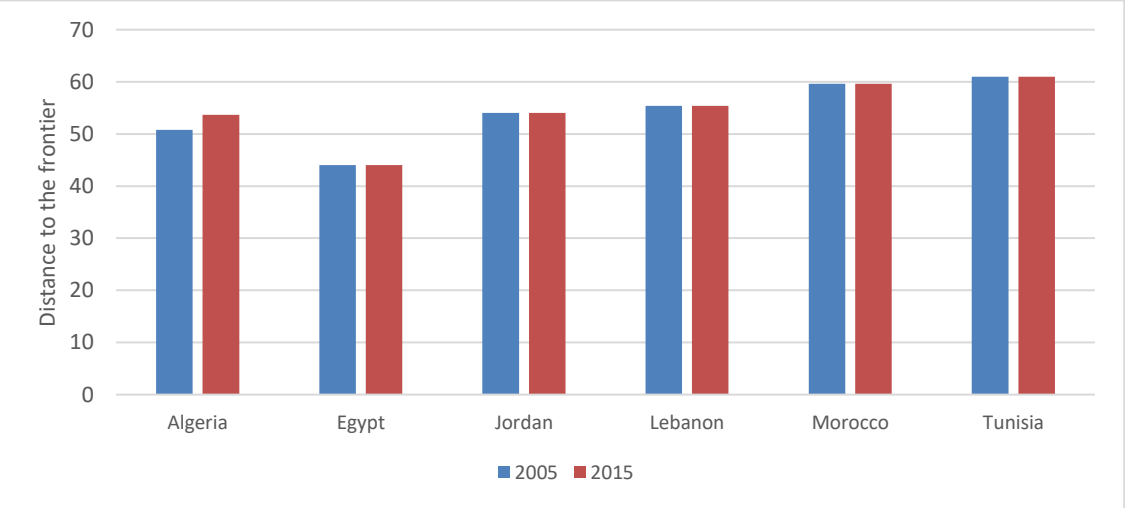
Enforcing contracts and resolving insolvencies

All the analysed countries displayed low levels of regulatory activity. They lacked regulatory initiatives as regards streamlining contract enforcement procedures and resolving insolvencies in comparison to efforts made to make company registration easier and cheaper as well as increasing the level of credit information and its availability to borrowers and institutions. Given the paucity of data pertaining to business survival rates and the effective costs associated with the process, it is difficult to draw any conclusions as to if and how the current institutional landscape in the respective countries translates into business activity.

The process of contract enforcement is usually long, ranging between 1010 and 510 days, with the number of procedures from 37 to 45 depending on the economy in question. The six SMCs have in common the fact that the entity undergoing insolvency resolution procedures is never sold as an ongoing concern (always a piecemeal sale). Associated recovery rates (expressed as cents on every US dollar) also vary, ranging from slightly above 50 in Algeria and Tunisia to around 25 in other economies (higher recovery rates are also associated with smoother and shorter legal processes). For a comparison of scores for both enforcing contracts and resolving insolvencies see Figure 3.97 Panels A and B and Figure 3.98. As for enforcing contracts, the progress observed in the six countries in the years 2005-15 (Panel A) is negligible, with Algeria being actually the only economy which inched forward. The other five states stagnated, with Egypt being the worst performer in the sample; Tunisia and Morocco, on the other hand, ranked invariably the highest (Panels A and B), though in the last three years there emerged a slight difference between them (Panel B).

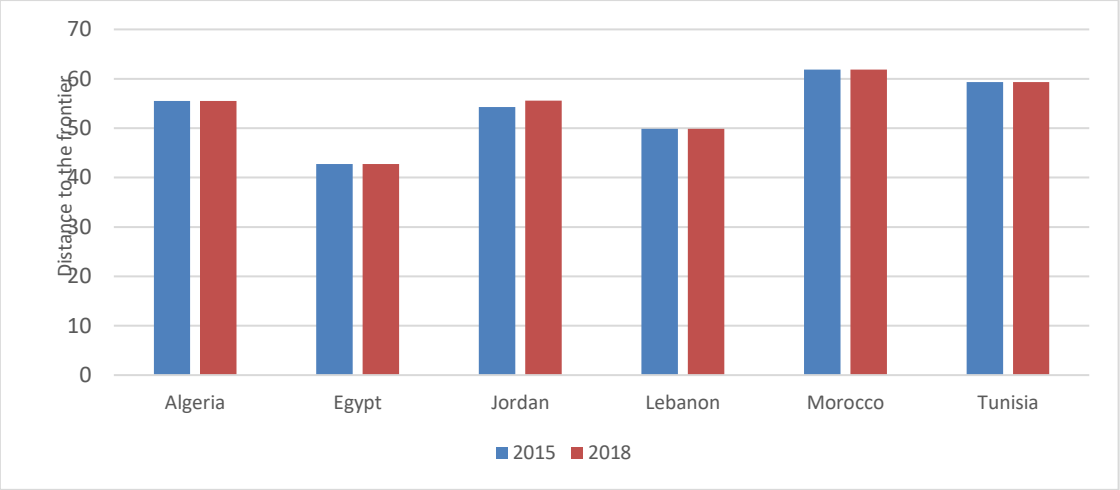
Figure 3.98 Contract enforcement - changes in institutional frameworks as depicted by the distance to the frontier approach
(changes in the methodology - period 2005-2015 [Panel A] and 2015-2018 [Panel B])

Panel A. Period 2005-2015



[280] World Bank, Enterprise Surveys data available in the general database hosted by the World Bank: https://data.worldbank.org/indicator/FD.AST.PRVT.GD.ZS; last access 30 October 2019.
[281] Despite the apparent popularity of bank loans, 41.5% of companies perceived accessing them as a major obstacle.
[282] Data available at: https://www.enterprisesurveys.org/en/data/exploreeconomies/2013/lebanon; last access 30 October 2019.

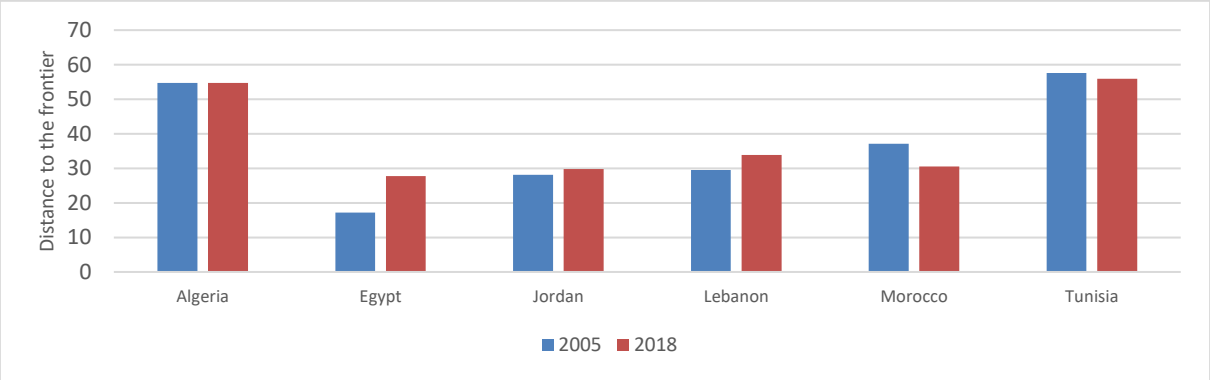
Panel B. Period 2015-2018



Note: Important to note that in order to achieve comparability of the results, the year 2015 needs to be presented twice – according to the methodology which was binding for the period 2005-15 and from 2015 onwards.
Source: Authors' own based on the data from World Bank Doing Business and Rapport FEMISE Euro-Med 2019: Le secteur privé dans les pays méditerranéens: Principaux dysfonctionnements et Opportunités de l'entreprenariat social (Augier, P. et al, 2019).

With respect to resolution of insolvency, the countries' performance comes across as vastly different (compare Figures 3.97 and 3.98). Tunisia remains an exemplary environment, albeit deteriorating slightly over the years, for insolvency resolution. Algeria, on the other hand, appears as the second best and stable over time in this context. The most important changes were observed in Egypt (an institutional progress) and in Morocco (an institutional regress), with both Jordan and Lebanon inching forward very slightly.

Figure 3.99 Insolvency resolution - changes in institutional frameworks as depicted by the distance to the frontier approach (in line with the WB 2014 methodology)



Source: Authors' own based on the data from World Bank Doing Business and Rapport FEMISE EuroMed 2019: Le secteur privé dans les pays méditerranéens: Principaux dysfonctionnements et Opportunités de l'entreprenariat social (Augier, P. et al, 2019).

As far as enforcing contracts is concerned, **Algeria** was passive (compare Figure 3.97 Panels A and B): apart from the 2010 reform introducing a new civil procedure code reducing the steps and time required and fully computerizing its courts, the situation did not change throughout the period considered[283]. Despite the reform, the time required to enforce a contract amounted to 630 days[284], the number of procedures stood at 45, and the costs associated with the

[283] Information pertaining to reforms available at: https://www.doingbusiness.org/en/reforms/overview/economy/algeria; last access 30 October 2019.
[284] Out of which trial and judgement stood at 390 and enforcement of judgment at 219 days.

procedure at 21.9% of the claim's value[285]. On the other hand, frameworks for resolving insolvency emerged as more transparent. The processes were relatively short and cheap, at 1.3 years in total, and the costs amounted to 7% of the estate's value. Lastly, the recovery rate, measured as cents on every USD, was relatively high and unchanged throughout the entire period (at 50.8)[286].

Morocco ranked remarkably well (Figure 3.97 Panels A and B), with its 40 procedures required to legally enforce a contract and 510 days[287] during which the process usually occurred. These did not change in the period considered[288]; similarly, the costs associated with the process were at 26.5% of the claim's value and remained thus throughout the entire period[289]. As regards insolvency resolution, the country seemed to perform much worse over the years, with the average time required to complete the process at 1.8 years and the costs at 18% of the estate's value. The recovery rate, much lower than the Algerian one to start with, fell significantly - from 34.4 cents down to 28 in 2012, 23.6 in 2013 and oscillating around 28 from 2016 to 2018[290].

Similarly, to other aspects of doing business, **Tunisian** contract enforcement frameworks ranked high (see Figure 3.90 Panels A and B). Currently, it usually takes 565 days[291] to carry out the 39 procedures associated with legally enforcing contracts, whose costs are stable at 21.8% of the claim's value[292]. As **for insolvency resolution,** the country performs the best in the region[293] (see Figure 3.91), with the time of 1.3 years required to complete the process, low resolution costs (at 7% of the estate's value) and high recovery rates (oscillating between 51 and 53.5 in the entire period - and stabilising at around 52 in the last years under scrutiny).

Egypt ranks very low regionally as regards contract enforcement, with the institutional situation unchanged in the period under consideration: currently there are 42 procedural steps that need to be completed in the usual time of 1010 days[294] to successfully enforce contracts and the associated costs at 26.2% of the claim's value[295]. The inadequate situation may perhaps be explained by the fact that Egypt created commercial courts as late as 2010[296]. The economy's institutional inadequacy also reflects in insolvency resolution, which usually takes 2.5 years (since 2012, earlier – 4.2 years), with unchanged associated costs at 22% of the estate's value. The amounts recoverable changed haphazardly, going from 15.9 cents on a USD to 17.4 (in

[285] Quantitative data in line with data published in the World Bank Doing Business database (the entire database available at https://databank.worldbank.org/reports.aspx?source=doing-business; last access 30 October 2019).
[286] Ibidem.
[287] It took on average 310 days to go through the trial and judgement related processes and 180 to enforce the judgement.
[288] Not captured by the empirical data is the fact that in 2020 Moroccan authorities introduced an automated system assigning cases to judges in a randomised manner and by publishing reports regarding judicial performance. Information pertaining to reforms available at: https://www.doingbusiness.org/en/reforms/overview/economy/morocco; last access 30 October 2019.
[289] Quantitative data in line with data published in the World Bank Doing Business database (the entire database available at https://databank.worldbank.org/reports.aspx?source=doing-business; last access 30 October 2019).
[290] Not captured by the empirical data is the fact that in 2019 Moroccan authorities made opening of the relevant procedures easier and more accessible to creditors as well as encouraging debtors to carry on with their business during insolvency proceedings. (information pertaining to reforms available at: https://www.doingbusiness.org/en/reforms/overview/economy/morocco; last access 30 October 2019). Quantitative data in line with data published in the World Bank Doing Business database (the entire database available at https://databank.worldbank.org/reports.aspx?source=doing-business; last access 30 October 2019).
[291] With 300 accounting for the trial and judgement process and 210 for legal enforcement of the judgement.
[292] Quantitative data in line with data published in the World Bank Doing Business database (the entire database available at https://databank.worldbank.org/reports.aspx?source=doing-business; last access 30 October 2019).
[293] Ibidem.
[294] Of which trial and judgement took 720 days and enforcement of the very contract.
[295] Quantitative data in line with data published in the World Bank Doing Business database (the entire database available at https://databank.worldbank.org/reports.aspx?source=doing-business; last access 30 October 2019).
[296] Information pertaining to reforms available at: https://www.doingbusiness.org/en/reforms/overview/economy/egypt; last access 30 October 2019.

2011) through the maximum of 27.4 (in 2012) and stabilising at 25.8 in 2018. A declining trend may be likely though future observations are required to draw any binding conclusions.[297]

Jordan's contract enforcement emerges as institutionally weak, in 2018 better only than the Egyptian and Moroccan (see Figure 3.98 Panels A and B). The situation remained largely unchanged throughout the period considered, with the number of procedures currently is at 39, and the time required to go through all of them at 689 days in the years 2004-2017 (a downward shift recorded in 2018[298]). Against this backdrop, the Jordanian authorities introduced commercial court division, equipped courts with digitalised system for case management and raised the upper limit for cases heard by the lower court in order to improve the distribution of the caseload299. Yet, the relevant fees did not decrease, and remained at 31.2% of the value of the claim in the 14 years considered[300]. Apparent inadequacies ranked Jordanian insolvency resolution procedures low among the six economies. It usually took 3 years to complete the process with the procedure's expected costs amounting to as much as 20% of the estate's value and a very low rate of recovery (in 2004 at 26.7, oscillating around the values of 26-28 throughout the entire period and settling at 27.7 in the last year [2018])[301].

Lebanese institutional frameworks relevant for contract enforcement placed the economy close to Egypt in 2018 (Figure 3.98 Panel B), with number of procedures invariably at 37[302] and the time and costs required to complete them unchanged respectively at 721[303] days and 30.8% of the claim's value[304]. The economy also performs badly as regards resolving insolvencies. The process takes invariably 3 years to complete and the associated recovery rate is inadequately low (up from 26 in 2004 to 29.9 in 2010 and stabilised at 31.4 in 2018)[305].

Trading across Borders[306]

Difficult business environment, complicated and time-consuming export formalities and lengthy customs procedures, as well as insufficiently developed transport and logistics infrastructure were among the obstacles to trade most often mentioned by the stakeholders in the six SMCs interviewed over the course of the project. Indeed, according to the World Bank's Trading across Borders Index, the MENA region is second-worst performer globally in terms of ease of trading across borders.

The ranking is created by virtue of estimating time and cost (apart from tariffs) necessary for completion of three types of logistical processes of importing and exporting goods: documentary compliance (in the origin, destination, and transit economies), border compliance (e.g.

[297] Not reflected in the available data is the fact that Egyptian authorities introduced reorganisation procedures and allowing debtors to commence them as well as granting creditors' rights to participate in them (Information pertaining to reforms available at: https://www.doingbusiness.org/en/reforms/overview/economy/egypt; last access 30 October 2019). Quantitative data in line with data published in the World Bank Doing Business database (the entire database available at https://databank.worldbank.org/reports.aspx?source=doing-business; last access 30 October 2019).

[298] The movement is associated with streamlining of trial and judgement procedures which in the period 2004-17 took 462 days and declined to 415 in 2018; the enforcement of the judgement remained at 190 days through the entire period.

[299] Information pertaining to reforms available at: https://www.doingbusiness.org/en/reforms/overview/economy/jordan last access 30 October 2019.

[300] These may be likely changed following a 2019 reform which allowed users to pay court fees electronically (Information pertaining to reforms available at: https://www.doingbusiness.org/en/reforms/overview/economy/jordan last access 30 October 2019).

[301] Quantitative data in line with data published in the World Bank Doing Business database (the entire database available at https://databank.worldbank.org/reports.aspx?source=doing-business; last access 30 October 2019).

[302] No data for 2016-2018.

[303] While the overall time required to go through the procedures did not change, it appears that in 2012/13 the time required to enforce a judgement declined by 30 days (to 150 in 2013 from 180 in 2012), but the 30 days were re-allocated to the time required to go through trial and judgement.

[304] In 2020 Lebanese authorities implemented a law regulating mediation as an alternative mechanism for resolving disputes (information pertaining to reforms available at: https://www.doingbusiness.org/en/reforms/overview/economy/lebanon last access 30 October 2019).

[305] Quantitative data in line with data published in the World Bank Doing Business database (the entire database available at https://databank.worldbank.org/reports.aspx?source=doing-business; last access 30 October 2019).

[306] See more: https://www.doingbusiness.org/en/methodology/trading-across-borders.

phytosanitary inspection), and domestic transport (from the largest city/ies to the main port or the land border of a given economy).

The performance of individual SMCs in the ranking varies significantly. For instance, while as of May 2019 Morocco is ranked 58th (out of 190 countries evaluated) and Jordan and Tunisia follow closely at 75th and 90th place respectively, Lebanon lags behind at 153rd place, and Egypt and Algeria come 171st and 172nd. Border compliance procedures take 49 hours on average in the SMCs – but the difference between 6 hours in Morocco and 96 in Lebanon is significant. Similar differences can be observed across all indicators, as portrayed in Table 3.41 below.

At the same time, in all the SMCs – with the exception of Algeria and Morocco in case of documentary compliance – it takes longer to complete the import procedures, both in terms of border and documentary compliance (by 92 and 37 hours on average respectively). With the exception of Algeria (border compliance/USD) and Tunisia (documentary compliance/USD), border compliance and documentary costs associated with imports are also higher than those associated with exports. For instance, in Egypt, beyond 2015, export-related costs amounted to 358 USD (out of which documentary compliance amounted to 100 USD and the rest was associated with border compliance). In the case of imports, border compliance costs were unchanged, at 554 USD, but documentary compliance-related costs increased from 650 USD in 2015-2016 to 1000 USD from 2017 onwards. As for documents required for exports and imports, only the latter saw some amelioration and decreased from 11 in 2006 to 8 in 2007-2015; the former was unchanged at 8 throughout the period 2005-2015.

Table 3.41 Trading across Borders indicators, 2019

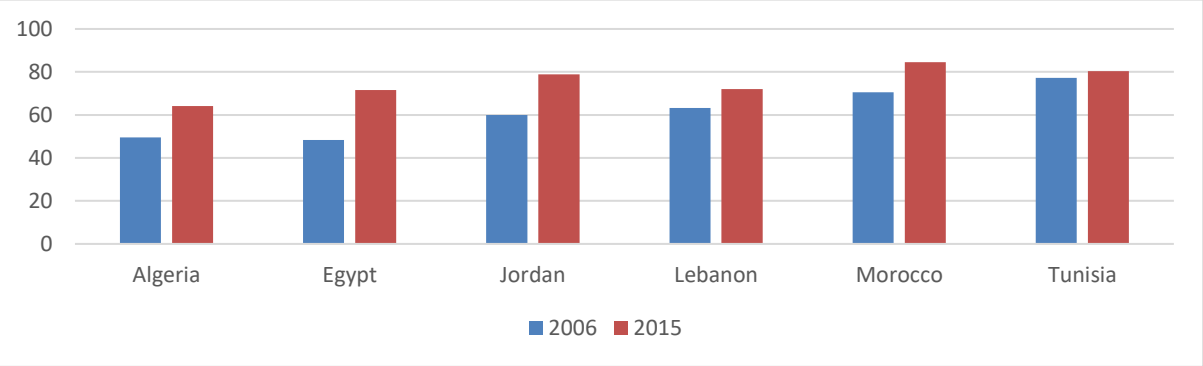
Location	Trading across Borders rank	Trading across Borders score	Export border type	Time to export: Border compliance (hours)	Cost to export: Border compliance (USD)	Time to export: Documentary compliance (hours)	Cost to export: Documentary compliance (USD)	Import border type	Time to import: Border compliance (hours)	Cost to import: Border compliance (USD)	Time to import: Documentary compliance (hours)	Cost to import: Documentary compliance (USD)
Algeria	172	38,4	port	80	593	149	374	port	210	409	96	400
Egypt, Arab Rep.	171	42,2	port	48	258	88	100	port	240	554	265	1000
Jordan	75	79	port	53	131	6	100	port	79	206	55	190
Lebanon	153	57,9	port	96	480	48	100	port	180	790	72	135
Morocco	58	85,6	land	6	156	26	67	land	57	228	26	116
Tunisia	90	74,6	port	12	375	3	200	port	80	596	27	144
average		63		49	332	53	157		141	464	90	331

Time-wise, all the six countries considered in the sample progressed as regards facilitation of trading across borders and decreased their respective distances to the frontier. The most pronounced changes occurred in the first phase, from 2005 to 2015 (Panel A, Figure 3.99 below): at this stage both **Egypt** and **Jordan** advanced the most, followed closely by **Algeria** and **Morocco**. Slightly less vivid changes materialised in **Lebanon** and **Tunisia**. In fact, the latter's indicator grew only marginally.

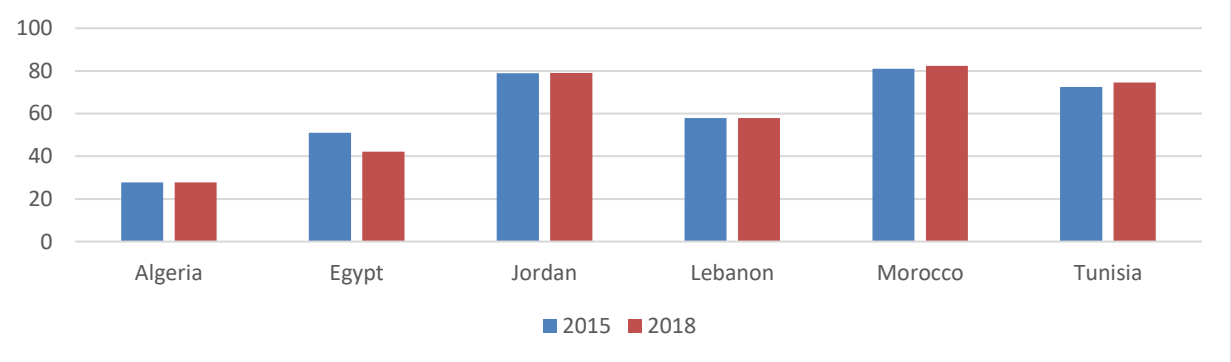
In the second phase, whose beginning was marked by a change in methodology introduced in 2015, the six countries exhibited very little progress in the considered area (Panel B, Figure 3.99 below). In fact, **Egypt's** scores in trading across borders deteriorated; on the other hand, small positive developments were registered in **Morocco** and **Tunisia**. The three other economies stagnated and remained on their respective levels achieved in 2015 (for details on situation and progress in individual countries, see Annex D.3.5).

Figure 3.100 Trading across borders - changes in institutional frameworks as depicted by the distance to the frontier approach
(note changes in the methodology - period 2006-2015 [Panel A] and 2015-2018 [Panel B])

Panel A. Period 2005-2015



Panel B. Period 2015-2018



Logistics infrastructure performance (on the basis of the Logistics Performance Indicators, World Bank)

Capturing and comparing countries' logistics and infrastructure performance in trade-related activities is made possible by utilisation of a World Bank indicator, Logistics Performance Index (LPI). This metric examines six dimensions to benchmark countries' performance on the scale 1 to 5[307]. The obtained score allows to make comparisons between specific countries as well as at regional and global levels. The LPI, based on global surveys of relevant infrastructure operators (such as international express carriers), conveys the level of approachability and reliability of

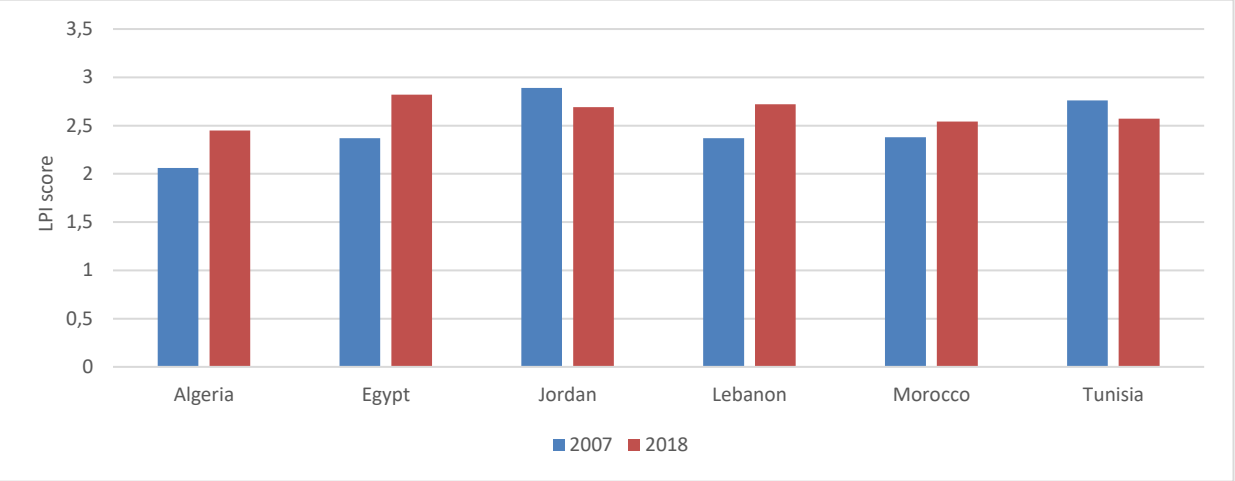
[307] With 1 being the lowest (worst) and 5 – the highest score. For example, as regards timeliness of shipments, interviewees are asked to assess the frequency with which shipments reach their respective consignees within the allotted delivery time, with a rating of 1 signifying 'hardly ever' and 5 meaning 'nearly always'.

infrastructure in economies where the interviewees conduct their business[308]. Even though the LPI provides the most comprehensive and informative picture of a country's logistic infrastructure, it has two significant drawbacks. Specifically, as regards less developed and poorer economies, the experience of international freight forwarders likely does not reflect their trade-related logistics environment wholly because it is likely that those countries rely more on traditional operators. Moreover, international operators may not only provide diverging quality of logistic services from what is generally available at the domestic level, but they may also experience different treatment and enjoy different interactions with government units than is usual for domestic (traditional) services providers.

As for relatively inaccessible regions[309], the LPI could also mirror access obstacles outside the economy in question (and thus beyond its scope of reform), such as transport issues. In such a case, the relatively poor rating of such a country does not convey its domestic efforts at trade facilitation, because such a country cannot alleviate the inefficiencies in the functioning of the international transit infrastructure. These two caveats are all the more important in the context of regional and global comparisons drawn regarding the economies considered in the analysis, all of which are classified, as of 2018, either lower or upper middle income by the World Bank.

Figure 3.101 Logistics Performance Index

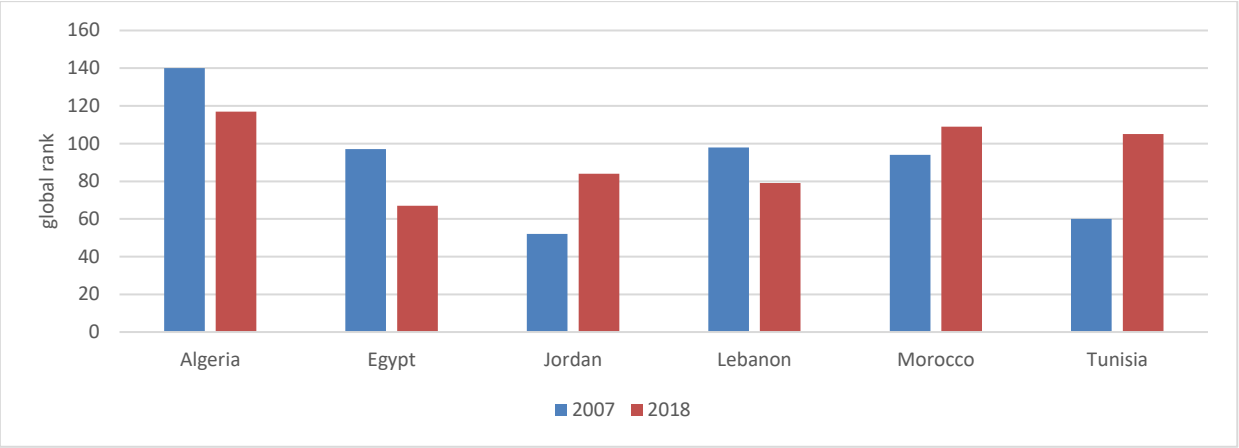
Panel A. Aggregated score 2007 vs 2018



Panel B. Global rank 2007 vs 2018

[308] The LPI score is a weighted average across the six following dimensions: 1) 'customs', i.e., the efficiency of the clearance processes approximated by the speed, simplicity, and predictability of formalities undertaken by border control units, 2) 'infrastructure', i.e., the quality of transport infrastructure, such as ports and railroads as well as information technology, 3) 'international shipments', i.e., the ease of finding and securing a competitively priced shipment, 4) 'logistics competence', i.e., competitive and quality logistics services, including transport operators and customs brokers, 5) 'tracking and tracing', i.e., the possibility to easily track consignments, and 6) 'timeliness', i.e., the probability that shipments reach their destinations within the expected time.

[309] Such as small islands and landlocked economies.

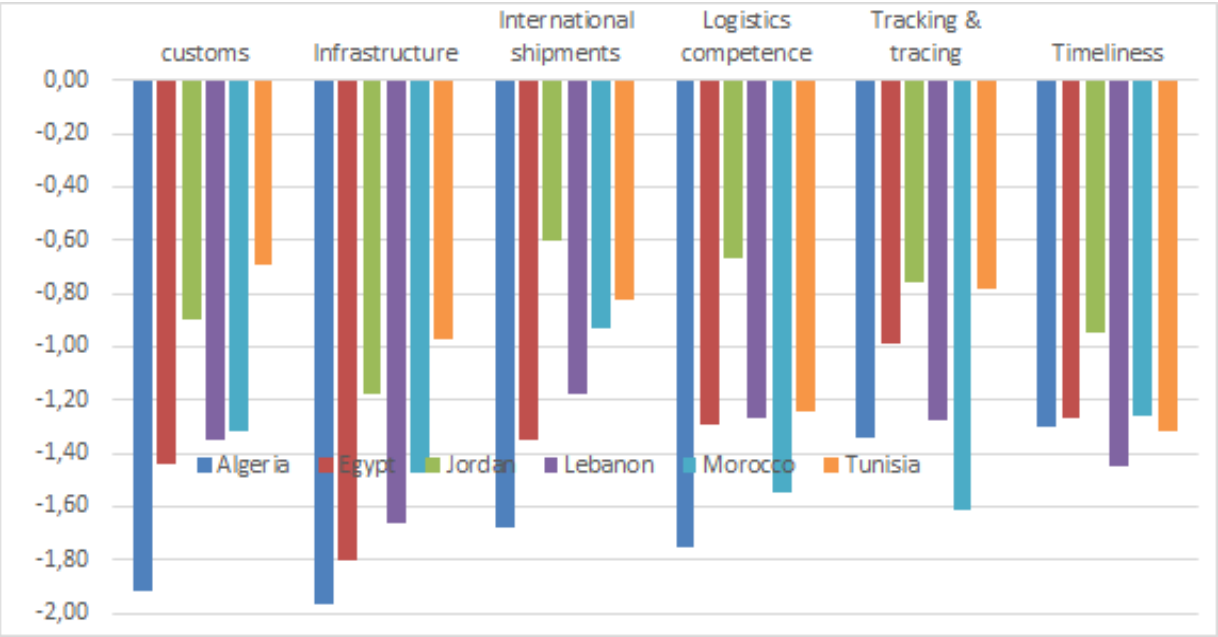


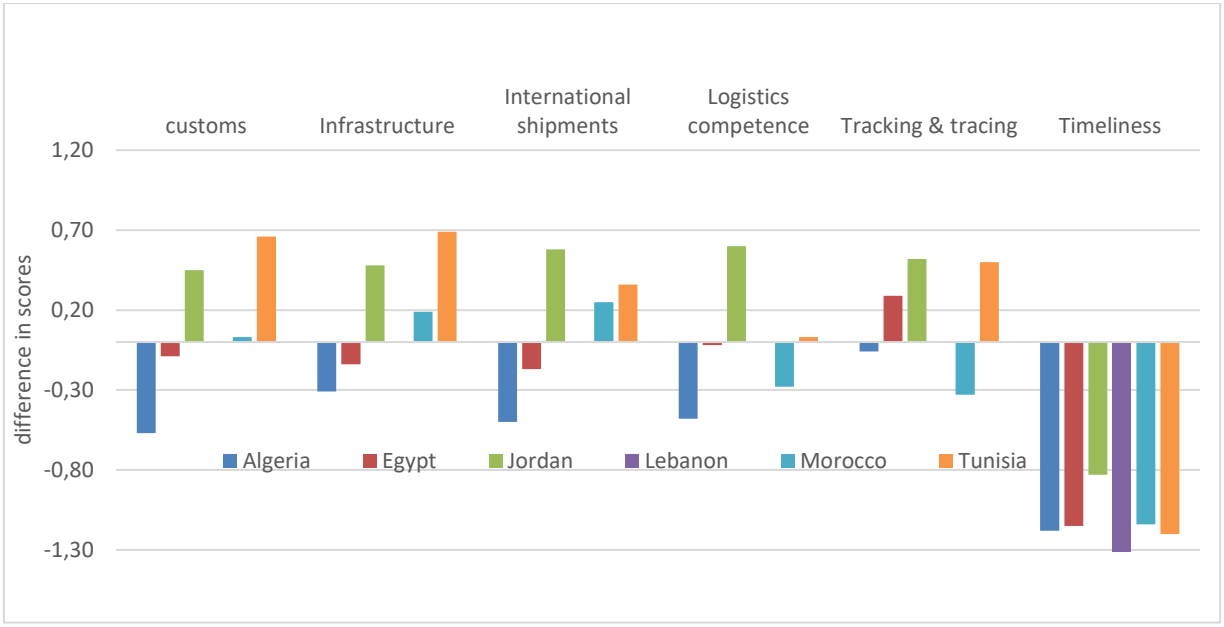
Source: Authors' own based on the data from World Bank https://lpi.worldbank.org/international/scorecard last access 22 January 2020.

The aggregated LPI score grew, between 2007 and 2018, in the case of four economies (Panel A, Figure 3.100) translating into their ameliorated positions in global rankings (Panel B, Figure 3.100). The positive developments emerged as particularly strong in the case of **Egypt** (which moved 30 ranks upward), **Algeria** (up 23 places) and **Lebanon** (up 19 places). **Morocco**, which registered a better LPI score in 2018 than in 2007, paradoxically fell from rank 94 to 109 in the period considered.

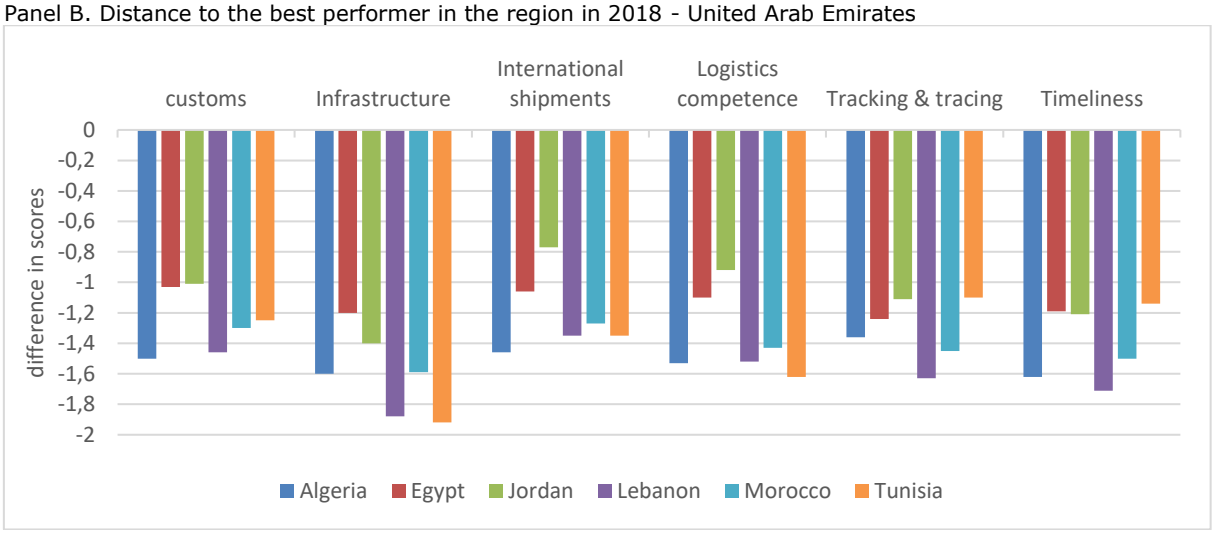
Figure 3.102 Distance to the best performer in the region

Panel A. Distance to the best performer in the region in 2007 - United Arab Emirates





Panel B. Distance to the best performer in the region in 2018 - United Arab Emirates



Source: Authors' own based on the data from World Bank https://lpi.worldbank.org/international/scorecard last access 22 January 2020.

The differences between each of the considered countries and the region's leaders were slightly bigger in 2018 than in 2007[310]. During both periods none of the six SMCs performed better than the regional leader, the UAE [311], in none of the six relevant dimensions (Panel A, Figure 3.101).

[310] It needs be noted here that a positive value plotted in Panel A Figure 3.101 signifies that a given economy was assessed better, in a particular dimension, then the region's leader. For example, such an occurrence was observed for Jordan and Tunisia: both economies outperformed Oman as regards five out of the six dimensions considered. Conversely, a negative figure plotted in Panel A or Panel B of Figure 3.101 indicates that the considered economy was assessed to perform below the score of the region's leader. For instance, this was the case with 'timeliness', which scored much higher in Oman than in any of the countries considered in the sample.

[311] In 2007 the UAE was the best performing economy in the region, with the global rank of 20, its LPI Score at 3.73. The specific dimensions were rated as follows: customs at 3.52, infrastructure at 3.80, international shipments at 3.68, logistics competence at 3.67, tracking and tracing at 3.61 and timeliness at 4.12. As for the 2007 global leader, Singapore's LPI score was at 4.19 (Germany ranked #3,with 4.10), customs 3.90 (Germany at 3.88), infrastructure 4.27 (Germany at 4.19), international shipments 4.04 (Germany at 3.91), logistics competence 4.21 (Germany at 4.21), tracking and tracing 4.25 (Germany at 4.12), timeliness at 4.53 (Germany at 4.33). In 2018, the United Arab Emirates were the best performing economy in the region, with the global rank of 11 and LPI Score of 3.96. The specific dimensions were rated as follows: customs at 3.62, infrastructure at 4.02, international shipments at 3.85, logistics competence at 3.92,

In 2018, on average the differences became marginally more pronounced in all but one category, 'Customs'. The most significant increase in the distance between the UAE and SMCs on average was recorded in the 'Tracking and tracing' category (0.19).

Looking at the individual countries, **Egypt** moved closer to UAE in all but one category ('Tracking and tracing') and **Algeria** – all but two ('Tracking and tracing' and 'Timeliness'). **Morocco** reduced its distance to the regional leader within 'Customs', 'Logistics competence' and 'Tracking and tracing' categories, and **Tunisia** in terms of 'Timeliness'. The gap between performance of the UAE and **Jordan** and **Lebanon** increased across all six categories between 2007 and 2018 (for more details on performance of each individual country, see Annex D.3.5).

Summing up, it needs be highlighted that Doing Business 'Trading across borders' indicator suggests that in the period 2005-2015 all the six countries considered in the sample experienced some improvement, even if the observed progress was not very prominent. Following the change in the methodology, in the years 2015-2018 it appears that only the ***Egyptian*** economy deteriorated. In the case of Logistics Performance Index, the conclusions regarding the countries' trade-related infrastructure seem in contrast with the Doing Business insights: for example, LPI scores make ***Egypt*** rank the highest globally, among the six economies considered, while the Doing Business metrics convey the country's possible institutional degradation. In light of such discrepancies, it is important to remember that the two groups of indices are hardly comparable and their designs differ profoundly. Indeed, the Doing Business metrics reflect theoretical, legal changes which occur in a country's institutional sphere, without verifying whether and how such changes project into real economic activity. On the other hand, with the LPI scores relying on surveys conducted among operators such as global freight forwarders and carriers who share their experience regarding the realities of trade and transit logistics in the countries in which they are active and these with which they conduct trade operations. Therefore, the LPI metric may be thought to reflect more of the practical side of trade infrastructure while the Doing Business approach remains focused on the relevant legal aspects and reforms.

3.5.7. Exchange rate policies

Exchange rates are prices at which those engaging in international trade and investment can exchange one country's currency for another. They have therefore long been thought to be key factors influencing international commerce. Typically set on the exchange market, exchange rates are nevertheless also often shaped by countries' exchange rate policies, which depend on many factors such as the level of development as well as the profile of internal and external shocks typically affecting a country's economy. Exchange rate regimes in turn are sets of rules which guide exchange rate policies, typically determining the way the monetary or other government authorities do or do not intervene in the exchange market.[312]

Exchange rate regimes are typically classified within a spectrum ranging from 'free floating' where the exchange rate is determined by the interaction of market supply and demand for a currency without any influence of monetary authorities, through regimes such as 'pegged exchange rate', 'managed float' or 'crawling peg', where a country's currency is linked to another currency, through to 'fixed exchange rate regimes' such as a currency boards where the exchange rate is fixed more firmly vis a vis another currency. Empirical evidence on the extent, or even the direction of influence, of exchange rate regimes on trade is not conclusive but they have been hypothesised in the literature to have at least three kinds of effects on trade: (1) through exchange rate volatility; (2) through any possible misalignment with respect to an equilibrium exchange rate; and (3) through the interaction of any such possible misalignment with trade policy (see e.g. Nicita, 2013).[313]

tracking and tracing at 3.96 and timeliness at 4.38. The 2018 global leader was Germany, with the LPI score of 4.20 and scores for customs at 4.09, infrastructure 4.37, international shipments at 3.86, logistics competence at 4.31, tracking and tracing at 4.24 and timeliness at 4.39.

[312] Apart from the rules concerning intervention in the market of monetary authorities the different exchange rate regimes also come along with other sets of rules which determine for example any restrictions concerning exchange of currencies by private actors, etc.

[313] The main effects of exchange rate regimes on trade through these three channels can be summarised as follows. Exchange rate volatility, and especially the volatility of real exchange rates, can have negative effects on trade, for example through higher uncertainty. Nevertheless, depending on demand elasticities and firms' agility, exchange rate volatility can also have positive effects as agile trading firms can try and sell relatively more at the high prices. Exchange rate misalignments, while expected to boost exports when the national currency is undervalued and boost imports when the national currency is overvalued, are not

The Euro-Med FTAs contain only basic provisions related to the exchange rate regimes of the contracting parties. In each of the six FTAs, there are two identical articles under the *Title IV, Payments, Capital, Competition and Other Economic Provisions*, which first state that the Parties undertake to allow all current payments for current transactions to be made in a freely convertible currency and, second, provide guidance on temporary restrictions on current transactions in the event of serious balance of payments difficulties, in accordance with the conditions established under the GATT and Articles VIII and XIV of the Articles of the Agreement of the International Monetary Fund.[314] These provisions therefore ensure current transactions between the Parties of the agreements connected with the movement of goods, persons, services and capital within the framework of this Agreement are normally free of restrictions but they do not have a bearing on the choice of exchange rate policy by the parties.

Exchange rate regimes and exchange rate developments
The evolution of exchange rate regimes[315] of the EU and the six SMCs during the course of much of the period when the FTAs were in force can be assessed on the basis of the International Monetary Fund's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER). Table 3.42 provides an overview of these classifications and the situations of the Euroarea and the individual SMCs within them for each year in the 2009-2018 period. The accompanying Figures 3.102 and Figure 3.103 show respectively the evolution of the nominal bilateral exchange rates of the euro and the currencies of the six SMCs towards the principal reference currency in international commerce—the US dollar—and derived bilateral nominal exchange rates of the currencies of the six SMCs towards the euro. In addition, Figures 3.104 and 3.105 show respectively, the real effective exchange rate indices[316] for the three SMCs for which such indices are available (Algeria, Morocco and Tunisia) and a derived index 'bilateral' real effective exchange rate indices vis a vis the euro.[317]

Table 3.42 The Eurozone and the SMCs according to IMF's classification of exchange rate regimes in 2009-2019

	De facto exchange rate regime name and short description	Classification of the EU and SMCs by the IMF
	Stabilised arrangement (exchange arrangement with no separate legal tender, Currency board arrangement)	
	Conventional pegged arrangement	Jordan (2008-2018); Morocco (2008-2017);
	Stabilized arrangement	Egypt (2011); Egypt (2013-14); Egypt (2017-18); Lebanon (2008-2018); Morocco (2018); Tunisia (2008-2009);

easy to measure because equilibrium exchange rates can be defined in different ways, yielding different estimates of misalignment. It is also not clear how long they can viably last without causing adjustments in prices and costs. As currency misalignments can be shown as having similar economic effects to import and export tariffs, the last point concerns the possibility of using currency misalignments as a substitute for trade policy and vice versa, although the empirical literature on this topic yields even less conclusive results than on the other two channels (see Nicita, 2013 for a recent review of the literature).

[314] In the case of Tunisia and Morocco's FTAS, these are Articles 33 and 35. In the other Euro-Med FTAs these are: Articles 38 and 40 in the case of the FTA with Algeria; 31 and 33 in the case of Egypt; 32 and 34 in the case of Lebanon, and Articles 48 and 52 in the case of Jordan.

[315] These are de facto regimes which can differ from de jure ones. The classification of countries into exchange rate regimes in this report follows the de facto classification by the IMF where the information on de jure regimes has been augmented (and classification appropriately adjusted) on the basis of the expert data collection and expert judgements by the IMF staff. For more information on methodology and results see: https://www.elibrary-areaer.imf.org/Pages/Home.aspx.

[316] Real effective exchange rate indices are measures of the value of a currency against a trade-weighted average of several foreign currencies divided by a price deflator or index of costs. An increase in the real effective exchange rate implies that exports become more expensive and imports become cheaper; therefore, an increase indicates a loss in trade competitiveness, see: http://datahelp.imf.org/knowledgebase/articles/537472-what-is-real-effective-exchange-rate-reer#:~:text=REER%20is%20the%20real%20effective,deflator%20or%20index%20of%20costs.

[317] Data for other SMCs are not available likely due to poor availability of either reliable trade data or price deflators needed to calculate nominal and real effective exchange rates.

Flexibility of exchange rate regime ↓	Other managed arrangement (pegged exchange rate within horizontal bands, crawling peg, crawl-like arrangement)	Algeria (2009-2018); Egypt (2008-2010); Egypt (2012); Egypt (2015); Tunisia (2011-2015); Tunisia (2017-2018)
	Floating and free floating	EU (2009-2019); Algeria (2008); Egypt (2016); Tunisia (2008); Tunisia (2016);

Source: authors' own elaboration based on International Monetary Fund's Annual Report on Exchange Arrangements and Exchange Restrictions: https://www.elibrary-areaer.imf.org/Pages/Home.aspx.

As far as the EU exchange rate policy is concerned, the exchange rate policy of the ECB, which determines the euro exchange rate for the 19 Eurozone members, has been classified according to the IMF as free floating since the euro's beginning as the Eurozone's common currency in 1999. According to the IMF's AREAER, the euro floats freely and independently against other currencies, with only marginal interventions by the ECB. As far as the non-Eurozone members are concerned, currently, Bulgaria, Croatia and Denmark, have different types of pegged or fixed exchange-rate regimes with respect to the euro, which allow them to participate in the Exchange Rate Mechanism II (ERM II) which is one of the convergence criteria for entry to the Eurozone.[318] The remaining EU members currently have different types of floating exchange rate regimes where the prices of their currencies are set freely in the foreign exchange market, although stability *vis-à-vis* the euro remains a long-term policy goal for these countries as well.[319]

As far the evolution of exchange rates in time is concerned, we also see that, while the € has appreciated somewhat in nominal terms against the dollar in the period 1999-2009, it depreciated in 2009-2019 (Figure 3.102). This dynamic is also confirmed when the relative price movements are taken into account in the real effective exchange rate index (Figure 3.104). If real effective exchange rates are a meaningful indicator of competitiveness, this suggests that the competitiveness of the EU's exports may have deteriorated due to exchange rate movements in the first of these periods and improved in the second period. While the scale of these movements is non-negligible (approximately 11% or real effective appreciation in 1999-2009 against the UD dollar followed by an approximately 15% depreciation in 2009-2019) it is still much smaller than the scale of the movements of exchange rates of SMC.

As far as the exchange rate policies of the six SMC are concerned, as emerging markets, they have faced greater challenges when it comes to macroeconomic stabilisation in the considered period. Their exchange rate policies therefore evolved more considerably, with a general tendency of moving away from the more freely floating or managed exchange rate arrangements they maintained in the late 2000s towards stabilised arrangements and conventional pegs in the mid to late 2010s. There were nevertheless also significant differences across the region (Table 3.42). In the IMF's nomenclature, currently, all the six SMCs have either a managed exchange rate arrangement (Algeria and Tunisia), a stabilised arrangement (Egypt, Lebanon and Morocco) or a conventional peg (Jordan).

According to the assessment presented in the IMF's AREAER, **Algeria**'s current de jure exchange rate arrangement is managed floating and the country's regime was classified similarly since 2008. According to AREAER, currently *"the Bank of Algeria (BA) does not announce the path of the exchange rate. The external value of the dinar is determined in the interbank foreign exchange market, in which the BA is the main seller. This is because of significant inflows related to commodity exports, including hydrocarbons, which, under current*

[318] Eight other countries, which were not among the eleven original Eurozone members, also had the ERM II status prior to joining the Eurozone. These are: Greece (joined the Eurozone in 2001); Slovenia (2007), Cyprus (2008), Malta (2008), Slovakia (2009), Estonia (2011), Latvia (2014) and Lithuania (2015).
[319] Nevertheless, these EU members must also eventually participate in the ERM II and ultimately join the € and thus the € remains a long-term reference for exchange rate policy in these countries as well.

law, must be surrendered to the BA. The BA manages the dinar with reference to a basket of currencies, and the rate of the dinar relative to the currencies in the basket is based on balance of payments data. The BA has not set a target range for fluctuation of the dinar outside or within any particular band, and the observed exchange rate movements do not confirm any constant weights of the currency composite. Since June 2018, the exchange rate followed a depreciating trend within a 2% band against the US dollar. Accordingly, the de facto exchange rate arrangement was reclassified to crawl-like from other managed, effective June 15, 2018. The BA does not disclose information about its interventions." (IMF, 2020).

Since the beginning of the 1990s, Algeria's currency has been depreciating gradually in nominal and real terms against the US dollar and the euro (Figure 3.102 through to Figure 3.105) and in the 1990s these movements have also been marked by considerable volatility. In the period 1999-2019 Algeria's currency has depreciated in nominal terms against the euro by some 92% (Figure 3.103), while in real effective terms, it depreciated *vis-à-vis* all relevant trading partners' currencies by some 23% (Figure 3.104). The ratio of the real effective exchange rate index of Algeria and that of the euro suggest a depreciation in bilateral real effective terms by some 19% in the same period.[320]

In **Egypt**, according to the IMF's AREAER the exchange rate regime is currently a stabilised arrangement but Egypt has changed its exchange rate regime several times in the 2008-2018 period, moving between floating and managed arrangements. According to the IMF, currently "*the de jure exchange rate arrangement is floating. On November 3, 2016, the CBE announced its decision to move, with immediate effect, to a liberalized exchange rate regime to quell any distortions in the domestic foreign currency market. Pursuant to the above, banks and other market participants are at liberty to quote and trade at any exchange rate. Bid and ask exchange rates are determined by forces of demand and supply. The CBE uses the prevailing market rate for any transactions it undertakes. While the exchange rate appears to have increased its flexibility from January 2019, more observations are necessary to determine its new trend. Until then, the de facto exchange rate arrangement remains classified as stabilized. The CBE does not publish intervention data.*" (IMF, 2020)

Egypt is also the country with the largest nominal and real exchange rate movements across the six SMCs. Between the beginning of the 1990s and 2015, Egypt's currency has been depreciating gradually in nominal terms against the US dollar and the € (Figure 3.102 and 3.103) and this depreciation accelerated considerably after 2015 due to the worsening political and economic situation. In the period 1999-2019 Egypt's currency has depreciated in nominal terms against the euro (Figure 3.103) by some 425%. Nevertheless, the country has experienced annual inflation rates which have exceeded 100% in the late 2016 and early 2017, so, at least in part, these considerable exchange rate movements have been counterbalanced by the country's price level movements. This is confirmed by the trends in Egypt's real effective exchange rate index which shows a depreciation vis a vis all relevant trading partners' currencies by some 15% in the same period. The ratio of the real effective exchange rate index of Egypt and that of the euro suggest a depreciation in bilateral real effective terms by some 10% in the same period.

In **Jordan**, the exchange rate arrangement is a conventional pegged arrangement and this arrangement has not changed since 2008. Effectively, Jordan had the most stable exchange rate regime in the considered period. According to the IMF (2020), currently "*the dinar is officially pegged to the SDR, but in practice, it has been pegged to the US dollar since late 1995. The CBJ is responsible for maintaining the stability of the dinar exchange rate.*" (IMF, 2020)

This is reflected in the stability of the nominal exchange rate both vis a vis the US dollar and the euro (Figure 3.102 and 3.103). Overall, in 1999-2019, Jordan's currency has remained stable vis a vs the US dollar and depreciated in nominal terms against the euro by some 12% (Figure 3.103) which is, after Morocco and Lebanon, the third-lowest depreciation among the six SMCs. While IMF's real effective exchange rate indices are not available for Jordan, particularly in the late 2000s and in 2010s, Jordan's inflation rates were higher than those in the EU, which

[320] Dividing the two indices is not really correct as they are already trade weighted indices. However, given the lack of other data, it provides a feeling of developments in Algeria's competitiveness vis a vis Eurozone's competitiveness.

together with the moderate nominal depreciation just discussed, suggest that the real exchange rate of Jordanian dinar *vis-à-vis* the euro has remained relatively stable.

In **Lebanon**, the exchange rate regime is currently a stabilised arrangement and this arrangement has not changed since 2008. According to the IMF (2020), currently "*the de jure exchange rate regime is free floating. In practice, the exchange rate remains within a very narrow band vis-à-vis the US dollar (LL 1,501–1,514/US dollar). Therefore, the de facto exchange rate arrangement is classified as a stabilized arrangement. The Banque Du Liban (BDL) does not publish intervention data*." (IMF, 2020)

Lebanon's stabilised arrangement *vis-à-vis* the US dollar is reflected in the stability of the nominal exchange rate both *vis-à-vis* the US dollar and the euro (Figure 3.102 and 3.103). Overall, in the period 1999-2019, Lebanon's currency has remained stable vis a vis the US dollar and depreciated in nominal terms against the euro by some 12% (Figure 3.103) which is, after Morocco, the second lowest depreciation among the six SMCs. While IMF's real effective exchange rate indices are not available for Lebanon, while Lebanon's inflation has been low in 1999-2019, it has accelerated considerably in 2020 when the currency started to be traded intensely in the black market at unofficial rates. This suggest that the real exchange rate of Lebanese pound *vis-à-vis* the euro has remained relatively stable until 2020.

In **Morocco**, according the IMF (2020) the de facto exchange rate regime is currently a stabilised arrangement where "*the de jure exchange rate arrangement is a pegged exchange rate with horizontal bands vis-à-vis a composite, effective January 15, 2018, when the limit for the exchange rate band in relation to the central rate was increased to +/?2.5% from +/?0.3%. Previously, the exchange rate arrangement was a conventional peg. Since April 2015, the basket has been composed of the euro and the US dollar, with weights of 60% and 40%, respectively. The Bank Al-Maghrib (BAM) had published until November 5, 2018, its daily foreign exchange purchases and sales on its website. The BAM has not intervened in the foreign exchange market since March 2018. The authority to establish the fixed exchange rate arrangement is found in Dahir No. 1-05-38 of November 23, 2005, promulgating Law No. 76-03 establishing the charter of the BAM (Chapter II, Missions, Section I, Core missions, Article 8). The exchange arrangement falls within the purview and prerogatives of the Ministry of Economy and Finance. The BAM is responsible for its operational implementation (quoted rates, ranges) and any changes and monitors the foreign exchange market. Because the exchange rate has remained stabilized within a 2% band against the US dollar–euro basket, the de facto exchange rate arrangement was reclassified to stabilized from a conventional peg arrangement, effective January 15, 2018.*" (IMF, 2020)

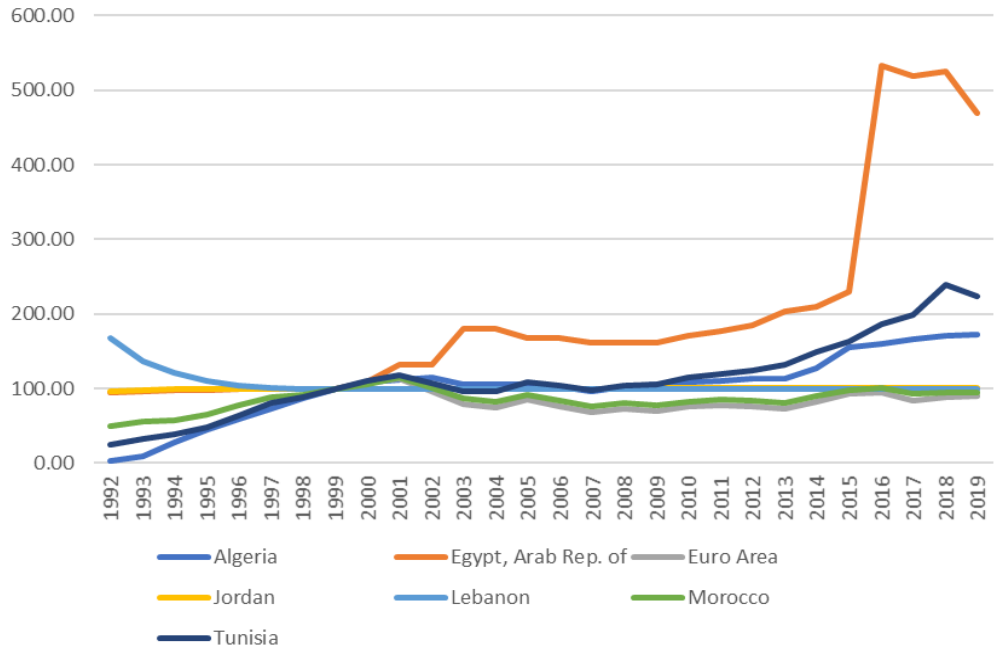
Morocco's currency has been among the most stable ones across the SM region vis-à-vis both the US dollar and the euro. In the period 1999-2019, Morocco's currency has appreciated vis a vis the US dollar by 5% and depreciated in nominal terms against the euro by some 6% (Figures 3.102 and 3.103). In real effective terms it depreciated vis a vis all relevant trading partners' currencies by some 6% (Figure 3.104) which is the smallest depreciation recorded for all the SMCs for which such data is available. The ratio of the real effective exchange rate index of Morocco and that of the euro similarly suggests a depreciation in bilateral real effective terms by some 6% in the same period.

In **Tunisia**, according to the IMF's AREAER the exchange rate regime is currently a crawl-like arrangement but the country has changed its exchange rate regime several times in the 2008-2018 period, moving between floating and managed arrangements. According to IMF (2020), currently, "*the de jure exchange rate arrangement is floating, as indicated on the Central Bank of Tunisia (BCT—Banque Centrale de Tunisie) website. The BCT intervenes in the foreign exchange market mostly to cover banks' short net open positions in foreign exchange. Effective August 1, 2018, the BCT introduced competitive foreign exchange auctions to support price discovery in the foreign exchange market but maintained bilateral transactions. The results of the auctions are published daily after each auction on the BCT contribution pages on Reuters. Effective January 1, 2019, the foreign exchange auctions became more frequent and the BCT ceased interventions outside the auction mechanism, and calls for tender (appel d'offre) became the sole intervention method. Previously, the BCT intervened in the foreign exchange market when market rates differed substantially from the day's fixing rates, to smooth excessive fluctuations in the exchange rate for the dinar. While the exchange rate has stabilized within a 2% band against the euro since February 2019, more observations are necessary to determine its new trend. Until then, the de facto exchange rate arrangement remains classified as a crawl-like arrangement.*"

Tunisia is after Egypt the country with the second largest nominal and real exchange rate movements across the six SMCs. Between the beginning of the 2000s and 2010, Tunisia's currency has been depreciating gradually in nominal terms against the US dollar and the € (Figure 3.102 and 3.103) and this depreciation accelerated considerably after 2010 due to the worsening political and economic situation. In the period 1999-2019 Tunisia's currency has depreciated in nominal terms against the euro (Figure 3.103) by some 149%. Nevertheless, at least in part, these considerable exchange rate movements have been counterbalanced by the country's price level movements. This is confirmed by the trends in Tunisia's real effective exchange rate index which shows a depreciation vis a vis all relevant trading partners' currencies by some 41% in the same period. The ratio of the real effective exchange rate index of Egypt and that of the euro suggest a depreciation in bilateral real effective terms by some 37% in the same period. These are the largest depreciations in real effective terms seen across the six SMCs.

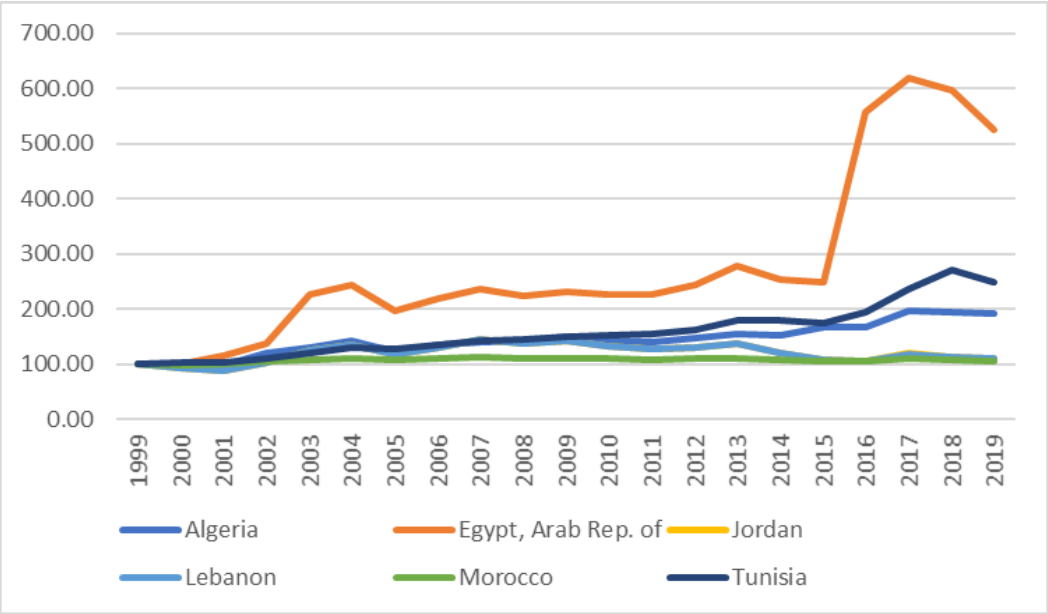
Implications for the effects of the Euro-Med FTAs
Overall, exchange rate policies can be seen as having had an impact on bilateral trading conditions only in the case of EU's trade with Algeria, Egypt and Tunisia, where the national currencies depreciated *vis-à-vis* the euro in both nominal and real terms and thus likely contributed to less dynamic imports of these countries from, and more dynamic exports to, the EU. These exchange rate developments could have contributed to the evolution of growth rates of bilateral trade presented earlier in this chapter (see Figure 3.23), although measuring these impacts rigorously goes is difficult and beyond the scope of this study. This is because with interventions in foreign exchange markets remaining largely unreported, it is unclear to what extent the observed exchange rate movements were a result of policies rather than organic foreign exchange rate market developments. Without a devoted econometric analysis, it is also difficult to establish to what extent exactly these exchange rate movements may have contributed to changes in bilateral trade flows. In any case, the currency depreciations seen in the three countries, would have contributed to their competitiveness, which, given the asymmetries in market access liberalisations documented earlier in this chapter, would have been a factor facilitating the working of the FTAs, as, if anything, they would have supported competitiveness of these less developed trading partners which enjoyed relatively small improvements in access to the EU market as a result of the FTAs.

Figure 3.103 Nominal exchange rate to the US dollar (index, 1999=100)



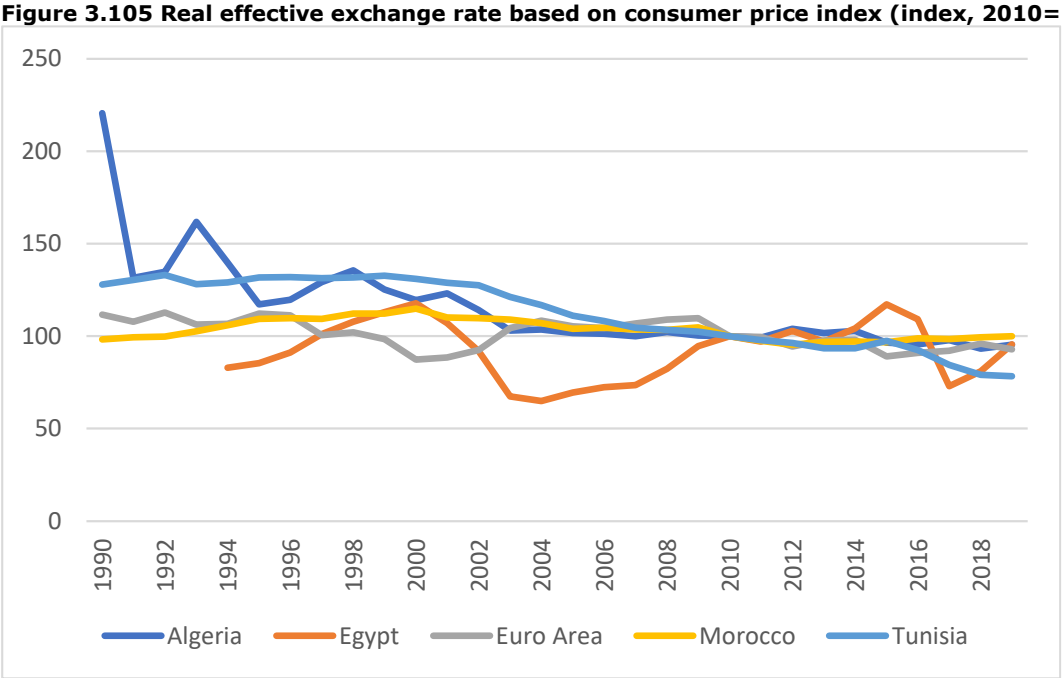
Source: authors' calculations based on International Financial Statistics, International Monetary Fund.

Figure 3.104 Nominal exchange rate to euro (index, 1999=100)



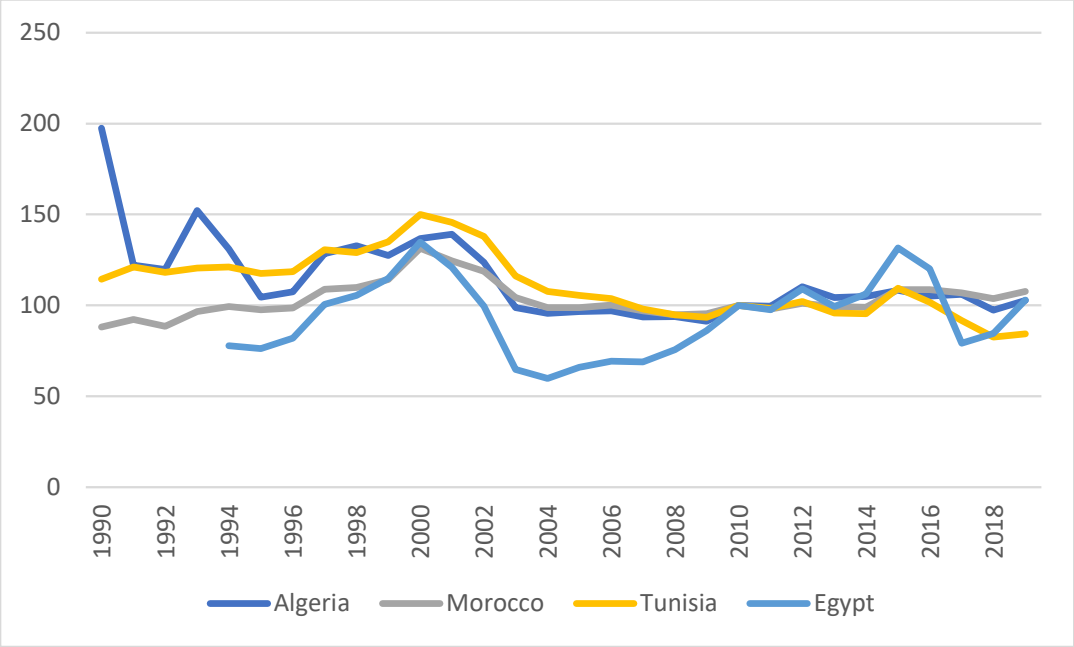
Source: authors' calculations based on International Financial Statistics, International Monetary Fund.

Figure 3.105 Real effective exchange rate based on consumer price index (index, 2010=100)



Note: real effective exchange rate is a measure of the value of a currency against a weighted average of several foreign currencies divided by a price deflator or index of costs. An increase in the index implies that exports become more expensive and imports become cheaper; therefore, an increase indicates a loss in trade competitiveness.
Source: authors' calculations based on International Financial Statistics, International Monetary Fund. For Egypt: World Bank's Global Economic Monitor.

Figure 3.106 'Bilateral' real effective exchange rate *vis-à-vis* the Eurozone (index, 2010=100)



Note: This index has been created by dividing the two indices of real effective exchange rates form Figure 3.104 and rescaling so that 2010=100. It shows how the real effective exchange rates of the three SMCs for which the data is available moved compared to the real effective exchange rate of the Eurozone. The interpretation is similar: an increase in the index implies that exports become more expensive and imports become cheaper in the given country relative to the situation in the Eurozone; therefore, an increase indicates a loss in trade competitiveness.
Source: authors' calculations based on International Financial Statistics, International Monetary Fund. For Egypt: World Bank's Global Economic Monitor.

3.5.8. Industrial policies

Industrial policy at its broadest refers to the set of "policies that stimulate specific economic activities and promote structural change" (Rodrik, 2019). This definition goes beyond the traditional focus of industrial policy on manufacturing sectors, encompassing agriculture and services as well as cross-sectoral activities. Industrial policy draws on a wide range of instruments, from subsidies over tariffs to more complex instruments such as business environment reforms. Intent and context are important, as none of these instruments is an industrial policy instrument by or in itself.[321] This qualification in particular applies to horizontal policies and instruments, not aimed at a specific sector. In contrast, vertical policies and instruments, aiming at specific sectors and thereby picking "winners", are industrial policy instruments almost by definition.

As with all broad and ambitious policies, the evidence on whether industrial policy works or not is mixed and nuanced (Lane, 2020). Industrial policy is prevalent. In recent years it has made a strong comeback, in policy practice as well as intellectually. Today industrial policy is not just employed in developing countries, in order to jumpstart a process of industrial development. It is also employed in industrialized countries to further boost competitiveness, including the US, as a country typically more market-oriented than others, as well as the European Union and her member states.[322]

Industrial policy can be critical for economic development by addressing market failures; market failures that if left unaddressed would slow or inhibit industrial development.[323] Industrial policies can thus serve the stated key objective of the Euro-Med FTAS to strengthen economic development. Furthermore, by developing export-oriented industries industrial policy can promote trade and investment within the framework and objectives of the Euro-Med FTAs.

[321] For example, exchange rate policy (see Section 3.57) is an industrial policy instrument if meant to promote the price competitiveness of exporting industries.
[322] (Aiginger and Rodrik, 2020), European Commission (2020), Federal Ministry for Economic Affairs and Energy, and Government of France (2019).
[323] See Rodrik (2020) for the economic rationales of industrial policy.

And conversely, by providing market access the Euro-Med FTAs can be critical to the success of industrial policy.

However, industrial policy can also negatively affect the Euro-Med FTAs and its objectives. First and foremost, industrial policy instruments, from outright protectionist measures to subsidies, can materially affect market access commitments. There is a fine line to walk between supporting the development of domestic industries without unduly restricting trade; not only because of commitments made, but also because trade restrictions can negatively affect the objective of industrial development. Of course, these questions are not specific to the Euro-Med FTAs, as the same questions have to be asked with respect to the SMC's commitments in their other regional trade agreements as well as in the multilateral trading system (Aggarwal and Evenett, 2014).

The Euro-Med FTAs operate on the principle of granting mutual market access for industrial and agricultural products, to the maximum extent possible. This by itself is already an industrial policy, of the kind that tries to promote export-oriented industries, as opposed to an approach aiming for import substitution. Mutual market access benefits SMC producers not only by granting access to the large EU market, but also by facilitating the import of intermediate inputs, as well as exposing producers to competition, thereby holding them accountable.[324]

Given the wide range of industrial policy, most provisions of the agreement can be interpreted or seen through an industrial policy lens. However, some provisions are worth highlighting. The Euro-Med FTAs explicitly allows the imposition of customs duties, if concerning infant industries or sectors undergoing restructuring or facing serious difficulties. However, restrictions apply, including a ceiling on these customs duties, restrictions on the duration and automatic binding for products that have seen all customs duties and quantity eliminated.[325] Furthermore, the agreements foresee cooperation on education and training, and on science and research, as areas of relevance for horizontal industrial policies, and on industrial development, with a particular focus on SMEs. In short, the Euro-Med FTAs do allow for industrial policy, support industrial policy, but also impose some restrictions.

There have been several success stories of industrial development in the SMC, even if the question of causality, from an industrial policy to success in industrial development is difficult to answer. First and foremost, this is the automotive industry in Morocco, a success that would very likely not have been possible without the contributions of industrial policy. Other sectors that both developed dynamically and where industrial policy likely played an important role include the pharmaceutical industry in Jordan or the automotive parts industry in Tunisia (see also Chapter 4).

Industrial policy in Algeria is on one side of importance, given the need to diversify the economy and lessen the dependence on hydrocarbons. However, on the other side Dutch Disease effects and the dominance of the energy sector are a challenge. In 2007 the Ministry of Industry and Investment Promotion outlined an industrial policy with priorities in the petrochemical, pharmaceutical, fertilizer, agri-food processing, steel, construction materials, automotive and ICT sectors (Ministère de l'Industrie et de la Promotion des Investissements de l'Algérie, 2007), mainly through spatial policies aimed at competitive poles and industrial zones (Testas and Karagiannis, 2012). These priority sectors were broadly maintained in the 2015 to 2019 five-year investment plan. This plan focused on improving the general business environment and prioritized the iron and steel, mechanical and metals, electrical and electronics, agri-food processing, chemicals, plastics and pharmaceuticals, and construction materials industries (Oxford Business Group, 2018). Currently under preparation the Vision Algérie 2035 is expected to update these priorities.[326]

To promote industrial development in recent years several policy instruments have been used by the Algerian government. The focus of the previous industrial policy on industrial zones have been maintained, thereby addressing issues related to the access to industrial land. To support

[324] Export orientation and exposure competition are two important principles of successful industrial policy, complementing targeted industry support (Cherif and Hasanov, 2019).
[325] Article 11 for Algeria, Egypt and Lebanon; Article 13 for Jordan; Article 14 for Morocco and Tunisia.
[326] See http://pubdocs.worldbank.org/en/109221522057338113/Algeria-Brochure-FR.pdf.

cluster development and technology transfer, technical centres have been set up for the machinery and the agri-food industry. Pursuing an import substitution strategy, the government also suspended the imports of 851 products, mainly in automotive, electronics, machinery, ICT equipment and agri-food industries.[327] (Oxford Business Group, 2018) Industrial policy incentives include a tax holiday on corporate income tax (Impôt sur le Bénéfice des Sociétés), granted for investments in strategic sectors such as automotive, agri-food processing, machinery and advanced technologies.[328] Furthermore, domestic taxes discriminate between domestically produced and imported vehicles.[329]

Similar to Algeria, **industrial policy in Egypt** has gone through several iterations. However, industrial policy is also quite complex given the number of institutions involved. The Ministry for Trade and Industry's Egypt Industrial Development Strategy of 2005 foresaw a range of horizontal policies on access to finance and land, innovation and technology transfer and cluster development. The strategy targeted eight traditional sectors – machinery, agri-food processing, chemicals and pharmaceuticals, textiles and garments, construction materials, furniture, paper, and leather – and six non-traditional sectors – engineering machinery, consumer electronics, automotive parts, life sciences, biotechnology and ethnic products. Spatial policies were under the umbrella of the General Authority for Investment and Free Zones, with responsibility for the free zones and qualifying industrial zones. (Loewe, 2013)

The Ministry of Trade and Industry's strategy has been updated in the form of the Industry and Trade Development Strategy 2016–2020.[330] This strategy readjusted the priority sectors, now focusing on recycling, packaging, chemicals, plastics, minerals, engineering equipment (including automotive), furniture, renewable energy, textiles and agri-food. Further promoting industrial development were horizontal policies related SME development, export promotion, skill development and the business environment. A further update was the Egypt Vision 2030, integrating more than 80 different programmes and strategies, including the aforementioned industrial policy strategy.[331] However, by its very nature Egypt Vision 2030 is so broad, the ultimate focus of industrial policy still rests within policies and strategy by individual ministries and authorities.

Egypt uses trade barriers only sparingly in the pursuit of industrial policy. An exception is a draft law on the automotive industry, that has not yet been adopted. This draft foresees tax reductions if local content requirements are met.[332] Egypt has also protected the domestic steel industry through safeguards.[333] Furthermore, Egypt does not provide tax incentives for any specific sector or activities, except for companies based in free zones.[334]

Industrial policy in Jordan is defined by the Jordan Economic Growth Plan 2018–2022.[335] A broad policy document, covering a range of growth enablers, from macroeconomic stability over competitiveness and the business environment to social development, this plan also defines industrial policy priorities and instruments. There are no priority sectors per se, as all major sectors, from industry over various service sectors to agriculture are covered. These are supported through a wide range of mostly horizontal policies as well as development or free zones. A key role is also played by the Jordan Enterprise Development Corporation, providing technical support to SMEs and emerging exporters.

While not identifying priority sectors, Jordan's industrial policy emphasizes the need for structural transformation, away from traditional to high-value added industries. Consequently,

[327] See https://madb.europa.eu/madb/barriers_details.htm?barrier_id=14104 and https://www.joradp.dz/FTP/jo-francais/2018/F2018001.pdf.
[328] See https://taxsummaries.pwc.com/algeria/corporate/tax-credits-and-incentives.
[329] See https://madb.europa.eu/madb/barriers_details.htm?barrier_id=11202.
[330] See http://www.mti.gov.eg/English/MediaCenter/News/PublishingImages/Pages/2017-Strategy/2017%20Strategy.pdf.
[331] See http://mcit.gov.eg/Upcont/Documents/Reports%20and%20Documents_492016000_English_Booklet_2030_compressed_4_9_16.pdf.
[332] See https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=12540.
[333] See https://www.globaltradealert.org/state-act/36796/egypt-definitive-safeguard-duty-on-imports-of-certain-semi-finished-products-of-iron-or-non-alloy-steel-and-steel-rebar.
[334] See https://taxsummaries.pwc.com/egypt/corporate/tax-credits-and-incentives.
[335] See https://www.ssif.gov.jo/UploadFiles/JEGProgramEnglish.pdf.

emphasis is placed on competitiveness, technology transfer and technical support to budding exporters, and linkage creation. The Euro-Med FTA is seen as critical for this process, and consequently emphasis is also placed on the need for upgrading, to comply with EU quality requirements, on linkage creation with EU buyers and suppliers, and trade finance.
Jordan has not used trade barriers as industrial policy instrument. Tax incentives are aimed at development and free zones. The only sectoral prioritization is with regards to reductions in the corporate income tax rate, accelerated for pharmaceuticals and textiles as two key sectors of the Jordan economy.[336]

Of all the SMC Lebanon is arguably the one most specialized in service industries as well as the most free-market oriented. This is reflected in the **absence of an industrial policy in Lebanon**, or has been noted by Atallah and Srour (2014), an industrial policy that at best consists "some subsidized industrial financing schemes, several trade agreements with the EU and Arab countries, and some initiatives that are sporadic at best." There are no priority sectors to speak off. And while the Investment Development Authority of Lebanon grants incentives, these are not targeted at specific industries or sectors and are thus best seen as instruments of investment promotion and not industrial policy.

Morocco with its successful automotive cluster is the poster child for **successful industrial policy** among the SMC. This also shows in the prominence and coherence of industrial policy strategies. The National Pact for Industrial Emergence 2009–2015 (Pacte National pour l'Emergence Industrielle) focused on six priority sectors, aerospace, automotive, agri-food processing, offshoring, pharmaceuticals and textiles (Oxford Business Group, 2015). In particular with regards to the aerospace and automotive industries the plan was highly successful, as these industries developed from almost zero into large, export-oriented industries (Vidican-Auktor and Hahn, 2017; and the case study in Chapter 4).

The National Pact was followed by the Industrial Acceleration Plan 2014–2020 (Plan d'Accélération Industrielle).[337] This plan expanded the selection of priority sectors, and also targets the electric and electronics, mechanical and metallurgical, chemicals, construction materials and renewable energy industries. These industries are supported through ten strategic axes, covering key areas such as access to finance, infrastructure and land, SME development, skill development, and cluster formation and linkage creation. Industrial policy has a strong export-focus, as the plan sees Morocco's free trade agreements and investment promotion as critical to its success. While the Euro-Med FTAs are important, Morocco also sees opportunities in Africa, as also highlighted by the ambition to become a member of Economic Community of West African States.

Morocco has sporadically employed trade barriers to drive industrial development. This includes in particular a localization requirement for the granting of import licenses for pharmaceuticals.[338] In the renewable energy sector Morocco imposes local content requirements and grants a margin for domestic producers in public procurement.[339] Morocco has also been relatively active, compared to other SMCs, in imposing anti-dumping duties, to safeguard domestic industries.[340] Furthermore, tax policy provides for an elaborate system of incentives. Target sectors and activities include new export, exempting them from corporate income tax in the first five years and reducing their corporate income tax in subsequent years. Sectors benefiting from reduced corporate income tax rates include tourism, mining and the financial service sector. Furthermore, tax incentives are granted to companies operating in free trade zones, in agri-food processing, textiles and leather, machinery and electronics, chemicals and in related industries.[341]

Industrial policy in Tunisia for a long time has followed a state-led development model, simultaneously pursuing import substitution and export promotion. In the 1990s Tunisia started a process of liberalization and a focus on improving competitiveness. This also saw the start of the Industrial Modernization Programme (Programme de mise à niveau) in 1996, as the

[336] See https://taxsummaries.pwc.com/jordan/corporate/tax-credits-and-incentives.
[337] See http://www.mcinet.gov.ma/en/content/industrial-acceleration-plan.
[338] See https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=15142.
[339] See https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=13048.
[340] See https://www.globaltradealert.org/country/138.
[341] See https://taxsummaries.pwc.com/morocco/corporate/tax-credits-and-incentives.

cornerstone of Tumisian industrial policy. (Ayadi and Mattoussi, 2016). The Industrial Modernization Programme has since then expanded, and provides a range of instruments with the objective of upgrade and raising the competitiveness of industries. These instruments address issues such as access to finance, innovation and technology transfer, among others, and include horizontal measures such as quality infrastructure or export promotion activities. At the same time there does not seem to be a specific sectoral focus of this program, beyond the broad mandate to cover industrial sectors.[342]

The absence of a strong sectoral focus is also seen in the investment law n° 2016-71[343]. Providing for a range of incentives and subsidies, none of these is aimed at specific sectors. Furthermore, there is only limited evidence that Tunisia uses trade barriers as an instrument of industrial policy. In 2016 Tunisia eliminated numerous import tariffs on raw materials and products that are not produced domestically.[344] However, one year later Tunisia also raised tariff and non-tariff barriers on a range of non-essential consumer products, justified by a deteriorating trade balance.[345] Tax incentives in Tunisia are numerous and are aimed at exporting companies, regional development zones, agricultural producers and newly created companies. Tax incentives mainly reduce the corporate income tax rate. However, with the exception of agriculture tax incentives do not target specific sectors.[346]

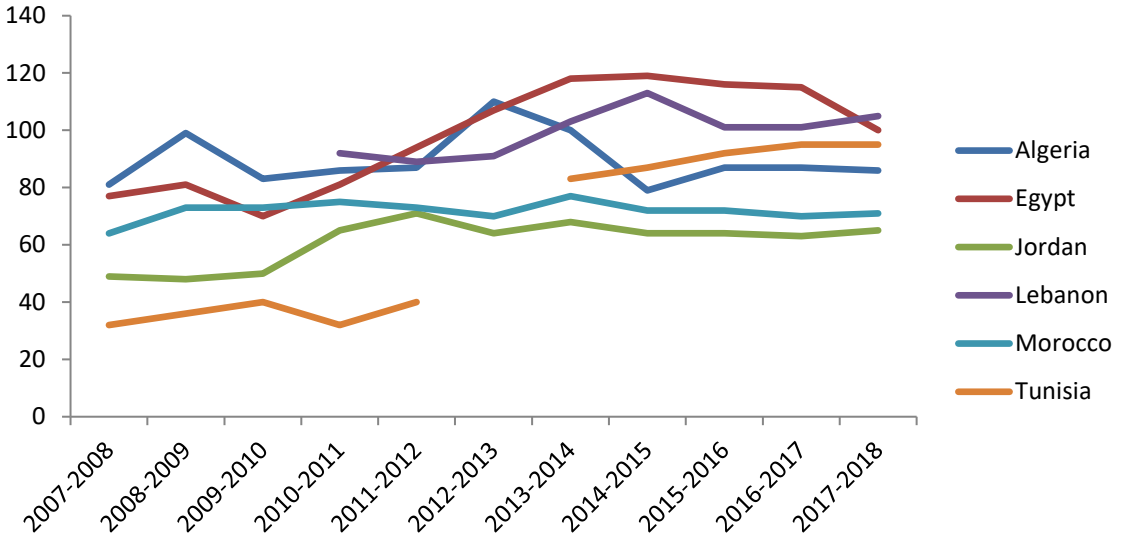
3.5.9. Impact of the Euro-Med FTAs on SMCs' competitiveness

There is no authoritative definition of national competitiveness. For the purpose of this ex-post evaluation, we define national competitiveness as the set of institutions, policies and other factors that enable enterprises to create value, thereby contributing to prosperity and higher living standards. As competitiveness is a multi-dimensional concept, no single measure can fully describe competitiveness. However, competitiveness can be described by its outcomes, such as for example a country's aggregate productivity, export and investment performance, and the extent and quality of job creation. Alternatively, competitiveness can be described by its drivers, including the business environment, macroeconomic environment, human capital, infrastructure, among many others.[347]

The World Economic Forum Global Competitiveness Index is by far the most widely known competitiveness ranking. Composed of several dozen sub-indicators, this index benchmarks virtually all countries in the world. The countries of the Southern Mediterranean typically do not fare well in this ranking, none being among the fifty most competitive economies in the world. Furthermore, most countries have worsened over time, sometimes dramatically so. For example, between 2007 and 2018 Tunisia fell from 32nd to 95th. (Figure 3.106) This overall decline can be attributed to a wide range of factors, including the Arab Spring. However, it does not seem likely that the FTA alone could have played more than a minor role in these, often dramatic, changes in the ranking.

[342] See http://www.pmn.nat.tn.
[343] See http://www.investintunisia.tn/Fr/telecharger_publication.php?code_doc=167&langue_doc=en.
[344] See https://www.globaltradealert.org/state-act/12478/tunisia-elimination-of-import-tariffs-on-raw-materials-and-specific-equipment-not-locally-produced.
[345] See https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=13050 and https://madb.europa.eu/madb/barriers_details.htm?barrier_id=13049.
[346] See https://taxsummaries.pwc.com/tunisia/corporate/tax-credits-and-incentives.
[347] This is indeed the approach of the World Economic Forum Global Competitiveness Index, which bases itself on 12 competitiveness pillars, ranging from institutions over financial market development to business sophistication and innovation.

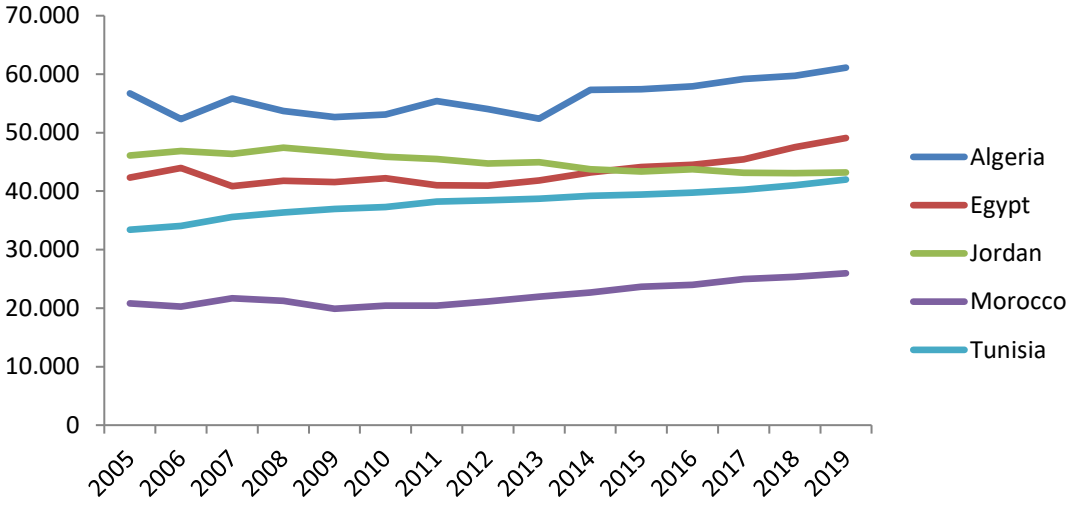
Figure 3.107 World Economic Forum Global Competitiveness Index, country ranks, 2007 to 2018



Source: World Economic Forum, Global Competitiveness Report.

Competitiveness outcomes also suggest that competitiveness has stagnated if not declined. Labour productivity overall has grown only modestly, and in the case of Jordan has even declined (Figure 3.107). Similarly, the country's export performance, as another measure of competitiveness has been disappointing. Their share in world exports has stagnated or declined, sometimes dramatically so as in the case of Algeria (Figure 3.108). All this is also reflected in anaemic growth rates, which between 2011 and 2017 have been far below the growth rates of other countries at a similar level of development. Key areas that negatively impact labour productivity are fiscal policy, limited trade due to poor logistics and non-tariff barriers, sclerotic labour markets.[348] Consultations conducted in Morocco, Tunisia, and Jordan so far confirm that local stakeholders are well aware of these issues.

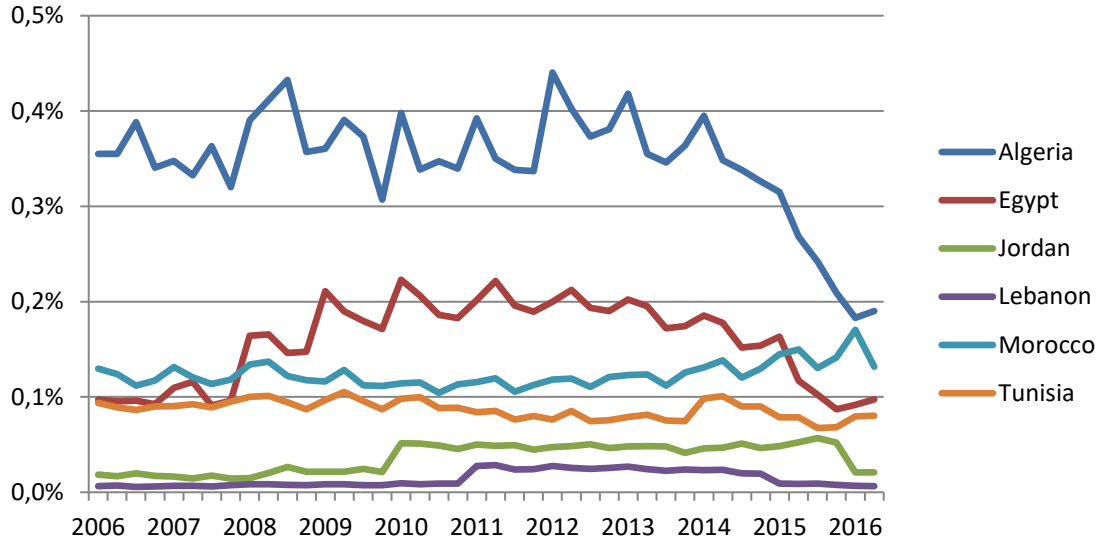
Figure 3.108 Labour Productivity per person employed, constant 2018 US$, 2005-2019



Source: Conference Board Total Economy Database.
Note: No data available for Lebanon.

[348] World Bank, 2019. *Reforms and External Imbalances: The Labour-Productivity Connection in the Middle East and North Africa,* available at https://openknowledge.worldbank.org/bitstream/handle/10986/31445/9781464814082.pdf.

Figure 3.109 Country share in world trade, %, 2006Q1 to 2016Q2



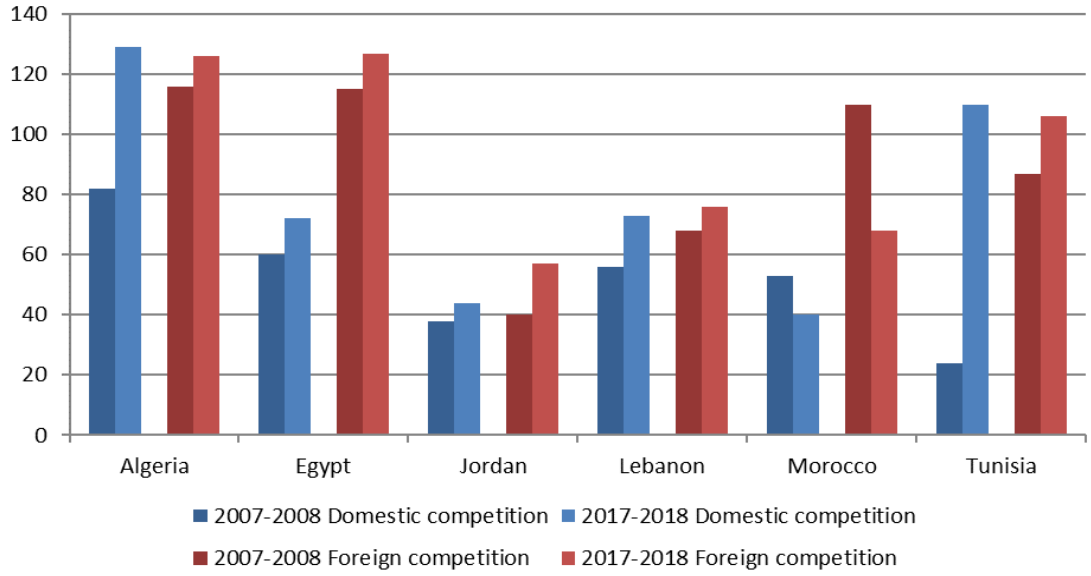
Source: World Bank Export Competitiveness dataset, https://mec.worldbank.org.

How could the FTAs have impacted competitiveness? Any trade agreement, no matter how far-reaching, is unlikely to have a major impact on competitiveness by itself. Far more important are institutions, policies and structural long-run developments. However, trade agreements could have a catalytic impact, by spurring policy makers to adopt competitiveness-friendly policies (see Section 3.5.6). Trade agreements could also be seen as part of a bundle of competitiveness-promoting policies.

The FTAs could impact competitiveness through two principal channels. First, by opening markets the agreement could raise the level of competition. This increased competitive pressure, in turn, could prompt governments to enhance the country's competitiveness through appropriate policies, institutional changes and structural reforms. Furthermore, increased competitive pressure, domestically or abroad, could also prompt businesses to modernize and improve their competitiveness. Second, the agreement could increase the availability of inputs, from intermediate inputs and capital goods to service inputs such as specialized financial or consulting services.

Regarding the first impact channel, the limited evidence suggests that the level of competition in most countries did not increase, but rather decreased between 2007 and 2018. Two composite indices of the World Economic Forum provide evidence on both domestic and foreign competition. In some countries the level of competition drastically fell. For example, Tunisia, ranked 24th for domestic competition and 87th for foreign competition in 2007, fell to 110th respectively 106th in 2018. The major exception is Morocco, which did experience significant improvements in the extent of foreign competition, moving from 110th in 2007 to 68th in 2018, possibly reflecting the export-oriented industrialization strategies of the Government of Morocco (Figure 3.110).

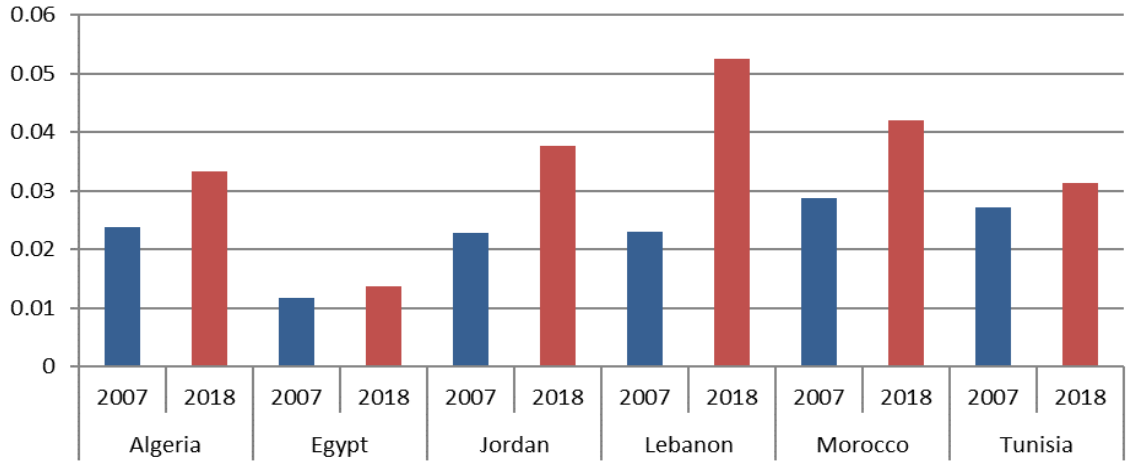
Figure 3.110 World Economic Forum, Domestic & Foreign Competition, country ranks, 2007-2018



Source: World Economic Forum, Global Competitiveness Report, [GCI.B.06.01.01], [GCI.B.06.01.02].
Note: Data for Lebanon is from 2010-2011 respectively 2017-2018.

Regarding the second impact channel, we noted already that labour productivity was mostly stagnant, indicating that even if the availability of intermediate inputs improved, firms were not able to translate this into higher productivity. Furthermore, the diversity of intermediate input imports from the European Union did not increase, but rather decreased between 2007 and 2018 (Figure 3.110). However, it is also important to note that there are alternative explanations. For example, the FTAs might have led exporters to the EU to increase their specialization, which in turn would imply a more specialized demand for intermediate inputs.

Figure 3.111 Herfindahl-Hirschman Diversification Index of imports of intermediate inputs, 2007 and 2018



Source: World Bank WITS, combined index for imports from France, Germany, Italy and Spain.
Note: An index of 0 indicates full diversification and of 1 full specialization.

Taken together the available evidence suggests that overall competitiveness did not improve in the last decade. Many factors played a role, and the FTAs are unlikely to have been prominent among them. Even in narrow areas where the FTA could have had a direct impact, indicators indicate a worsening and not an improvement. This does not necessarily mean that there was no impact. Rather, it means that likely other factors overshadowed any impact the FTA might have had. In the view of a number of stakeholders in the SMCs consulted for the ex-post evaluation, weak competitiveness is to a large example a result of internal problems of their

countries and lack of sufficient support for private sector by the authorities. Another issue that has been raised in Tunisia is lack of transparency (and potential misuse) in the way that EU funds dedicated to supporting competitiveness among local companies have been utilised.

3.5.10. Diversification, technology and economic complexity

As explained in the introduction to this chapter (Section 3.1), a principal mechanism through which the Euro-Med FTAs were expected to bring about economic gains to their signatories is a better allocation of economic resources within their economies--according to the law of comparative advantage--which maximises the aggregate economic returns from the available resources. This results in higher aggregate productivity and higher per capita incomes. Comparative advantage allows to reap gains even if countries do not increase the amount of resources they have (land, capital and labour stocks) or do not gain access to new technology. These are the 'static' gains in income and economic welfare which have been estimated for the SMCs and the EU with the use of the CGE model in Section 3.4.

However, as also noted earlier, the concept of comparative advantage has some important limitations when it comes to fully explaining the gains from trade and the significance of trade for economic development as observed in the globalised economy today. The value of *economic diversification* and access to and use of new *technology* and *know-how* by countries at different levels of economic development have been identified as some of the most important elements of economic development which are very much related to trade. They are discussed in this sub-section in the context of the Euro-Med FTAs. The next two sections provide a general overview of the literature, before turning the attention to the effects of the Euro-Med FTAs again.

Diversification

The objective of trade *diversification*, whereby countries engage in exchange of a diverse range of products, is principally at odds with the concept of specialisation, comparative advantage and economies of scale, and is still not very well integrated into the mainstream understanding of the gains from trade. Nonetheless, the value of *diversification* has been long acknowledged in the economic literature, particularly in the context of developing countries with very concentrated export profiles (either in terms of the variety of products traded or the variety of trade partners) which are sometimes exposed to adverse commodity price or partner-specific shocks with long term growth consequences (e.g. Imbs and Wacziarg, 2003; Klinger and Lederman, 2006; Koren and Tenreyro, 2007; Cadot and al., 2011; Minondo, 2011; Cadot and al., 2013; Parteka and Tamberi, 2013a, 2013b; Mau, 2015; Kowalski and al. ,2015; Basile, 2018). One of the most influential results in this stream of literature demonstrated that production tends to diversify in terms of the variety of products offered as income increases for less developed countries and, and at higher levels of income, production tends to concentrate due to specialization (Imbs and Wacziarg, 2003). However, others found that the relationship between diversification and economic development may be non-linear. De Benedictis et al. (2009) found for example that economies tend to diversify in the early stages of their development only when they are already sufficiently advanced. Cadot et al. (2011) on the other hand found that while diversification increases with income, once a certain threshold is reached, it decreases again. Coverage of imports diversification in the literature is limited but it can be argued in a similar vein that having a diversified import structure reflects more secure supply links as well as more affluent consumers who value variety. Similarly, trading with a diversified range of partners is a sign of competitiveness and it can be seen as an indicator of a lesser vulnerability to external shocks. Overall, trade diversification has become one of the important indicators of the economic development process (e.g. Koren and Tenreyro, 2007, 2013).

Technology and economic complexity

Access to *technology* and *know-how* and new and more sustainable methods of value creation including developing new areas of specialisation in today's complex GVCs, have also become some of the key points of interest from the point of view of economic development but are not explained well within the comparative advantage paradigm. The concepts of diversification, uniqueness and technology and know-how, and their impact on economic development, have been addressed in the methodology/theory of economic complexity (first proposed by Hidalgo and Hausmann, 2009), also referred to as the Product Space methodology (Economic Complexity Theory, or ECT, thereafter). The on-line Atlas of Economic Complexity is a platform

presenting the research associated with this methodology, offering access to data as well as user-friendly data visualisations.[349]

ECT is a methodology for jointly measuring the knowledge and productive capacities of countries as well as complexity of exported products by an integrated analysis of export structures and development levels of countries exporting these specific products. One of the most striking observations illustrating the intuition behind this methodology is that the most economically developed countries (those with the largest pool of capabilities) produce a large and diverse range of products, including very unique products which are produced only by very few countries. This is for example the case of the most advanced EU countries, the US and Japan. Less developed countries tend to produce few products which are relatively ubiquitous. These insights underly the calculation of the Economic Complexity Indices (ECI) which measure the level of complexity of countries' exports taking into account their diversification, sophistication and ability to create value. It has also been found that differences in per capita incomes between countries can be explained by the differences in ECI (Hausmann and al, 2007; McMillan and Rodrik, 2011; Aditya and Acharyya, 2012; Felipe and al, 2012; McMillan, Rodrik and VerduzcoGallo, 2014). The complexity of a country's exports positively influences the growth of its per capita output (Felipe and al. 2012; Jankowska and al. 2012; Ourens, 2012; Poncet and De Waldemar, 2013; Hausman and al., 2014; Jouini and al, 2016, Zhu and Li, 2017, Gonzales, 2018, Gala, 2018) and decreases output volatility (Hvidt, 2013; Manama,2016; Akhtar and Freire, 2014) and reduces income inequality (Hartmann et al., 2017). The capabilities revealed in a country's export basket and measured by ECI are thus a capable predictor of future growth with more complex economies having better growth prospects. Consequently, the ability of economies to improve their productive structure and to diversify into more complex production are posited as key factors determining why some economies' economic growth takes off and while other countries remain poor (for more on ECT intuition and methodology see Annex B, Section B.4.5 on *Diversification, technology and economic complexity*).[350]

3.5.10.1. Diversification and economic complexity in SMCs in the context of the Euro-Med FTAs

The relatively slow pace of economic growth for most SMCs in the recent decade or so has been increasingly putting into question whether they indeed have improved their capabilities in the time since the entry into force of the Euro-Med FTAs. Given the crucial role that diversification and complexity are expected to play in transforming economies and achieving national, regional and global development goals, this section analyses the evolution and/or the improvement of the export structure in SMCs countries in terms of economic diversification and complexity. If the complexity and diversification are two important predictors of economic development, should we not see a correlation between the entry into force of Euro-Med FTAs and the observed changes in the diversification and complexity of Mediterranean exports?

To the best knowledge of this reports' authors, there is yet little empirical evidence on the relationship between exports structure in terms of economic complexity and trade agreements. One exception is Abdelmalki et al. (2011) who tried to show that Morocco's agreement with the United States could allow Morocco to diversify its markets and dilute its commercial dependence on its traditional partners. In addition, Gabrielczak and Serwach (2017) found that trade integration may promote economic complexity. From a theoretical point of view, one can expect that the trade integration can have significantly different effects on individual trading partners forming an agreement, as the trade diversion and market size effects that it may entail can

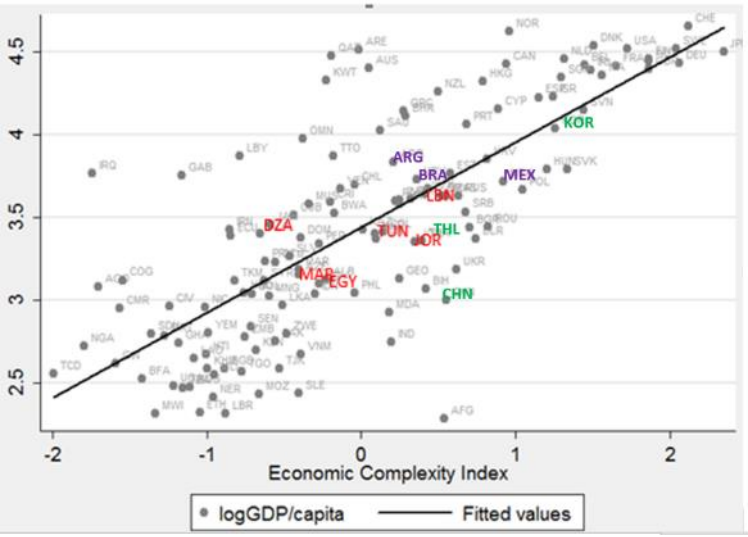
[349] Available at: https://atlas.cid.harvard.edu/explore.

[350] The ECT has also some limitations. One of the most significant ones is that product and country complexity are established on the basis of gross export data. The problem with this approach may be that some countries export sophisticated products to which they add little value added (e.g. the famous example of China's exports of iPhones). When these exported products are mostly composed of imported foreign inputs the results of ECT may exaggerate the complexity of such trading economies. However, given the lack of detailed trade in value added data this is still the best proxy for domestic production and it can be argued that the ability of handling sophisticated imported intermediates is a part of ability to engage in complex production more broadly. Another significant limitation of the ECT is that for now it is based purely on goods trade data. There are economies whose capabilities are mostly revealed in services trade and in these cases, there are limits as to how much ECT can reveal about their complexity. It is however also for this reason that in the case of the Euro-Med FTAs, which cover mainly trade in goods, the use of the ECT is relatively more justified.

alter significantly existing patterns of specialization and create new productivity or agglomeration advantages that may be distributed unevenly across countries and regions within them (Krugman, 1991; Fujita et al., 2001; Rodríguez-Pose, 2006; Monastiriotis, 2014). The impact of Euro-Med FTAs on economic complexity in the SM region is thus difficult to guess a priori, although it would be expected that the lowering of trade barriers would have improved the conditions for entrepreneurs in SMCs to transition toward the core of the Product Space and more complex products, increasing thereby their overall economic complexity and thus growth prospects.

Using the ECT data and methodology, Figure 3.111 depicts the relationship between average GDP per capita (in logarithms) and average ECI in the period from 1995 to 2017. First, we see that the SM region is quite diverse in terms of economic complexity with **Lebanon** leading with the highest ECI scores, followed by **Jordan**, **Tunisia**, **Egypt**, **Morocco** and **Algeria**. Following further the ECT growth diagnostics logic, where per capita incomes are expected to converge over a longer term to the levels indicated by the countries' ECIs, the figure shows that **Egypt**, **Jordan**, **Morocco**, **Lebanon** and **Tunisia** have a lower income than their capacities should be able to support (i.e. are located below the trend line) and thus are expected to develop more rapidly in the coming periods. **Lebanon** while being the most complex economy in the region is however also close to what is indicated by the typical relationship between complexity and level of economic development, suggesting it is already making a lot of its existing capabilities. The same can be said about **Tunisia** which nevertheless is behind Lebanon on both complexity and per capita income scales. For **Egypt** and **Morocco**, which are some of least complex economies in the region, the analysis indicates that their current levels of complexity and levels of economic development suggest that they have feasible opportunities to grow in the future. **Algeria** on the other hand, which has the second, after Lebanon, highest level of per capita income and also the lowest level of complexity among SMCs, is positioned above the trend line suggesting that its growth prospects in the future are less favourable. **Algeria**'s case is somewhat typical of the situation of other natural resources-rich countries where per capita incomes tend to be higher than would be predicted by the country's scores in terms of economic complexity and which have weaker growth prospects, unless some proactive policies targeting diversification and sophistication are enacted and successful.

Figure 3.112 Relation between economic complexity and GDP/capita on the average period 1995-2017



Source: Authors' calculations based on World Bank Development Indicators and The Atlas of Economic Complexity, 2019.

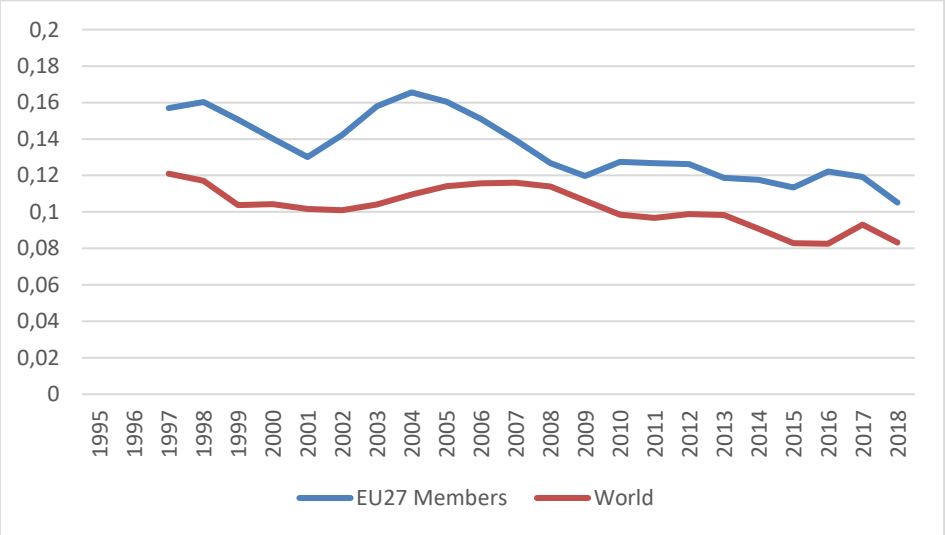
In this context, UN Comtrade and Atlas of Economic Complexity data were used to better understand the evolution of export diversification and economic complexity in the period 1995-2018, and in particular before and after the entry into force of the Euro-Med FTAs. Export and import diversification were measured using the Herfindahl-Hirschmann index which takes the value of 1 if exports of a given country are fully concentrated in one product category or the

value of 0 if exports are spread equally across all product categories[351] (see also Annex B). Economic complexity was measured using the Economic Complexity Index (ECI) (see Hausmann et al., 2014). ECI incorporates information on both the level of diversification of exports and the average ubiquity of the products that the country exports as revealed by global trade data. The ECI quantifies the productive capacities available to an economy revealed by its exports and varies between -2.8 and 2.8, with higher values denoting higher levels of complexity.

As far diversification is concerned, we see that on average, across all six SMCs in the period 1995-2017, **the basket of exports to the EU has been more diversified than the basket of exports to all countries** (Figure 3.112). We also see however that diversification of exports has been increasing gradually for exports to both these destinations. As far as exports to the EU are concerned, the most diversification has been achieved since the mid-2000s which coincides with the period of entry into force of the Euro-Med FTAs.

Algeria is by far the country with the least diversified export structure, although its export basket has gradually diversified since the mid-2000s, including for exports to the EU (Figure 3.114). The country's main source of export revenue comes from the oil and gas sector, which makes up about the 95% of the total export matrix.[352] Other SMCs have moderately diversified export baskets although still not nearly as diversified as the EU. While the levels of diversification generally do not show significant changes over the period considered, some positive as well as negative developments can be observed. **Egypt** has successfully reduced its exports concentration from the second highest level in the region in the early 2000s to the lowest in the late 2010s and this has been clearly correlated with diversification of its export to the EU. **Tunisia** has also further and steadily diversified its exports to all countries and the EU in the considered period. **Morocco** and **Jordan** have nevertheless seen concentration of their exports going up somewhat, and in **Lebanon** this was also the case although the concentration of trade has shown considerable volatility in the recent decade and we see the latter was correlated with significant swings in exports oriented towards the EU.

Figure 3.113 Average concentration of SMC exports to the EU and all countries

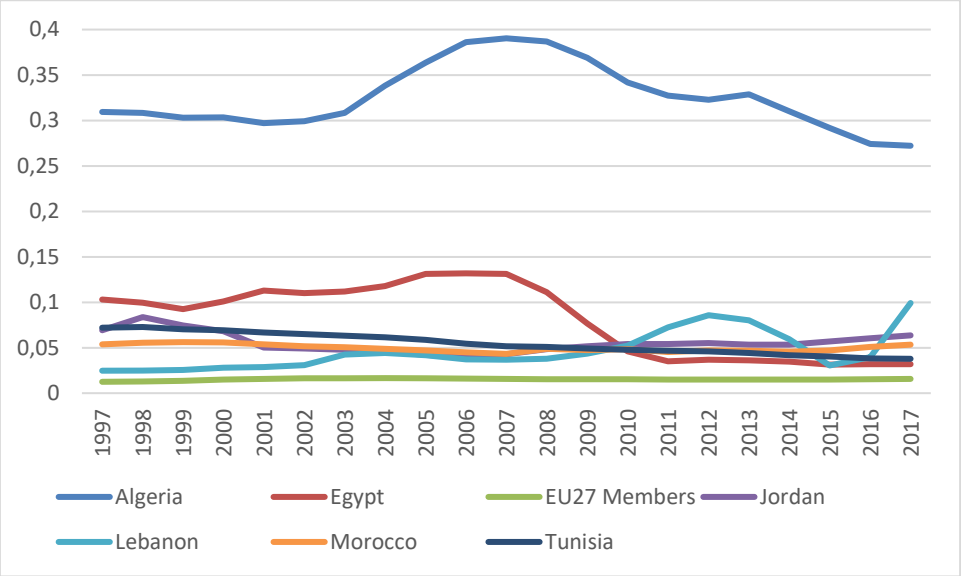


Note: average Herfindahl-Hirschmann index of export diversification for exports of all six SMCs the EU27 and all countries calculated across products at the 3-digit level of SITC Rev 3 product classification, 1 denotes a complete concentration while 0 a complete diversification.
Source: authors' calculations using UN Comtrade data extracted from WITS.

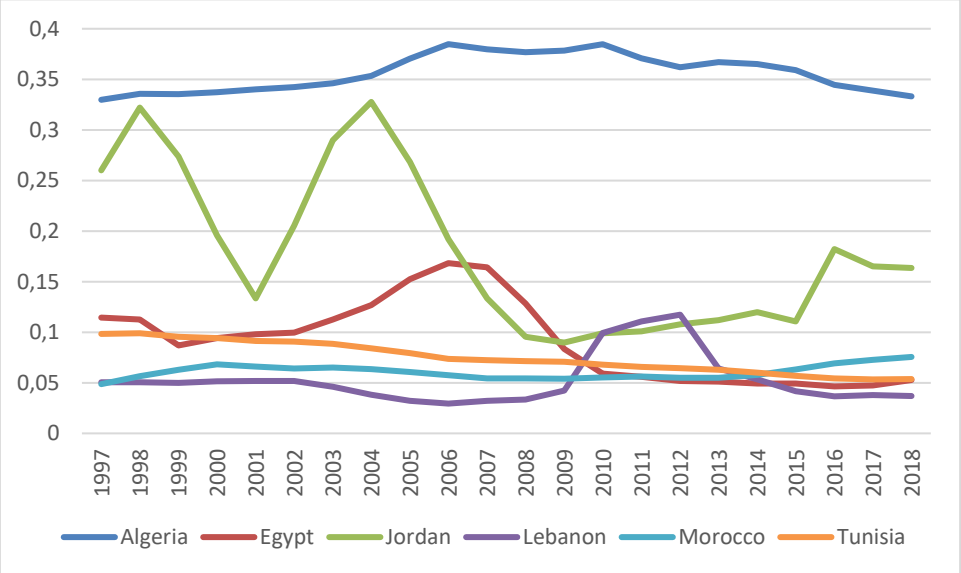
[351] Calculation of this index is sensitive to the level of aggregation of data used (see also Annex B). For the purposes of the exercise in this sub-section UN Comtrade's bilateral trade data of SMCs and EU with other countries has been extracted using the SITC Revision 3 at 3-digit group level.
[352] With the oil and gas industry accounting for almost the entirety of Algeria's export income, the sharp decline in oil prices since June 2014 has underscored the vulnerability of the country's economic model. Falling oil revenues translated in a clear unviability of the current system of subsidies maintained by Algeria's government, a system which traditionally served as an instrument to maintain social cohesion. The government started to increase taxes with the introduction of the 2017 budget, which also included an increase in prices for fuel, electricity, and gas, leading to a jeopardization of social stability.

Figure 3.114 Concentration of SMC and EU exports to all countries and concentration of SMC exports to the EU

Panel A. Exports to all countries



Panel B. Export to EU



Note: Herfindahl-Hirschmann index of export diversification for exports of all six SMCs the EU27 and all countries calculated across products at the 3-digit level of SITC Rev 3 product classification, 1 denotes a complete concentration while 0 a complete diversification.
Source: authors' calculations using UN Comtrade data extracted from WITS.

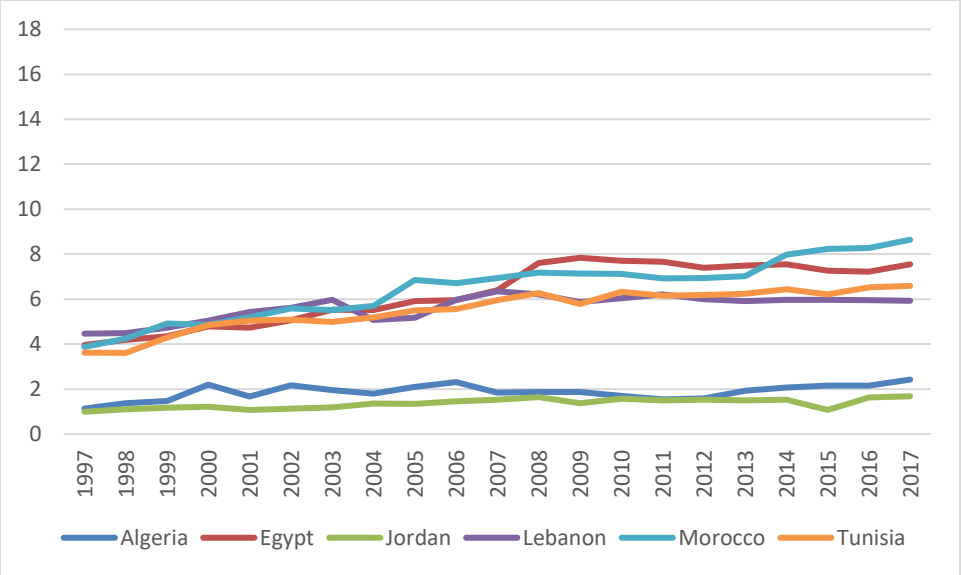
In order to assess a potential 'broadening' of trade of SMCs across the individual EU member states during the course of implementation the Euro-Med FTAs, the same trade data was used to calculate average counts of products with positive trade values across all the 3-digit products in the SITC's Rev 3 classification. We see that the number of EU member states to which **Egypt**, **Lebanon**, **Morocco** and **Tunisia**, increased gradually during the period, albeit from a very low base. In recent years, even these countries are on average not exporting their products to more than 9 EM member states. Still, the most pronounced increases were observed between the mid-1990s and mid-to-late 2000s, when the FTAs entered into force. **Algeria** and **Jordan** have however not broadened their export bases in this respect and still in recent years they were not typically exporting to more than, respectively, 2 or 3 EU member states. These two SMCs have also not improved their performance on this indicator since the mid 1990s, which can be seen

as a disappointing result. This performance can also be also contrasted with the evolution of the average number of EU members sates form which SMCs have been importing similar products. This base was larger already at the beginning of the considered period and it has increased at a faster and sustained pace. In the most recent years for which the data are available, all SMCs have been importing from at least 11 EU member states and Lebanon and Morocco were importing from approximately 15.

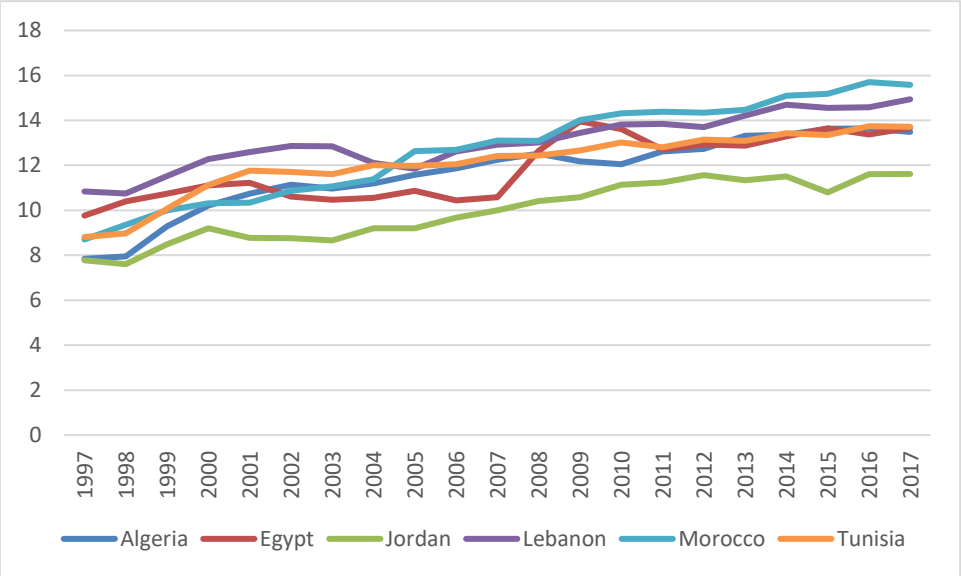
These figures suggest lower diversification of SMCs exports also as far as the EU destination markets are concerned and a relatively more stagnant performance of diversification of exports as compared to that of imports. These results are in line with other findings in this chapter which suggest that the EU is a relatively challenging market for SMCs. On top of relatively small additional effective preferential margin gains for SMCs associated with the implementation of the FTAs, that non-tariff measures (which can be applied differently in different EU member states) as well as lack of broader historical trade relations is not easily overcome by SMC exporters.

Figure 3.115 Broadening of trade with EU member states

Panel A. Exports: number of EU members to which SMCs exported positive values, (average across all the 3-digit products in SITC Rev. 3 classification for each year)



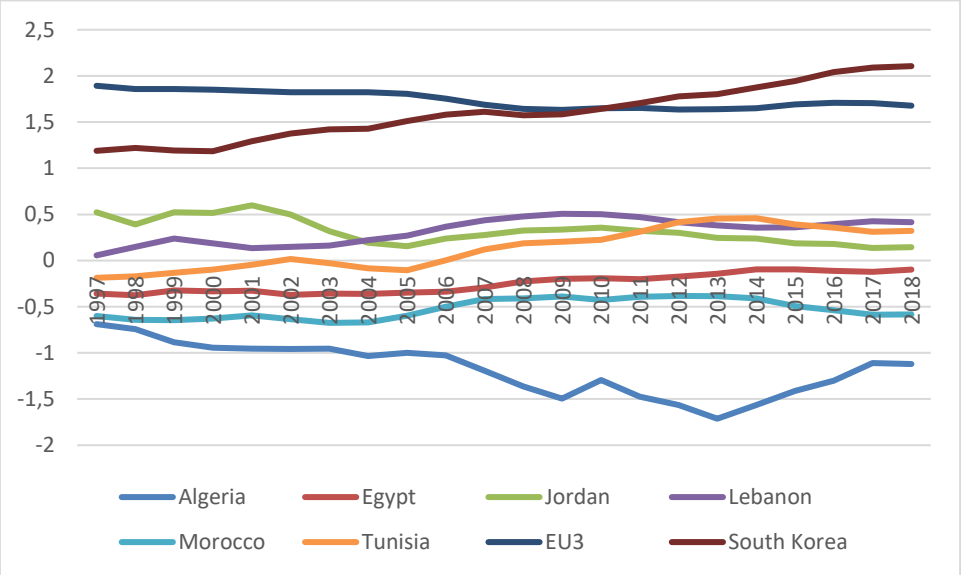
Panel B. Imports: number of EU members from which SMCs imported positive values, (average across all the 3-digit products in SITC Rev. 3 classification for each year)



Source: authors' calculations using UN Comtrade data extracted from WITS.

As with many other emerging and developing economies, the productive structure of SM countries is not as complex as in more advanced countries and regions such as the EU. In recent decades levels of economic complexity of SMCs have remained much below that of some of the most complex countries in the word such as, for example, the most advanced countries of the EU or South Korea (the most complex economy globally in 2018) (Figure 3.116). As also documented in the Atlas of Economic Complexity, Asian and Latin American developing and emerging economies are more complex than the SM ones, which they achieved by trading with their partners a more diverse and sophisticated range of products.

Figure 3.116 Economic Complexity in SMCs and the EU



Note: for greater clarity of the graphic, these are 3-year moving averages, the EUs denotes an average for Germany, France and Italy.
Source: authors' calculations based on the data from The Atlas of Economic Complexity, 2020. Ranked from -2.8 and 2.8, with higher values denoting higher levels of complexity.

Since ECIs are computed on the basis of complexity of traded products, the Atlas of Economic Complexity and UN Comtrade data can be manipulated so as to calculate average complexity of SMCs' exports and imports by destination and source. Figure 3.117 which presents the results of such calculations for SMCs as a whole show that on average SMCs exports are much less complex products that they import (compare Panels A and B in Figure 3.117). To accompany the interpretation of these fairly aggregated trends, Annex Figure D.19 shows average complexity of exported and imported products by destination and source for each of the SMCs.

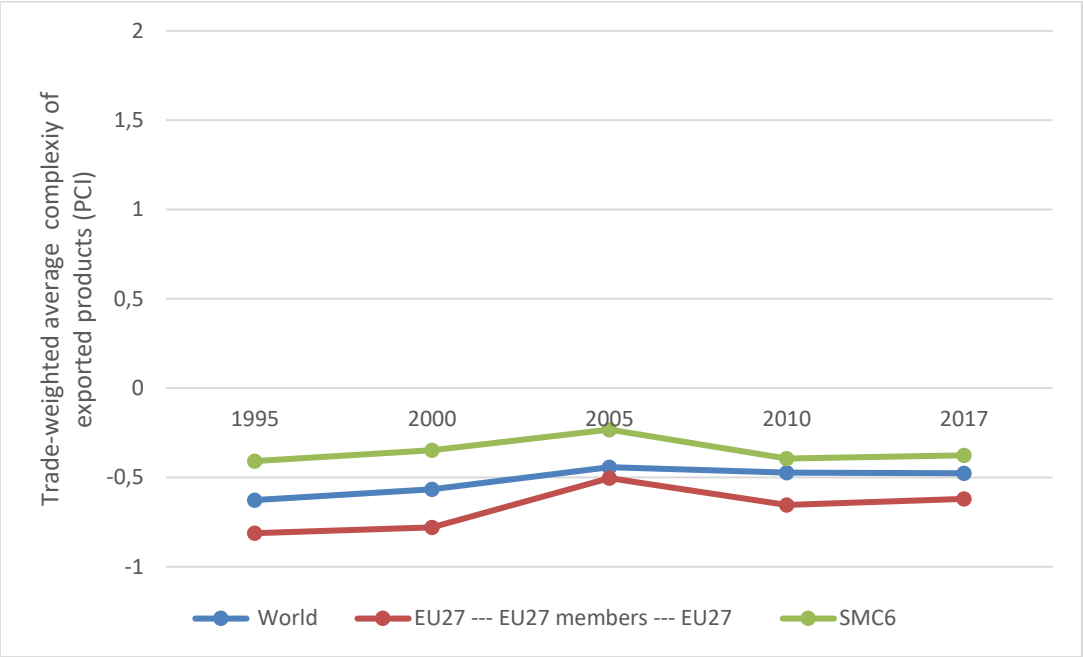
We also see that exports of SMCs' destined towards the EU are on average less complex than exports to all countries or other countries in the region (panel A). This suggests that the EU is a more challenging market for SMCs' complex products, which can be conceivably explained by the level of complexity and development of the EU economies; it is harder to export complex products to regions which are efficient producers of such products as compared to less developed export destinations. On the more positive side, we see that the complexity of products exported by SMCs to the EU has increased by more than the complexity of products destined for the other destinations and that the increase was most pronounced between 2000 and 2005. The complexity of products exchanged within the region on the other hand decreased somewhat in the same period.

As far as imports to SMCs are concerned, on the other hand, we see that the EU is the source of imports of more complex products than are on average all countries or other SMCs (Figure 3.117, Panel B). This illustrates the fact that the EU economies are some of the most complex ones in the world and that the EU is a competitive source of advanced intermediate inputs and final products for the region. We also see that the complexity of products imported by SMCs has been less stable as compared to those of exported products, showing somewhat marked upward and downward shifts. This suggests important import demand effects at work. Investigation of detailed trade data revealed that the latest decrease (i.e. for the period 2010 to 2017) reflects

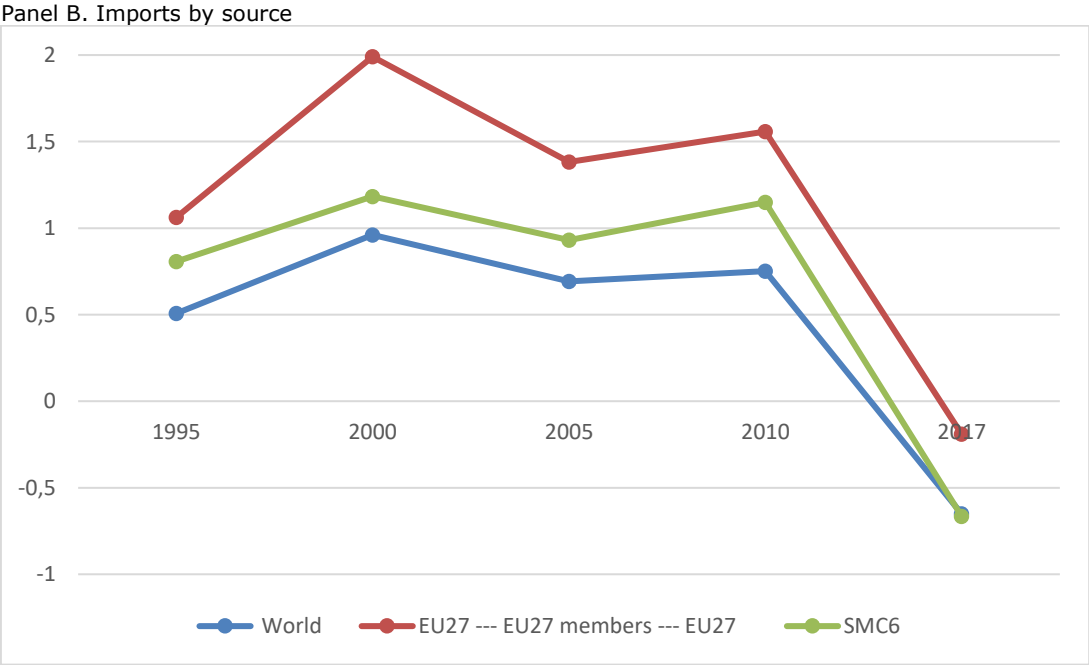
some large increases in staple foods such as, for example, wheat and meslin, carrots, tea, which in turn suggest this was related to the changes in import demand related to the Arab Spring and its social and economic consequences.

Figure 3.117 Complexity of products traded by SMCs, by destination or source

Panel A. Exports by destination



Panel B. Imports by source



Note: for greater clarity of the graphic data are presented for 1995, 2000, 2005, 2010 and 2017.
Source: authors' calculations based on the data from The Atlas of Economic Complexity, 2020 and UN Comtrade data extracted through WITS. Ranked from -2.8 and 2.8, with higher values denoting higher levels of complexity.

3.5.10.2. Conclusions on diversification and economic complexity

Thus, similarly to trends in diversification, since the mid-2000s, most SMC have experienced positive product complexity developments, which coincided with entry into force of the Euro-Med FTAs.

The data analysed shows that **Algeria** is still an economy at the beginning of the structural transformation process, which is reflected in the diversification and complexity of its exports which record the lowest scores in the SM region. Algeria was also the only SMC which saw its complexity fall after the entry into force of the FTA although the situation has been gradually improving since 2014. A few hydro-carbon related exports account for more than 90% of Algeria's total exports towards EU countries in recent years. However, some diversification and transition towards more complex production is observed even within the hydrocarbon product category with production gradually shifting from crude oil to more processed petroleum gases and lubricating oils (Annex Figure D.19).

Tunisia is the country which signed its FTA with the EU the earliest has also seen the most pronounced gains in diversification and complexity and this is visible in the changing structure of the country's exports which have evolved significantly from being concentrated for example in articles of apparel in the mid-1990s to being concentrated in electrical and electronic equipment (Annex Figure D.19).

Complexity has also increased steadily in **Egypt** and, albeit to a lesser extent in **Morocco**. Egypt's exports are still quite dependent on mineral fuels and oils but electrical and electronic equipment as well as plastics and related articles have taken over from cotton and aluminium as the second and third most important export categories. In **Morocco**, too, electrical and electronic equipment and vehicle products have replaced apparel and fisheries products as the most exported categories (Annex Figure D.19).

Lebanon and **Jordan**, the countries which signed their FTAs with the EU relatively late have also seen good performance from a relatively high base levels, particularly in the years following the entry into force of the FTA. **Lebanon** has diversified away from aluminium and fertilizers towards precious and other metals while Jordan's export structure shifted away from fertilizers, salt, earth and stone products towards articles of apparel and precious and other metals (Annex Figure D.19).

Still, despite these positive developments, SMC exports directed towards the EU remain less diversified and less complex than exports that are destined to other countries. This means that the EU, which records much higher diversification and complexity of its economies, remains a challenging destination market for SMCs. This might suggest that progress could be achieved in the future by focusing on trade policy tools which facilitate transfer of technology, possibly by specific provisions on intellectual property and technology transfer as well as technical assistance focused on upgrading of skills in SMCs.

3.5.11. Impact on SMEs

Small-and medium-sized enterprises (SMEs) are defined by the European Commission as enterprises with less than 250 employees and a turnover of less than €50m or a balance sheet total of less than €43m. The definitions of SMEs employed by the countries of the Southern Mediterranean are broadly comparable, even if not always identical. Some countries use lower employment thresholds, such as for example Lebanon. Most countries also use lower turnover thresholds than those employed by the EC (Table 3.43). Nevertheless, the definitions are sufficiently comparable to allow us to directly compare SMEs in one country with SMEs in another.

Table 3.43 SME definition and thresholds by country

		Micro	Small	Medium
Algeria	Employees	10	<49	<250
	Turnover	<40m DZD (<€288k)	<400m DZD (<€2.8m)	<4bn DZD (<€28m)
	Year-end statement	<20m DZD (<€144k)	<200m DZD (<€1.4m)	<1bn DZD (<€7.2m)
Egypt	Employees	<10	<200	

Jordan	Turnover	<1m EGP (<€46k)	<50m EGP (<€2.3m)	<200m EGP (<€9.3m)
	Employees	<5	<20	<100
	Turnover	<100,000 JOD (<€117k)	<1m JOD (<€1.1m)	<5m JOD (<€5.8m)
Lebanon	Employees	<10	<50	<100
	Turnover	<500m LBP (<€274k)	<5bn LBP (<€2.7m)	<25bn LBP (<€13.7m)
Morocco	Turnover	<10m MAD (<€891k)	<200m MAD (<€17m)	
Tunisia	Employees	<7	<50	<200
	Total assets	<15m TND (<€5M)		
European Union	Employees	<10	<50	<250
	Turnover	≤€2m	≤€10m	≤ €50m
	Balance sheet total	≤€2m	≤€10m	≤€43m

Source: OECD, 2018, SME Policy Index: The Mediterranean Middle East and North Africa 2018; Commission recommendation 2003/361.
Note: conversion of local currencies based on exchange rates with the euro on 1 January 2018, Oanda.

SMEs are the backbone of the EU economy, representing 99% of all businesses. This is likely to be similar in the SMCs, although the availability of SME statistics is surprisingly uneven. Algeria, Morocco or Tunisia regularly publish detailed statistics on SMEs, and sometimes even have an SME observatory in place. In contrast, Egypt and Jordan publish SME statistics only every few years, and in the case of Lebanon, not at all. However, all countries recognize the importance of SMEs and are, with varying degrees of urgency and forcefulness, formulating and implementing SME policies and creating supporting institutions.[353]

Enabling small- and medium-sized enterprises (SMEs) to enter export markets and to realise growth opportunities is an important objective of EU trade policy. However, in assessing the impact of the EuroMed FTAs on SMEs, we note that the FTAs are mostly silent on SMEs. They do not include, for example, an SME chapter, with provisions specifically targeting SMEs and their unique challenges. We note that SME chapters have been proposed in current negotiations on Deep and Comprehensive Free Trade Agreements (DCFTA) with various countries of the region, which would include, for example, provisions on the provision of market access information or institutional support structures for SMEs. Therefore, the impact of the FTAs will be indirect, stemming from the opportunities and challenges that follow from the agreements.

Recent empirical evidence shows that trade liberalisation does have important implications for the size distribution of firms, the reason being that different firms react very differently to falling trade costs[354]. Nevertheless, the degree of competitiveness of firms, measured in their productivity, the quality and volume of production and overall innovative capacity, is what matters most when it comes to maximizing the benefits of free trade agreements. Moreover, the literature provides strong evidence for the existence of significant fixed market access costs (e.g. for market analysis, establishing business contacts, marketing, etc.). These imply that only firms with sufficiently high expected sales in a foreign market can profitably export.

The evidence from the literature suggests that trade liberalisation has two important effects on firms. First, while lowering import barriers increases domestic competition, firms with relatively low competitive strength may see their sales decline or even be pushed out of business[355]. This also affects SMEs, although it should be noted that this increased competition is likely to be relevant for only part of the SMEs, as EU imports and domestic products in SMCs often do not compete on the same segments of the market. With increased competition stemming from trade liberalization, more productive firms, however, may also have also better chances to survive and succeed in their domestic market.

[353] OECD, 2018, SME Policy Index: The Mediterranean Middle East and North Africa 2018.
[354] see Melitz, Marc J, and Stephen J Redding. 2014. "Heterogeneous Firms and Trade." Handbook of International Economics, 4th ed, 4: 1-54.
[355] i.e., low labour productivity, low product quality, low innovative capacity. For more information see: Acemoglu, D., Aghion, P., & Zilibotti, F. (2006). Distance to frontier, selection, and economic growth. *Journal of the European Economic association, 4(1), 37-74.*

A second effect is that lower export barriers can open up new opportunities for domestic firms, by providing them with new growth dynamics. Nevertheless, such firms would already need to be able to compete internationally in terms of product quality and price to overcome the significant fixed costs of market entry as indicated above.

Based on these two effects, the least competitive firms can often fail to benefit from an FTA such as the Euro-Mediterranean Association Agreements. However, the most productive firms are unlikely to benefit much either, as they are more likely to already have a commercial presence in the foreign market. As a consequence, the modern trade literature strongly supports the view that firms from the middle of the competitiveness distribution benefit most strongly from trade liberalisation.

While competitiveness is not directly related to firm size, smaller companies face relatively more challenges in this respect in particular due to limited resources, capacity and production volumes. This affects their ability to scope foreign markets, to navigate the complexities of trade rules and non-tariff barriers, to access trade finance, among others. It is because of these reasons that SMEs are underrepresented in international trade. Also, in the consultations in the SMCs, the dominance of larger companies in exporting to the EU was confirmed.

It should be noted that SMEs can also be affected more indirectly even if they are not directly involved in trade, through their relation to importing or exporting domestic companies (value chain effects). Nevertheless, this also requires that SMEs are sufficiently competitive, and the stakeholder consultations confirmed that this is often a challenge in the SMCs.

It is not easy to provide evidence on these mechanisms in the context of the **Euro-Mediterranean Association Agreements**, even if one restricts attention to the direct channel.

Any rigorous analysis on the impact of the FTA on SMEs is severely limited by the lack of detailed SME statistics, in particular statistics on the export, internationalization and value chain integration activities of SMEs in the EU. Nevertheless, for a few European countries, there is some information on the size distribution of bilateral trade flows by export destinations available. The Exporter Dynamics Database (EDD) generated and published by the World Bank provides measures of exporter characteristics and dynamics across 68 countries, primarily for the period between 2002 and 2014, across all geographic regions and income levels.[356] It is based on firm-level customs data and includes the universe of exports for the respective exporting country. Due to confidentiality obligations, it is not possible to access the firm-level data, but instead the Exporter Dynamics Database gives the number of exporting firms to a certain destination, the average value of exports, and the 1st, 2nd (the median), and 3rd quartiles of the value of the exports.[357] The database does therefore not specify the trade flows by company size, but SMEs are more likely to export smaller quantities.

From this data set, we can use information for Belgium and Spain; these are the only two countries for which at least some post-FTA observations are available (from 2006 to the years 2013 and 2014, respectively). The following table presents the data for Belgium and Spain, and provides information on Belgian and Spanish exporters to SMCs and to the rest of the world.[358]

Table 3.44 Belgium and Spain SMEs' Trade with SMCs

		Belgium		Spain	
Country	Number of firms and sales distribution	2013	% Change (2006 to 2013)	2014	% Change (2006 to 2014)
Algeria	Number	805	-13%	4512	32%
	Mean	1295702	92%	1015089	183%
	1st Quartile	27038	94%	14609	116%
	Median	94697	98%	64476	89%

[356] See: http://microdata.worldbank.org/index.php/catalog/2545.
[357] For a detailed description of the data, see Fernandes et al. (2016) and Cebeci et al. (2012).
[358] The Rest of the World data takes into consideration 250 countries and territories, excluding the Southern Mediterranean Countries.

	3rd Quartile	480692	105%	279720	91%
Egypt	Number	1175	12%	3131	29%
	Mean	1047269	103%	428988	111%
	1st Quartile	9183	11%	4928	10%
	Median	49380	43%	25985	27%
	3rd Quartile	211230	38%	110491	34%
Jordan	Number	681	2%	1801	38%
	Mean	349220	53%	149819	88%
	1st Quartile	9171	83%	5594	27%
	Median	37108	50%	22331	20%
	3rd Quartile	149936	62%	78608	36%
Lebanon	Number	1062	-4%	2343	32%
	Mean	373822	82%	181480	112%
	1st Quartile	7613	25%	6271	29%
	Median	30300	64%	24550	43%
	3rd Quartile	129558	105%	89331	63%
Morocco	Number	1735	-2%	15284	15%
	Mean	458817	68%	358618	66%
	1st Quartile	7636	-11%	3825	128%
	Median	27226	2%	17111	95%
	3rd Quartile	118714	15%	84776	49%
Tunisia	Number	1284	6%	3188	10%
	Mean	338997	26%	299940	34%
	1st Quartile	7021	-4%	8525	31%
	Median	22711	-2%	36814	52%
	3rd Quartile	105034	25%	133004	54%
RoW	Number	672	2%	1890	24%
	Mean	681365	21%	242880	-35%
	1st Quartile	11079	3%	3517	-6%
	Median	49612	4%	18345	4%
	3rd Quartile	230256	9%	83179	12%

Source: Own compilation, based on World Bank Exporter Dynamics Database. Note: In the row "Average RoW", we calculate the average of the various indicators for all export destinations of Belgian exporters other than the selected partner country. The table shows distribution characteristics of Belgian firm-level sales over time. It compares firms exporting to SMCs (treatment group) with firms exporting to the rest of the world (control group). The chosen characteristics of the sales distribution allow for drawing conclusions on the effect of the FTA on firms that differ in size. The first row shows the number of exporting firms, the second shows the simple average of firm-level sales. As the high average value is driven by large sales from only a few firms, it is less meaningful. Thus, it is also of interest to analyse other firms. The 1st quartile row shows the evolution of sales of the firm that is located at the 25th percent quantile on the sales distribution (meaning that 25% of firms are smaller and 75% are larger than this firm). The median (2nd Quartile) and the 3rd Quartile read accordingly.

The data presented in the table above shows that, for the latest year available, Belgian exports to the SMCs were dominated by a few large export transactions. For Belgian trade with Algeria, the average sales in 2013 were €1,295,702, while median sales were only €94,697. Even the third quartile of the sales distribution stood only at €480,692, about one third of the average value. Hence, the sales distribution is strongly skewed towards very large export transactions. The data for Belgian exports towards other SMCs provides a similar picture, with large export transactions representing a large share of sales especially for Belgian exports to Egypt and Morocco, where the third quartile represented roughly one fifth and one fourth of the average sales value respectively. The reflected sales of Belgian firms with the rest of the world are

similar to that of the SMCs, with large export undertakings skewing the distribution, and the third quartile value of sales representing roughly one third of the average value.

The last columns for Belgium and Spain in the table above indicate the change (i.e. growth rates) of the number and sales of exporting firms from 2006. As we can compare exporting Belgian firms to SMCs with exporting firms to the rest of the world, this analysis implicitly yields a difference-in-difference result, especially in relation to sales performance.

In terms of market entry, the number of Belgian exporters decreased by more than 10% in Algeria but increased by approximately the same percentage in Egypt (between 2006 and 2013). For Jordan, Lebanon, Morocco and Tunisia as well as for the rest of the world, the variation in number of exporter firms was small, with increases or decreases around 5% or lower. This indicates a rather small variation in market entry for Belgian firms across SMCs in the recorded time period.

The sales of Belgian firms to SMCs showed a positive growth trend. The average value of firm-level exports from Belgium to Algeria increased by 92% from 2006 to 2013. The data for the other SMCs shows a similar trend, with average sales from Belgian exporters increasing by 103% in Egypt, 82% in Lebanon and 62% in Morocco. Sales growth in Jordan and Tunisia was lower than in other SMCs (53 and 26% increase respectively), but Belgian exporters still reported a larger increase in sales in these two countries than in the rest of the world. The data also show that Belgian firms in the first quartile saw their sales increase more than the recorded average in Algeria and Jordan (94 and 83% respectively), while first quartile firms saw their sales increase by lower rates than the average for Egypt and Lebanon (although increasing at higher rates when compared to the rest of the world performance). Belgian exports show even a decrease in first quartile sales for Morocco and Tunisia.

Hence, Belgian data suggest that the FTAs with four SMCs, namely Algeria, Jordan, Egypt and Lebanon, **has benefited exporters from the lower parts of the sales distribution when compared to exporting to non-SMCs countries**. While first quartile Belgian firms experienced a decrease in sales in Morocco and Tunisia, the average sales as well as third quartile firm sales to both countries increased by a larger amount than sales to RoW countries for the same firm sizes. While keeping in mind the potential drawbacks of difference-in-difference approaches when applied to time series into account, including endogeneity and potential omitted differences among firms in the two groups, this result can be interpreted as a causal effect of the EuroMed FTA.

The available data shows a similar picture for Spanish firms, the other country for which there is data coverage. The data suggests that export sales for Spanish firms are also skewed towards large transactions, similar to Belgian firms. In some instances, as in the case of Spanish firms exporting to Algeria and Egypt, the average export sales were almost six times the value of sales for third quartile firms and 15 times higher than the median value of sales.

The number of Spanish firms exporting to SMCs increased across all six countries, with growth rates ranging from 10% in Morocco to 38% in Jordan. Likewise, the number of Spanish firms exporting to the rest of the world between 2006 and 2014 increased by 24%. From the Spanish data, we conclude that the **agreement has encouraged new firms to export to all SMCs, especially to Algeria, Egypt, Jordan and Lebanon**, where the increase in number of exporting companies was higher than the increase for the rest of the world.

The data also suggests that, on average, Spain had a higher percentage sale increases than Belgium across the different firm quartiles, with some firms showing triple digit growth rates (as in the case of average sales to Algeria, Egypt and Lebanon). Overall, sales of Spanish firms increased exports across all firm sizes, with large increases for first quartile sales in Algeria and Morocco and for median and third quartile firms in Egypt, Jordan, Lebanon and Tunisia. From the data it is interesting to highlight that Spanish exporters from the lower part of the sales distribution grew their sales across all six SMCs. This is in stark contrast with first quartile sales of Spanish firms to the rest of the world, which decreased by 6% between 2006 and 2014. Hence, while keeping in mind data limitations of this analysis, the results would indicate that the **FTA has brought substantial sales growth across all firm sizes and particularly for smaller export transactions in Algeria and Morocco**, which are more likely to be associated with SMEs.

While this analysis shows positive results, one should also keep in mind that only a small share of SMEs actually trades, and even fewer trade with SMCs; the large majority of firms does not trade directly with the SMCs. The data suggests that of all exporting SMEs, around 3-6% of Belgian firms and around 2-4% of Spanish firms exported to the SMC's in 2013. The only outlier destination country was Morocco, which captured 9% of Belgian exports and 14% of Spanish firms respectively (see Table 3.45 below). Therefore, the FTAs are unlikely by themselves have had a major impact on SMEs.

This does not exclude that some SMEs were able to exploit the opportunities, starting to either export or import, or to integrate into value chains. Working in niche markets, having strong connections in the export market and strong management skills are some of the factors that can help explain the success of SMEs exporting to foreign markets. Stakeholder consultations also confirmed this in the case for trade with EuroMed countries, although the success of a company is often due to a range of different factors, and the relative importance of individual factors are difficult to disentangle.

Table 3.45 Percentage of Belgian and Spanish firms exporting to SMCs

Destination Country	% of exporting firms as share of total number of firms, Belgium (2013)	% of exporting firms as share of total number of firms, Spain (2013)
Algeria	4,0%	4,0%
Egypt	5,8%	2,8%
Jordan	3,4%	1,6%
Lebanon	5,3%	2,1%
Morocco	8,6%	13,7%
Tunisia	6,4%	2,9%

Source: Own compilation, based on World Bank Exporter Dynamics Database.

SME perceptions of FTAs

For EU SMEs, insights have been recently gathered on their perception of FTAs in general. According to a 2019 survey by Eurochambres, the attractiveness of EU FTAs has been confirmed among EU SMEs. The latter have referred to direct benefits such as tariff abolition, better market access for EU service providers and access to intermediate goods. Nevertheless, a number of challenges were also mentioned by respondents. These include the recurring lack of practical information on how to use trade agreements and how to access public tenders in foreign markets, reducing the complexity and lack of coherence on rules of origin, as well as the administrative burden relating to customs procedures. According to survey results, the complexity of these challenges indicate that the broad involvement of stakeholders is necessary to improve FTA implementation in the EU with actors at all levels - EU, national, regional - having a clear role to play. In that regard, the particular role of Chambers of Commerce was highlighted by most respondents as the most suited to help bring trade issues to the close attention of local and regional businesses[359].

Moreover, survey respondents indicated that there is a clear need for practical guidance on how SMEs can engage in trade with third countries and for more informative activities with the business community at regional and local level (trainings, seminars, workshops, roadshows, etc.) which can help amplify the reach of practical information and provide support to SMEs in the EU. Moreover, survey respondents also highlighted the need for the right conditions and support in order to help them integrate effectively into regional and global value chains, as well as facilitation and information on the effective use of all relevant EU programmes (structural funds, research and innovation).

As part of our research, a large EU business association representing EU textile and clothing SMEs was interviewed. The interviewed representative mentioned that EU SMEs operating in the sector are generally familiar with the FTAs with the SMSc. The association has been working very closely with the EU Commission in particular as regards the PANEUROMED Convention that

[359] https://cor.europa.eu/en/events/Documents/ECON/Survey_Note_CoR-Eurochambres_Survey_15_November_2019.pdf.

hopefully will entry into force shortly. This Convention aims to create a common set of rules of origin across its signatories and boost industrial complementarity between the EU and SMCs. The feedback from the held consultation is that the EU textile and clothing industry welcomes FTAs in general. Nevertheless, within the FTA with the SMCs it is of paramount importance for the textile industry to introduce a new set of modernized rules of origin, within the implementation of the PEM Convention. The current EuroMed FTA contains obsolete rules of origin which do not properly reflect the current industrial production reality of EU firms. This is one of the most technical issues within the organization, but also one of the most recurring themes discussed among SME members.

The project team also carried out stakeholder consultations in the SMCs. Overall, 20 business associations were interviewed during the stakeholder consultations exercise across the SMCs and more participated in the workshops. This is in addition to a roundtable with European Chambers of Commerce based in Morocco, and interviews with individual SMEs. From these consultations it was clear that bureaucracy is a great barrier for SMEs and they suffer from it more than large companies. Moreover, in the roundtable in Morocco, participants furthermore highlighted that in the agri-foods sector major issues are SPS measures and certifications, and that receiving approval from the National Office for Food Safety (Office National de Securité Sanitaire des Produits Alimentaires, ONSSA) is very time consuming. The compliance procedures needed for exporting to the EU were also mentioned in other countries, and can limit SME participation in exports.

4. SECTOR CASE STUDIES

Summary

The sector cases studies were conducted to **better understand the impact of the FTAs**. Analysing a specific sector allows to assess the different factors that have affected the performance of a sector, as the FTAs are only one of the factors at play. Other factors include government policies, logistics, market structure, remaining barriers and competition from third countries. The analysis therefore gives more insights in the underlying reasons for why particular sectors have been able to reap the benefits of the FTA or not.

The ex-post evaluation **focuses on four selected sectors** that are important in bilateral trade between the EU and the SMCs: **agriculture; chemicals; machinery and transport equipment sector; and textiles and clothing**.

While large differences were found among the studied countries and sectors, **some global trends help explain the extent to which the countries could benefit from the FTAs**. All textiles and clothing industries in the selected countries were affected negatively by exogenous factors such as the ending of the **Multi Fibre Agreement (MFA)[360] and rising competition from labour-abundant countries in Asia**, whereas some of them also had to deal with the economic consequences of the Arab Spring (e.g. labour unrest and limited FDI inflow). Moreover, the **erosion of preferences** because the EU is engaging in many other FTAs as well as the **remaining Non-tariff measures (NTMs) and outdated Rules of origin (RoO), persuaded the SMCs to 'rediscover' their comparative advantage in exporting to the EU market**.

In **Tunisia, the full benefits of the FTAs could not yet be reaped in the textiles and clothing sector**, as it is still oriented to relatively low value-added activities. Trade in these products between Tunisia and the EU stagnated. Morocco, on the other hand, saw its trade with the EU increase despite the ending of the Multi-Fibre Agreements and rising competition from Asia. This is due to the well-functioning infrastructure, proximity to the EU market and the ability to service the EU consumers' demand for fast fashion. Although **Egyptian exports of textiles and clothing grew, these trade flows were largely directed to the US market and the estimated impact of increased trade with the EU were not met**. It seems that this can mainly be attributed to the establishment and use of qualified industrial zones (QIZ) that allow for duty-free access to the US market under certain conditions.[361] **Jordan was provided duty-free access to the US market under similar arrangements but it appears that it could capitalize on its newly developed capabilities** to also significantly increase its exports to the EU over time, although in absolute size the exports are still modest. It should be noted that the US's QIZ regimes gave unique preferential access to these two countries while the US has not given similarly beneficial access to other countries, notably LDCs, which put Egypt and Jordan in a privileged situation. The EU on the other hand has given duty-free quota free access to all LDCs including on textiles through its Everything but Arms scheme which in turn increased the competition faced by SMCs. The **textiles and clothing sector in Lebanon was relatively small two decades ago and remains of limited size today,** despite some growth in trade with the EU.

The impact of the FTAs on the machinery and transport equipment sector in Algeria, Egypt, Morocco and Tunisia is mixed. Intra-industry trade with the EU in this largely differentiated sector is important, but most of SMCs have not been able to diversify their exports. Although Algeria and Egypt's exports to the EU grew as a result of the FTA, this seems to be mainly driven by a **small number of success stories rather than a viable export-oriented industry**. More fundamentally, **trade liberalisation and existing industrial policies did not translate into increased competitiveness of the industry** in

[360] Under the Multi Fibre Agreement, industrial countries imposed quota restrictions on textile and clothing exports from developing countries. With the phasing out of this agreement, opportunities emerged for exporting countries, and as a result, a worldwide reallocation of production took place.

[361] As of 2004, the USA designated numerous QIZs in to support the peace process, first in Jordan but later also in Egypt. The QIZ allows for the duty-free exports of textiles and clothing to the USA. Products are eligible for duty free export if at least 35% of value added takes place in Israel, Egypt/Jordan or the United States, of which a certain share (currently 8% in Jordan, 10.5% in Egypt) had to be added within Israel.

these two countries, thereby limiting the potential to benefit from the FTAs. In **Morocco, and to a lesser degree Tunisia, it is likely that the FTAs did enable trade growth with the EU**. Morocco is now increasingly producing complex and final products, which is particularly visible in the automotive and aerospace industries, while Tunisia has rapidly expanded its exports of mechanical and electrical machinery. **This demonstrates that in addition to gaining access to the EU market via an FTA, support for policies aimed at investment and taxes, a stable political scene and a favourable business climate are also critical**.

The analysis of the chemical industry shows that while trade flows increased, most exports from the SMCs are characterised by basic chemicals and little diversification has taken place. Increased trade liberalization did not lead to an increase in export diversification, with the exception of Tunisia in the plastics sub-sector. **Resource- rich countries such as Algeria and Egypt are the main exporters of basic fertilizer chemicals and have experienced export growth towards the EU**. However, most of the export potential has been reached within these sub-sectors and these countries have yet to diversify towards more sophisticated chemical products. **Jordan has also experienced chemical export growth, but predominantly towards non-EU countries such as India and Saudi Arabia, especially in Potassium Nitrate**. While the pharmaceutical sector has been gaining momentum in some SMCs, countries have not been able to tap into more sophisticated EU markets, partly due to existing patent restrictions in Europe. **While SMCs exporters have been taking nearly full advantage of eligible preferences, selected stakeholders still perceive a number of obstacles to trade**. Finally, as with other sectors, investment climate issues have posed a problem especially in recent years, also in light of recent political challenges in Algeria, Egypt and Tunisia.

Compared with mineral products and manufacturing, trade in agricultural products is less affected by changes in investment and more directly related to population growth and income changes. In fact, countries in the region are characterised by rising import dependencies due to growing populations paired with limited availabilities of water supplies and fertile land. While the SMCs under study have a negative trade balance in the sector (apart from Morocco), the performance differs strongly by product. As a result of comparatively low labour costs and proximity to large markets such as the EU and the Gulf countries, the region has a comparative advantage in labour-intensive industries such as horticulture (growing of fruits and vegetables). Horticultural exports from SMCs have increased since the FTAs were established. However, food subsidies promote the production of cereals to ensure food security among the population. Moving away from these towards a more export-oriented horticulture might not be socially acceptable in the SMCs. In terms of imports from the EU, the SMCs mainly import meat, cereals and dairy products. **Exports from SMCs have become more "sophisticated", encompassing processed goods such as canned vegetables and vegetable-based preserves, pasta, olive oil and cheese**. In Lebanon and Tunisia, for example, processed foods even account for the majority of exports. In Morocco and Egypt, primary products still dominate exports - their share has increased over the last decade. Given that **not all SMCs have additional protocols on agriculture, EU tariffs on sensitive agricultural products remain relatively high**. The countries with such a protocol in place were able to benefit more from increased EU market access. For example, Morocco could take advantage of the eliminated tariff quotas for sweet oranges and expanded tariff rate quotas for tomatoes and clementines. **The high food safety standards in the EU are also challenging to meet for SMC producers. But SMC exports are also constrained by domestic policies**. **I**n Egypt, for example, a policy of land fragmentation has led to many small-scale farms, which can lack the economies of scale to be able to compete internationally. In Lebanon, the lack of a clear development policy with associated investments has limited the sector's performance. In Tunisia, export controls limit the export potential. **Water scarcity and climate conditions could also be a limiting factor for further development of the sector in the SMCs**, although products that are exported on average use less water than imported products like animal-based products.

4.1. Overview of sector case studies

We have conducted sector case studies to allow for more in-depth analysis. Four sectors selected for the case studies: agriculture, chemicals, machinery and transport equipment, and textiles and clothing. Each sector is analysed for a selection of the six SMCs (see Table 4.1).

This selection is chosen for several reasons. Firstly, large differences in bilateral trade between the EU and the six Mediterranean partners were expected in these sectors. Given the FTA might be expected to largely impact these sectors, it is especially relevant to study how trade in these sectors changed over time. Secondly, these sectors together include a wide variety of industries: while textiles and clothing and agriculture tend to be labour-intensive sectors, the machinery and transport equipment and the chemicals sector are generally more capital-intensive. Lastly, this selection represents both agricultural and industrial sectors. Together, this multi-faceted selection will help understand the full impact of the FTA in the six Mediterranean partner countries.

Table 4.1 Overview of the selected SMCs per sector case study

	Algeria	Egypt	Jordan	Lebanon	Morocco	Tunisia
Textiles and clothing		✓	✓	✓	✓	✓
Machinery and transport equipment	✓	✓			✓	✓
Agriculture		✓		✓	✓	✓
Chemicals	✓	✓	✓			✓

The analytical approach to all sector case studies is structured and implemented in a similar fashion. It simultaneously takes into account relevant sector-specific conditions. In this structure, each case study starts with a global overview of the sector, which first presents the definition of the sector used for each case study. It then provides an overview of relevant quantitative and qualitative information on the sector. This includes relevant trade figures between the SMCs and the EU, an overview of the sector's value chains and market surveillance measures. It also includes an analysis of trade barriers, trends and developments in the sector and opportunities for the SMCs as well as innovation policies in the SMCs.

In addition to the global analysis presented in this report, Part 1 of Annex E provides a country-level analysis for the selected countries (see Table 4.1) in each sector. The country-level analysis in Annex E covers trade figures economic structure of the sector, trade and investment figures the relative importance of SMEs and employment, if available. In addition, qualitative data with information on competitiveness, value chains, challenges and opportunities and a brief overview of relevant sectoral policies is provided. We specifically aim to identify enablers and obstacles in sectoral market access, by studying the import and export requirements and the extent to which the FTA affects the market access. We zoom in on issues that partner countries encounter in their desire to export to the EU – including both the issues that the FTA addresses and those that remain – and on issues with utilizing preferences and related administrative burden.

The final part of the country-level analysis explains the impact of the FTA. We combine the results of the economic analysis presented in the previous sections with more qualitative information. Among these elements are aspects of the trade agreement, flanking measures and policies, reforms and business climate conditions. This analysis offers an understanding as to how the FTA actually influenced the sector (costs and benefits), regardless of its initial purposes and in conjunction with other factors, such as wider liberalization patterns in the EU and trade agreements concluded by the Mediterranean countries with the EU or with other partners. This section therefore takes a close look at the intervention logic and assesses whether results observed are in line with expectations, and if results are not as expected, find explanations for this.

4.2. Agri-food sector

This first case study focuses on the agri-food sector and is divided in distinct sub-sections. The first section provides a definition of the sector, thereafter EU-SMCs trade figures are presented as well as an analysis of value chains and trade barriers. Finally, an overview of opportunities as well as information on industrial and innovation policies and market surveillance practices in the SMCs is provided.

A country-level analysis for the Egyptian, Moroccan, Lebanese and Tunisian agri-food sector can be found in Annex E Part 1.

4.2.1. Definition and coverage

The agri-food sector, as defined in this case study[362], includes three broad subsectors: fruits and vegetables, animal-based products and processed agricultural products. The latter is only analysed in more depth for the Moroccan case study. In line with this focus, in statistical terms we define the sector as covering chapters 02 to 05 (animal-based products), chapters 07 and 08 (fruits and vegetables) and chapters 15 to 24 (foodstuffs) of the Harmonized System.

With respect to the economic modelling, based on the GTAP model, this focus corresponds to the following sectors. For animal-based products, it includes red meat (cmt), white meat (omt), milk and dairy products (rmk, mil) and fishery and forestry (frs, fsh). For fruits and vegetables, it includes the sector vegetables, fruit and nuts (v_f), and for processed agricultural products, it covers vegetable oils (vol), processed food (ofd), and beverages and tobacco (b_t), and other agri-food products (osd, c_b, pfb, ocr, oap, wol, sgr).[363] With a few exceptions, these GTAP sectors largely correspond to the selected HS chapters.[364]

The coverage of this case study is summarised in the table below.

Table 4.2 Summary of HS codes analysed in the agri-food sector case study

HS codes		Referred in text to as	
02	Meat and edible meat offal	Meat	Animal-products
03	Fish and crustaceans, molluscs and other aquatic invertebrates	Fish	
04	Dairy produce; birds' eggs; natural honey; edible products of animal origin, not elsewhere specified or included	Dairy	
05	Products of animal origin, not elsewhere specified or included	Products of animal origin	
07	Edible vegetables and certain roots and tubers	Vegetables	Fruits and vegetables
08	Edible fruit and nuts; peel of citrus fruits or melons	Fruits and nuts	
15	Animal or vegetable fats and oils and their cleavage products; prepared animal fats; animal or vegetable waxes	Animal and vegetable fats and oil	Other agricultural products and processed foodstuff
16	Preparations of meat, of fish or of crustaceans, molluscs or other aquatic invertebrates	Preparations of meat or fish	
17	Sugars and sugar confectionery	Sugars and sugar confectionery	
18	Cocoa and cocoa preparations	Cocoa and cocoa preparations	
19	Preparations of cereals, flour, starch or milk; pastrycooks' products	Preparations of cereals	
20	Preparations of vegetables, fruit, nuts or other parts of plants	Preparations of vegetables, fruit or nuts	
21	Miscellaneous edible preparations	Miscellaneous edible preparations	
22	Beverages, spirits and vinegar	Beverages	
23	Residues and waste from the food industries; prepared animal fodder	Residues and waste, feedstuff	
24	Tobacco and manufactured tobacco substitutes	Tobacco	

[362] As specified in the Terms of Reference for this study.
[363] The CGE model also includes other agri-food products (osd, c_b, pfb, ocr, oap, wol, sgr), and fishery and forestry (frs, fsh).but these fall outside the scope of the analysis.
[364] Examples of some exceptions are certain trees, bulbs or roots, and certain coffees and teas, categorized in GTAP as crops n.e.c., certain cereals, categorized in GTAP as food products n.e.c.

The Southern Mediterranean countries under analysis for this sector case study are Egypt, Lebanon, Morocco, and Tunisia. Each of them is analysed separately in Annex E Part 1.

4.2.2. Trade figures

Compared with fuels and mineral products as well manufacturing products, trade in agricultural products is less affected by changes in investment and more directly related to population growth and income changes.[365] Agricultural trade is essential as the regions that are most productive are not always the regions where population and therewith demand are concentrated. Over the past decades, however, agricultural markets have become more globalised. This is due to several factors, such as technological advances reducing transportation costs and allowing perishable products to be transported over large distances. Another factor is the lowering of agri-food tariffs and trade-distorting producer support since the early 2000s[366]. Finally, increases in income levels have led to more diversified tastes and diets and rising demand for more exotic produce. Nevertheless, geographical proximity is still an important factor determining trade volumes in the agricultural sector.

In 2017, the value of global exports in the agricultural sector surpassed US$583 bbin, while the value of imports was close to US$557bn.[367] The leading exporters in 2017 were the EU, and, taken individually, United States, the Netherlands, China, Spain, and Germany (Table 4.3). However, reflecting the diversity within the sector, there is also considerable variation across subsectors. For example, for the EU28 the most traded products in 2018 were beverages, fish, fruits and nuts, residues and waste, feedstuff, and animal and vegetable fats and oils.

Table 4.3 Leading exporters and importers in the agri-food sector, 2017

Global rank	Exporters	Importers
1.	United States of America	United States of America
2.	Netherlands	Germany
3.	China	China
4.	Spain	Spain
5.	Germany	Japan
	(34) Morocco	*(21) Egypt*
	(37) Egypt	(45) Algeria
	(74) Jordan	(63) Jordan
	(76) Tunisia	*(67) Lebanon*
	(104) Lebanon	*(69) Morocco*
	(118) Algeria	*(84) Tunisia*

Source: UN Comtrade.

None of the countries of the Southern Mediterranean are among the leading exporters or importers in the sector or in any of its subsectors. In fact, countries in the region are characterised by rising import dependencies due to growing populations paired with limited availabilities of water supplies and fertile land. The Middle East and North Africa (MENA) region[368] is the largest global net food importing region. This increase in imports has also led to the region being more integrated in global agri-food markets. Except some countries (including Egypt and Lebanon), the MENA region is also the region with the second lowest land productivity indicator[369] in the world (before Sub-Saharan Africa).[370] However, thanks to

[365] FAO (2018) The State of Agricultural Commodity Markets 2018. Agricultural trade, climate change and food security. Rome.
[366] OECD/FAO (2019): Still on average, agricultural goods face higher trade barriers than manufacturing goods. The average import tariffs are about 16% compared to 4%.
[367] Source: UN Comtrade.
[368] The MENA region includes the following countries: Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, the Palestinian Authority, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, United Arab Emirates, and Yemen.
[369] Land productivity is defined as the value of gross agricultural production per ha of agricultural land.
[370] OECD/FAO (2018), OECD-FAO Agricultural Outlook 2018-2027, OECD Publishing, Paris/Food and Agriculture Organization of the United Nations, Rome. https://doi.org/10.1787/agr_outlook-2018-en.

comparatively low labour costs and proximity to large markets such as the EU and the Gulf countries, the region has a comparative advantage in labour-intensive industries such as horticulture. An additional benefit is that fruits and vegetables provide higher economic returns for the amount of water they consume than, for example, cereal production.

Looking at each individual country, Morocco stands out in the export of vegetables, products of animal origin, not elsewhere specified as well as fish and crustaceans. Morocco is net exporter in fruits and vegetables as well as fish. Similarly, Egypt stands out in the export of vegetables, but also fruits and nuts, in which it is a net exporter. Compared with the other countries in the region, Egypt stands also out in dairy products. Both countries rank strongly in the export of vegetables ranking 14th and 15th respectively. Tunisia and Lebanon's exports do not stand anywhere particular out with the exception of olive oil in the case of Tunisia. However, for Tunisia fish, fruits, and products of animal origin, not elsewhere specified are also of importance, while for Lebanon products of animal origin, not elsewhere specified and vegetables are the highest-ranking exports.

Table 4.4 Leading exporters and importers in the agri-food sector per HS category, 2017.

Rank	02 - Meat	03 – Fish and crustaceans	04 - Dairy	05 – Products of animal origin	07 – Vege-tables	08 – Fruits and nuts	15 – fats and oil	16 to 24-PAP
	Exporters							
1.	USA	China	Germany	China	China	USA	Indonesia	Germany
2.	Brazil	Norway	New Zealand	USA	NL	Spain	Malaysia	France
3.	NL	India	NL	Germany	Spain	Mexico	Spain	United Kingdom
4.	Australia	Viet Nam	France	Netherlands	Mexico	NL	NL	Mexico
5.	Germany	USA	USA	Brazil	USA	Viet Nam	Argentina	China
	(89) Egypt	(25) Morocco	(40) Egypt	(19) Morocco	(14) Morocco	(25) Egypt	(28) Tunisia	(52) Egypt
	(92) Tunisia	(49) Tunisia	(62) Morocco	(40) Egypt	(15) Egypt	(31) Morocco	(45) Morocco	(64) Morocco
	(98) Lebanon	(52) Egypt	(72) Tunisia	(46) Tunisia	(72) Lebanon	(48) Tunisia	(55) Egypt	(100) Lebanon
	(106) Morocco	(107) Lebanon	(94) Lebanon	(68) Lebanon	(73) Tunisia	(83) Lebanon	(83) Lebanon	(103) Tunisia
	Importers							
1.	Japan	USA	Germany	Germany	USA	USA	India	USA
2.	China	Japan	China	USA	Germany	Germany	China	Germany
3.	USA	China	NL	Japan	United Kingdom	NL	USA	United Kingdom
4.	Germany	Spain	France	China	India	China	NL	France
5.	Hong Kong	France	Belgium	Netherlands	France	United Kingdom	Italy	Japan
	(19) Egypt	(30) Egypt	Egypt (42)	(27) Morocco	(35) Egypt	(50) Egypt	16 Egypt	(46) Egypt
	(64) Lebanon	(69) Lebanon	Lebanon (47)	(41) Egypt	(57) Lebanon	(60) Morocco	(35)Morocco	(57) Morocco
	(100) Morocco	(57) Morocco	Morocco (56)	(58) Tunisia	(58) Morocco	(65) Lebanon	(54) Tunisia	(65) Lebanon
	(127) Tunisia	(88) Tunisia	Tunisia (105)	(85) Lebanon	(94) Tunisia	(99) Tunisia	(77) Lebanon	(85) Tunisia

Source: UN Comtrade. Data for 2017 as 2018 is incomplete.

These observations do not fundamentally change if only trade with the EU is considered. However, some products such as in the case of Egyptian dairy products or products of animal origin are targeted at the non-EU market as they often do not fulfil the quality requirements of EU consumers. In general, due to their geographical proximity, trade with the EU is of importance for the four countries. Morocco exports a large share of its agricultural production to the EU due to its strong links with Spain and France, but also Egypt and Tunisia are exporting a lot of their produce to Europe. The former to Italy, Germany and Spain and the latter to France, Italy and Germany. Lebanon mainly acts as importer as its agricultural sector is not very competitive with the exception of its food processing sector.

Table 4.5 Exports from and imports to the EU, trade value, €m in parentheses, 2019 (aggregated Data including HS 2-5; 7-8; 15-24)

Rank	EU Exports	EU Imports
1.	Egypt (1.268)	Morocco (3.636)
2.	Algeria (1.147)	Egypt (1.126)
3.	Morocco (1.116)	Tunisia (647)
4.	Lebanon (646)	Lebanon (102)(109)
5.	Jordan (458)	Algeria (101)
6.	Tunisia (371)	Jordan (44)

Source: Eurostat Easy Comext. For HS 02 Data is from 2018 as 2019 is incomplete.

Looking at specific product categories, for **meat products** we see that all four countries mainly import these from the EU. Similar to meat, for **dairy products** we see all countries mainly importing these from the EU. This is also similar for **products of animal origin, not elsewhere specified** which with the exception of Morocco (and Egypt) are mainly imported by all four countries. For **fish products**, Morocco and Tunisia are strong exporters to the EU, while Egypt and Morocco import a lot of fish products. The strong trade in fish products between the EU and Morocco indicates an integrated food supply chain. For both **vegetables** and **fruits and nuts** we see strong export performance to the EU by Morocco, Egypt and Tunisia, highlighting again the comparative advantage of all three countries in this area. Finally, for **processed foodstuff** we observe Morocco having a trade surplus, while the other three countries mainly import from the EU.

Table 4.6 Exports from and imports to the EU per HS code, trade value, €m in parentheses, 2019

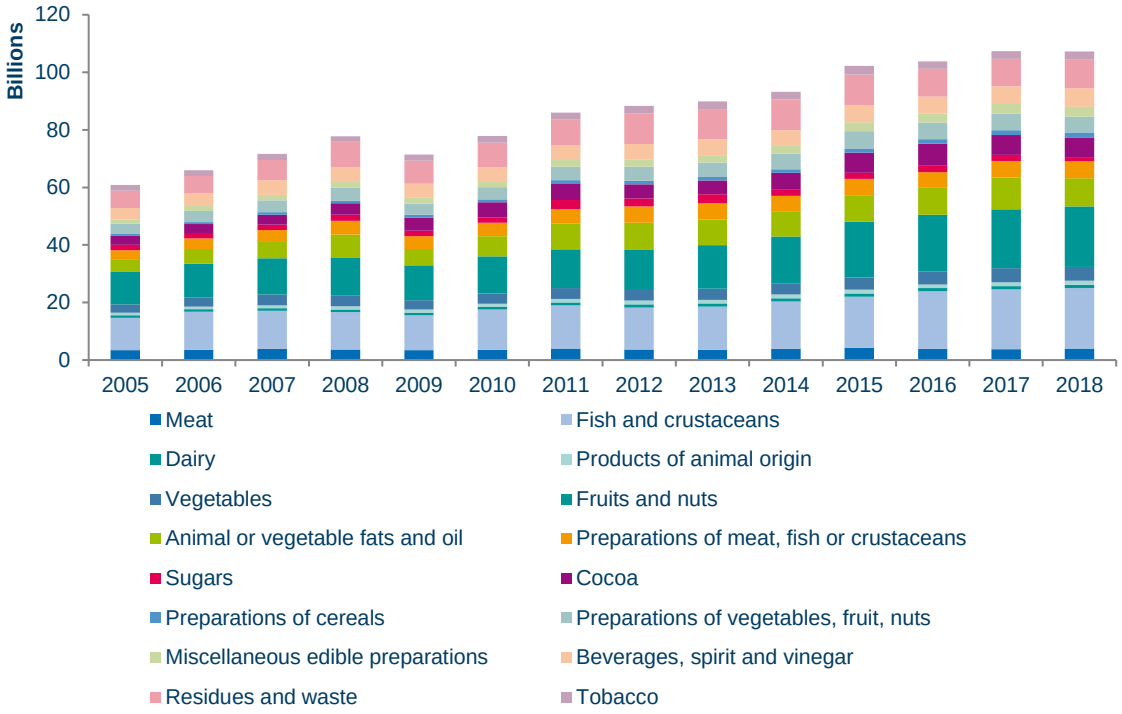
Rank	02 – Meat	03 – Fish and crustaceans	04 - Dairy	05 – Products of animal origin	07 – Vegetables	08 – Fruits and nuts	15 – fats and oil	16 to 24 PAP
	EU Exports							
1.	Morocco (14)	Morocco (155)	Egypt (261)	Morocco (54)	Egypt (211)	Egypt (156)	Morocco (224)	Egypt (548)
2.	Tunisia (10)	Egypt (119)	Lebanon (186)	Egypt (14)	Morocco (40)	Morocco (54)	Tunisia (22)	Morocco (485)
3.	Lebanon (9)	Tunisia (30)	Morocco (167)	Tunisia (2)	Lebanon (26)	Lebanon (6)	Egypt (14)	Lebanon (390)
4.	Egypt (4)	Lebanon (9)	Tunisia (41	Lebanon (0.5)	Tunisia (15)	Tunisia (2)	Lebanon (11)	Tunisia (126)
	EU Imports							
1.	Morocco* (0.02)	Morocco* (804)	Egypt (1)	Morocco (83)	Morocco (1.063)	Morocco (862)	Tunisia (283)	Morocco (698)
2.	Morocco* (0)	Tunisia*(125)	Tunisia (0.3)	Egypt (29)	Egypt (481)	Egypt (435)	Morocco (89)	Lebanon (567)
3.	Lebanon (0)	Egypt* (17)	Lebanon (0.004)	Lebanon (13)	Tunisia (55)	Tunisia (122)	Egypt (20)	Egypt (141)
4.	Tunisia* (0)	Lebanon*(0.0003)	Morocco (0.001)	Tunisia (3)	Lebanon (2)	Lebanon (3)	Lebanon (7)	Tunisia (58)

Source: Eurostat Easy Comext. * data from 2018.

Lastly, it is worth highlighting that the EU is one of the largest markets in the world for agricultural products. In 2018, imports exceeded €107bn and have nearly doubled since 2005 (€60bn). With the exception of the global financial crisis and its aftermath, these imports have steadily increased. Agricultural trade has proven to be more resilient than fuel and mining products and manufactured goods, where a reduction in investment and the consequently weak

demand has slowed trade more.[371] Most EU imports come from the animal and vegetable oil sector (over €50bn) followed by the fruits and nuts sub-sector. Both sectors are of great importance for the Southern Mediterranean countries.

Table 4.7 EU imports of agri-food products, €bn, by HS chapters



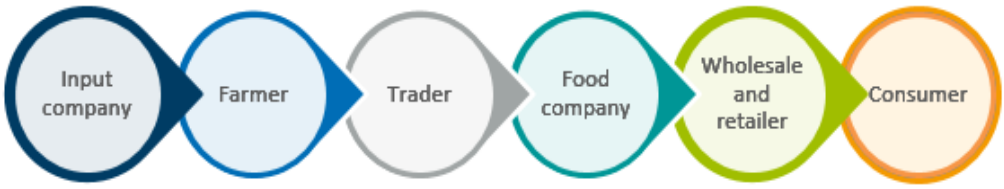
Source: Eurostat Easy Comext.
Note: Covers HS chapters 02 to 05, 07, 08, and 15 to 24.

4.2.3. A closer look at value chains

In past decades, one can observe a trend towards supply chains that increasingly cross national and firm boundaries – in general but also in the agri-food sector.[372] This fragmentation is driven by various factors including the drive to specialise and achieve higher productivity but also technological advancements that facilitate transportation and communication.

The agri-food supply chain has an important role in the economy by connecting the sectors of primary production of agricultural products, food processing and distribution.[373] While it is not possible to describe a single, homogeneous food supply chain at a global (or even national) level, several key actors are present in almost every value chain. The figure below presents these six groupings.

Figure 4.1 Simple Agri-food supply chain



[371] FAO (2018) The State of Agricultural Commodity Markets 2018. Agricultural trade, climate change and food security. Rome.
[372] Carbone A. (2017), "Food supply chains: coordination governance and other shaping forces", Agricultural and Food Economics, 5:3.
[373] European Parliament IPOL (2016) Research For AGRI Committee - Food Value Chain In The Eu – How To Improve It And Strengthen The Bargaining Power Of Farmers?

Source: Ecorys.

The number of actors in each group varies greatly. In 2016, there were in the EU around 11m farms providing agri-food produce for 300,000 food processing companies, which in turn provide their products to the 2.8m companies within the food distribution and food service industry. In the end, these deliver food to the EU's 500m consumers.[374] Of course, this simplified depiction neglects the fact that at any time in the supply chain products may enter or leave the EU (e.g. as inputs for food processing companies). In general, the EU food supply chain has become increasingly concentrated in the downstream stages (food processing companies and retailers), which increases bargaining power in favour of these actors and allows them to impose prices and contractual arrangements.[375] Emerging and developing countries such as those under analysis have become increasingly involved in the agri-food supply chain, specifically as suppliers of primary goods.

Egypt, Lebanon, Morocco and Tunisia's agricultural sectors are characterised by small-holder farms. Specifically, in Egypt and Lebanon the majority of farms are smaller than one hectare (87% and 73% respectively). Policies in Morocco have supported the large-scale acquisition of land and therefore the share of small-holder farms is less extreme (25% under 1 Ha) and the country has an uneven distribution of farm size.[376] The MENA's region agricultural production is dominated by Iran and Egypt. However, low yields and scarcity of arable land coupled with growing demand make the region rely on imports. The region is self-sufficient in horticulture (fruits & vegetables) but relies on imports for other agricultural products, especially cereals and oilseeds, but also meat. Table 4.8 highlights the food self-sufficiency rates for the four selected countries.

Table 4.7 Food self-sufficiency ratios in selected countries, average values, 2011-13 (%)

Country	Cereals	Meats	Fruits, vegetables	Milk	Vegetable oils	Oil crops	Sugar, Sweeteners
Egypt	58	83	107	89	26	35	73
Lebanon	14	77	111	49	20	67	0
Morocco	59	100	116	95	29	98	28
Tunisia	42	98	110	90	91	65	1

Source: Own adaption based on OECD/FAO (2018).
Note: The self-sufficiency ratio is defined as food production / (production+imports-exports).

These dependencies explain also the trade characteristics between the EU and the four selected countries presented in Section 4.2.2. In general, the EU supplies the Southern Mediterranean countries with meat, cereals and dairy products, while in turn they supply the EU with fruits and vegetable products. This is also the case for the four countries under analysis but the data show some differences. For example, Morocco and Tunisia also supply fish products to the EU. In addition, Morocco also exports processed foodstuff and Tunisia exports olive oil. Finally, Lebanon mainly acts as importer (even for fruits and vegetable products) and the country's only noteworthy exports to the EU are in processed foodstuff.

4.2.4. Trade barriers

Historically, trade with the EU in the agricultural sector is defined by high tariff and quota measures (mostly much higher than industrial goods like machinery) which are applied to protect sensitive sectors such as beef and dairy production. However, with the FTAs in place, many tariffs have been reduced or even removed.

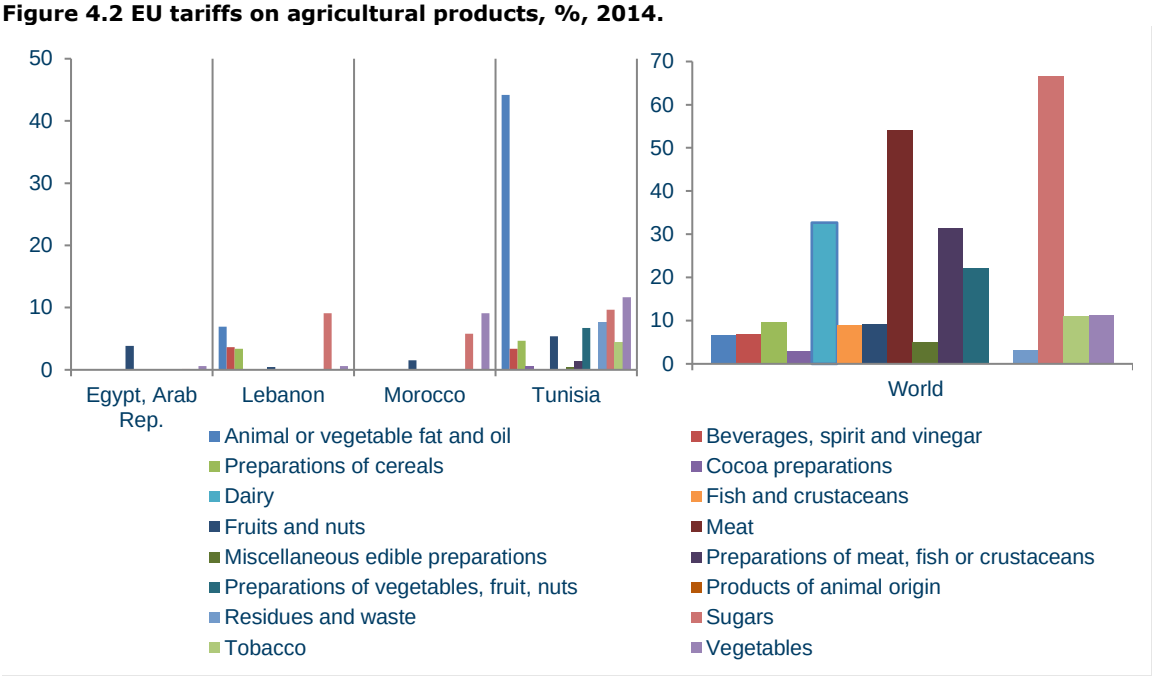
Despite the tariff preferences provided for agricultural products, tariffs on industrial goods have been liberalised much more under the FTAs and many agricultural goods still face comparatively

[374] European Commission (2017) The Food Supply Chain.
[375] European Parliament IPOL (2016) Research For AGRI Committee - Food Value Chain In The Eu – How To Improve It And Strengthen The Bargaining Power Of Farmers?
[376] OECD/FAO (2018): Numbers for Egypt are from 1999-2000, for Lebanon from 1998 and for Morocco from 1996. [pretty old data – to be taken with care].

higher tariffs. Nevertheless, the preferential tariffs are far lower than the world averages (see Figure 4.2). Worldwide, specifically sensitive agricultural goods such as sugar, meat, and animal or vegetable oils, but also beverages, dairy, preparations of meat and fish, preparation of cereals as well as preparations of fruits and vegetables face relatively high tariffs. For all four countries tariffs are considerably lower, especially in Egypt and Morocco, where additional protocols were agreed upon that further liberalised agri-food trade.[377]

Besides fruits and nuts, there are virtually no tariffs among the analysed products for Egypt. In the case of Morocco, one can also add vegetables and sugars. Meanwhile, Lebanon and especially Tunisia still face comparatively higher tariffs. For Lebanon, these affect animal or vegetable oils[378], beverages, preparations of cereals and sugar. However, the high tariffs on sugar do not play a major role as Lebanon does not export much of it. In Tunisia these are also vegetables, residues and waste, fruits and nuts, preparations of vegetables, fruits and nuts, and tobacco. The average EU tariff on Tunisian agricultural products is 11.8%, which is only a fraction lower than the MFN rate of 12%. [379] In addition, Tunisian olive oil is subject to an annual duty free tariff rate quota set at 56,700 tonnes but does not benefit from a free access as in the case of Morocco, because the EU –Tunisia agreement has not yet been modernised.

Figure 4.2 EU tariffs on agricultural products, %, 2014.



Source: Tariffs data from UNCTAD - Trade Analysis Information System (TRAINS).

Next to the already mentioned quotas on olive oil, there are also various other import quotas on agricultural products from the SMCs. The table below provides an overview of the products with quotas, the amount and the balance at the end of the quota period as reported on the European Commission's TARIC database for 2018. This table highlights that many of the current quotas are not fully used and do not seem relevant for the SMCs analysed here.[380] Notable exceptions are strawberries in the case of Egypt, sardines from Tunisia, and of course olive oil from Tunisia. Other products where the SMCs make use of the quotas include clementines, edible vegetables, garlic, oranges and tomatoes.

[377] For Egypt in 2010 with the agreement on agricultural, processed agricultural and fisheries products, and for Morocco in 2012 with the agreement on trade in agricultural, agro-food and fisheries products.
[378] Specifically, for olive oil Lebanon has also an annual tariff quota of 1000 tonnes of olive oil. However, this quota is never filled by Lebanese exports to the EU. For example, in 2018, about 500 tonnes of various types of olive oil were exported from Lebanon to the EU.
[379] Rudloff B. (2020) A Stable countryside for a stable country? The Effects of a DCFTA with the EU on Tunisian Agriculture.
[380] We decided not to add products where the quota was not used at all in order to make the table readable. These products are: Sugars; Other sugars; Sugar syrups, Cocoa powder, other cocoa preparations and malt extract; Extracts and essences; Mixtures of odoriferous substances and mixtures of a kind used in food or drink industries; Rice; Milled rice; Broken rice; Potatoes; Honey; Olives; Mushrooms; and Sour cherries.

Table 4.8 Tariff quotas and their fill rate (% used) in 1,000kg/litre, 2018

Product	Egypt	Tunisia	Lebanon	Morocco
	Amount (% used)	Amount (% used)	Amount (% used)	Amount (% used)
Apples	-	-	10.000 (1%)	-
Apricots	-	5160 (0%)	5.000 (1%)	-
Clementines	-	-	175.000 (56%)	-
Cucumbers	3.800 (3%)	-	-	16.800 (38%)
Cut flowers		1.120 (3%)	-	-
Edible fruits and nuts*	-	1000 (0%)	4.600 (35%)	-
Edible vegetables	-	-	1.000 (0%)	56.000 (70%)
Fresh grapes*	-	-	-	10.000 (39%)
Garlic	5.067 (87%)	-	-	-
Nectarines	-	-	9.500 (1%)	-
Olive Oil	-	56.700 (100%)	1.000 (1%)	-
Oranges	36.300 (69%)	39.338 (31%)	-	36.300 (69%)
Plums	-	-	5.000 (1%)	-
Potato seed	-	-	50.000 (1%)	-
Sardines	-	100 (100%)	-	-
Strawberries	11.687 (100%)	-	-	-
Sugar confectionery	1.611 (2%)	-	-	600 (0%)
Tomatoes and Tomatoes, prepared**	-	4.000 (22%)	1.000 (1%)**	294.123 (99%)
Wine	-	23.520 (3%)	-	-

*Data aggregated from several periods in 2018.
Source: European Commission, TARIC database.

Non-tariff measures are mainly related to laws, regulations and requirements such as sanitary and phytosanitary (SPS) measures, technical barriers to trade and customs procedures. Food safety requirements are relatively high in the EU. They are however not-discriminative, but create a level-playing field, as EU's domestic producers also need to comply with these rules. Recent research has shown that EU SPS measures result in comparatively higher burdens for low income countries as they generally have less capacity to comply with SPS requirements. It was estimated that lower income countries agricultural exports were about USD 3 billion lower as a result of these requirements.[381]

In the consultations in all six countries, stakeholders from business but also government indeed emphasised the difficulties of complying with the high EU standards. On the other hand, some stakeholders from business also indicated that while the standards are high, they are transparent, and complying with EU standards means exporters can ship to most other destinations.[382] In addition, consumption patterns are changing in the Southern Mediterranean countries. Consumers are becoming more demanding about food quality and safety, which will make policies on quality assurance increasingly important for the domestic market.[383] That said, some stakeholders also indicated that in the implementation and enforcement of the standards, some protective practices had been observed that negatively impact exports from the SMCs. For example, ships with perishable products faced long waiting times for inspection, and as a result

[381] The distortionary effects of SPS measures for exports from lower income countries to the EU are largely concentrated in a limited number of product groups namely coffee/tea/spices, fish, fruits, gums/resins vegetables, and prepared animal products. Source: UNCTAD (2014) Trading With Conditions: The Effect Of Sanitary And Phytosanitary Measures On Lower Income Countries' Agricultural Exports.
[382] Ibid.
[383] FAO/EBRD (2015) Egypt, Jordan, Morocco and Tunisia. Key Trends in the Agrifood Sector. Country Highlights.

of the delay no longer complied with the standards. Within the scope of the evaluation, it was not possible to objectively verify these statements.[384]

4.2.5. A closer look at market surveillance

Market surveillance and specifically food safety are of high importance when it comes to trade in agri-food products. In the EU, countries must ensure effective surveillance of their market. The surveillance of food products and the agri-food market are under auspices by national food systems (NFSS) of which the national food agencies work in close cooperation with the European Food Safety Authority (EFSA). The NFSS are responsible for ensuring the quality and legal requirements of agri-food products in Europe. Similarly, the market in the SMC is also regulated by national food safety agencies which are responsible for health and safety as well as fair competition. Nevertheless, the level of development of national safety system varies per country. Among the analysed SMCs, Tunisia, Morocco and Egypt appear to be the countries with the most developed market surveillance system in the region's food sector.

In 2017, Egypt established the National Food Safety Authority (NFSA), a central regulatory authority responsible for food monitoring.[385] Its mission is to protect consumer health by ensuring that food products consumed, distributed, marketed or produced in Egypt meet the highest standards of food safety and hygiene. The agency is responsible for food safety regulation for domestic production, import and export through undertaking inspection, licensing and certification. More recently, the NFSA issued a resolution, which regulates the application of the principles of risk analysis and the determination of the control activities on foods.[386] Food safety is also supported by international partners. For example, the European Bank for Reconstruction and Development (EBRD) together with FAO engaged in partnership with the NFSA in a knowledge exchange on risk-based approaches in ensuring food safety in the grain sector.[387]

In 2019, Tunisia's Parliament approved the Law on Food and Feed Safety thereby establishing the National Authority for Food Safety as well as the National Agency for Risk Assessment.[388] The law brings together rules from previous general laws setting out clear rules concerning the quality of food to be distributed on the Tunisian market and which factors risk assessment measurements need to consider. Furthermore, it enables the responsible authorities to regulate, amongst others, microbiological specifications of food as well as the labelling in regard to additives and contaminants to ensure the safety of the product. Next to food quality, the authorities also regulate the conditions on the agri-food market in regard to food and feed production as procedures for controlling such processes. Finally, FAO and WHO in partnership with the Tunisian government developed a tool to provide the national food control system with a baseline for directing and measuring progress and improvement. Its design is based on the principles of FAO's Codex Alimentarius Commission.[389]

In Morocco the Office National de Sécurité Sanitaire des Produits Alimentaires (ONSSA) has been identified as responsible body of health and safety measurements and in 2018 a new law of food safety was ratified and later implemented.[390] In addition, the Morocco Foodex was

[384] In general, food products imported in the EU are subject to official controls in order to ensure food safety and to avoid environmental damage. These check that the imported agri-food products comply with all applicable regulatory requirements. For example, for all plants and plant products coming from non-EU countries undergone checks for: Phytosanitary certificates and documents to ensure that the consignment meets EU requirements; Identity to ensure that the consignment corresponds to the certificate; and inspection to ensure that the consignment is free from harmful organisms. For more information see: CBI (2020) What requirements should fresh fruit or vegetables comply with to be allowed on the European market?

[385] USDA (2019) Egypt: Egypt, Establishment of the National Food Safety Authority. Available at: https://www.fas.usda.gov/data/egypt-egypt-establishment-national-food-safety-authority.

[386] USDA (2020) Egypt: Egypt's National Food Safety Authority Issues Risk Analysis for Food Regulations. Available at: https://www.fas.usda.gov/data/egypt-egypts-national-food-safety-authority-issues-risk-analysis-food-regulations.

[387] FAO (2019) A renewed focus on food safety in Egypt. Available at: http://www.fao.org/neareast/news/view/en/c/1201493/.

[388] USDA (2019) Tunisia: Food and Feed Safety Law. Available at: https://www.fas.usda.gov/data/tunisia-food-and-feed-safety-law.

[389] FAO (2019) FAO and WHO support performance assessment of Tunisia's National Food Control System. Available at: http://www.fao.org/neareast/news/view/en/c/1189851/.

[390] USDA (2018) Morocco: Food Safety Law. Available at: https://www.fas.usda.gov/data/morocco-food-safety-law.

established as a food export control and coordination organisation, which delivers quality certificate for all food exports to the EU and other countries, guaranteeing very high levels of compliance that are largely aligned with EU standards. However, a recent review by Morocco's Economic, Social, and Environmental Council highlighted a need for a clear public safety policy. While the review found that significant progress has been made in past years allowing Moroccan products to enter world markets, there are also every year 1,000 to 1,600 cases of food poisoning and the use of pesticides is not sufficiently controlled. According to the review, there co-exist two systems in Morocco. A modern and effective system with good quality intended for foreign markets (Morocco Foodex) and one less developed one for the domestic market.[391]

Finally, Lebanon portrays a less developed market surveillance system for agri-food products. In Lebanon, a food safety law has been implemented by the Ministries of Public Health, of Agriculture, of Industry and of Economy and Trade.[392] However, a responsible body for effective surveillance of the food market has not been introduced yet and lack of coordination between responsible authorities as well as lack of training for inspectors seems to be an issue.[393]

4.2.6. Trends and developments

The agricultural sector is a vital sector as it feeds the world's population, which is expected to reach 8.4 billion people by 2028. The Food and Agricultural Organisation of the United Nations projects global production of as well as demand for agricultural products to grow by 15% between 2019-2028.[394] It is, moreover, an important sector, because of its contribution to economic development. Agricultural development is considered one of the most powerful tools to end extreme poverty. Compared with other sectors agriculture is two to four times more effective in raising incomes among the poorest as these are concentrated in rural areas.[395] Therefore, for many countries the agricultural sector lies at the centre of economic development.

International agricultural and food markets have witnessed number of changes. Since 2000 trade in agri-food products has grown strongly as a more rule-based trading environment was introduced combined with the reduction in tariffs. Global agricultural production has also continued to increase, driven by rapid growth in a number of developing regions. However, the share of agricultural production in total production and employment is decreasing across regions at varying speeds. In addition, a significant amount of agricultural production is claimed by food losses and food waste, while overall growth of yields has slowed.[396]

The agricultural sector is being reshaped by a combination of profound changes in the climate, population, consumer preferences, global value chains, consumer preferences, which is putting continued pressure on food prices.

The growth of the global **population** (mainly driven by Africa and Asia) is driving demand for food. It is estimated that in 2050, the world will need to produce almost 50% more food, animal feed and biofuel compared with 2012.[397] In turn, **climate change** has serious implications for agricultural production and food security. These implications will be felt unevenly across regions. Low-latitude regions are already being adversely affected through higher frequency of droughts and floods, while temperate regions might benefit from longer growing seasons due to warmer weather. This will increase current inequalities and alter comparative advantages in agriculture

[391] Morocco World News (17.06.2020) CESE: Morocco Needs Clear Public Food Safety Policy. Available at: https://www.moroccoworldnews.com/2020/06/306121/cese-morocco-needs-clear-public-food-safety-policy/.
[392]FAO. (2019). Food safety and quality. Retrieved from: http://www.fao.org/food/food-safety-quality/gm-foods-platform/browse-information-by/country/country-page/en/?cty=LBN.
[393] Cortas A. (2017) The Food Safety Law in Lebanon: What is next? Available at: https://www.imedpub.com/articles/the-food-safety-law-in-lebanon-what-is-next.pdf
[394] OECD/FAO (2019), OECD-FAO Agricultural Outlook 2019-2028, OECD Publishing, Paris/Food and Agriculture Organization of the United Nations, Rome. https://doi.org/10.1787/agr_outlook-2019-en.
[395] Townsend, Robert. 2015. Ending poverty and hunger by 2030: an agenda for the global food system. Washington, D.C.: World Bank Group.
[396] FAO (2017) The future of food and agriculture – Trends and challenges. Rome.
[397] FAO (2018) The State of Agricultural Commodity Markets 2018. Agricultural trade, climate change and food security. Rome.

across regions.[398] This is expected to also affect the Southern Mediterranean countries as they already struggle with desertification and in many cases unsustainable levels of water use.

Global value chains have also been changing and will likely continue to do so. This stems from an increased participation and importance of emerging economies in world agricultural markets. This development has also coincided with a growth in trade between the middle- and low-income countries group. In addition, important parts of the food value chain are becoming more capital-intensive, vertically integrated and concentrated in fewer hands to the disadvantage of small-scale producers.[399] **Consumer behaviour** has also been changing due to changes in income and income distribution. On the one hand, increases in income in countries such as China, India and Indonesia have led to an increase in food consumption and thereby imports into these countries. It is expected that income growth in low- and middle-income countries will hasten a dietary transition towards higher consumption of meat, fruits and vegetables, relative to that of cereals.[400] In Morocco, Tunisia and Lebanon growth in GDP per capita has, however, stagnated since the financial crisis in 2008 and in Egypt since 2015.[401] On the other hand, in developed countries consumer behaviour is shifting towards the demand for ecological, local and sustainably-produced foods.

Finally, it is expected that agri-food **prices will remain under pressure**. Increasing prices of agricultural commodities, as well as the 2008 and 2011 price surges, were the result of structural changes in global agricultural markets. Since then, agricultural prices have declined, although they are still higher than in 2007.[402] It is expected that the prices will continue to decline. Most commodities covered by the "OECD-FAO Agricultural Outlook" are expected to see real price declines over the coming decade by around 1-2% per year, due to productivity growth and further decline in marginal production costs contributing to a decline in real prices. The exceptions are soybeans, vegetable oils, milk powder, and ethanol.[403]

4.2.7. Opportunities for the Southern Mediterranean countries

The SMCs have large opportunities in the agricultural sector. Their geographical proximity to the European market coupled with their preferential access provides them within the limits of their production capabilities ample opportunities to export agri-food products into the EU. In addition, as discussed previously the SMCs have a comparative advantage in labour intensive fields such as horticulture due to their comparatively low labour costs. Especially, fruits but also vegetables oils are also among the EU's main imports. However, the EU's loss of its main export market for European fresh produce due to Russia's import ban[404] in 2014 in response to sanctions for Russia's annexation of Crimea means that European fruits and vegetable producers had to look for alternative markets either by producing more for their domestic markets or by exporting to other markets such as the Southern Mediterranean countries. This led to increased competition. On the other hand, in Egypt a business stakeholder indicated that Egypt could therefore increase its trade with Russia to take profit of the space left by the EU and the other countries banned.

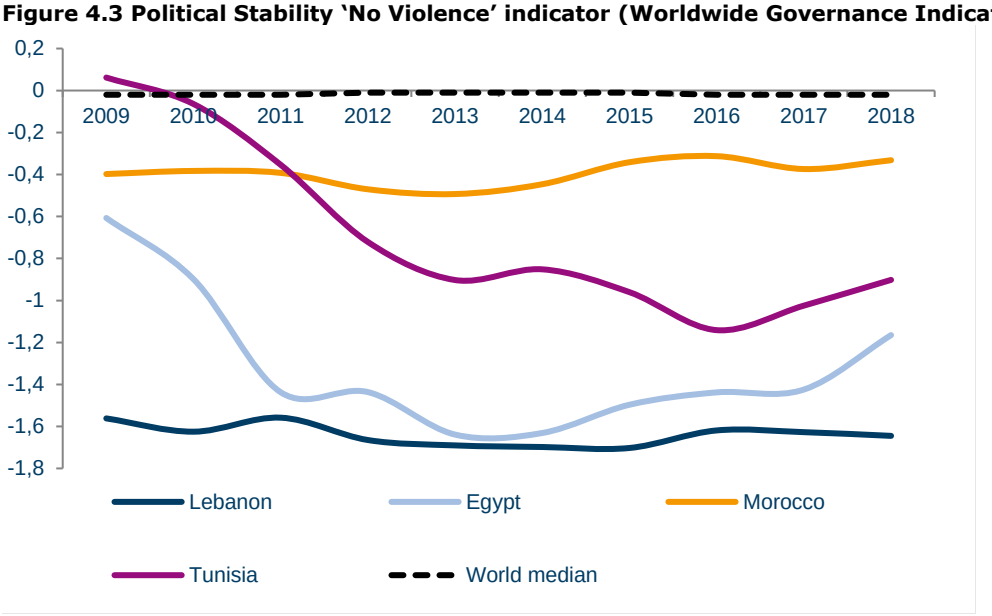
Agricultural production in the wider MENA region and to some extent including the SMCs is dominated by cereal production for domestic demand. However, Tunisia and Lebanon use most of their land resources for growing fruits, vegetables and oil crops (especially olives) which are competitive export commodities. They rely on imports to meet their high domestic demand of cereals. In fact, all four countries have an extremely high consumption of cereals (primarily wheat[405]). The share of cereals in daily caloric intake is 40% higher in the region than in the

[398] Ibid.
[399] FAO (2017) The future of food and agriculture – Trends and challenges. Rome.
[400] Ibid.
[401] World Bank national accounts data - GDP per capita (current US$).
[402] FAO (2018) The State of Agricultural Commodity Markets 2018. Agricultural trade, climate change and food security. Rome.
[403] OECD/FAO (2019), OECD-FAO Agricultural Outlook 2019-2028, OECD Publishing, Paris/Food and Agriculture Organization of the United Nations, Rome. https://doi.org/10.1787/agr_outlook-2019-en.
[404] Russia applied the import ban to countries that took sanctions against Russia after the annexation of Crimea (United States of America, European Union countries, Canada, Australia, the Kingdom of Norway, Ukraine, the Republic of Albania, Montenegro, the Republic of Iceland, and the Principality of Liechtenstein).
[405] The MENA region's wheat production is expected to grow from 37 million tonnes (2018) to 45 million tonnes by 2027. OECD/FAO (2018).

rest of the world. In 2011, Egypt and Morocco used between 60% and 70% of their land resources for cereal production in order to meet the high domestic demand. Therefore, they are relatively less dependent on imports, however are both still leading importers of cereals.[406] A shift towards more competitive commodities such as fruits, vegetables, oil crops and fisheries could be an opportunity for the SMCs. Fruits and vegetables consume also less water and provide higher economic returns per drop of water. This could therefore also counteract the unsustainable use of water in the region.
As explained in Section 4.2.4 on trade barriers, the agricultural exports from SMCs still face tariff barriers in the EU, and therefore further liberalisation (for example the further increase of olive oil quotas under zero tariffs for Tunisia) could support these countries. For the countries of the South Mediterranean, access to the EU is especially important for goods such as fruits, vegetables and vegetable oil.[407]

Overall, the association agreements with the SMCs have helped generating large amounts of trade, however the domestic and international environment have been unfavourable. Specifically, three international developments have dampened the countries' agricultural export performance. The first is the slow economic growth in the EU, especially in countries such as Italy and Spain, which are main trading partners for the SMCs. Second, the EU enlargement in 2004, which introduced new low-cost competition. Finally, China's emergence on the world trade stage increased competition and shifted world trade patterns.[408] Recent political unrest such as the Arab Spring and terrorism have left the countries comparatively unstable and led to an overall unfavourable investment climate. In terms of political stability, the World Banks Worldwide Governance indicator (Figure 4.3) ranks all four countries below the world median. Lebanon and Egypt rank the worst but have been improving slightly since 2011. Tunisia which was in 2009 at about the world median has since then been decreasing its ranking with only recent improvements. The only relative stable country among the four has been Morocco.

Figure 4.3 Political Stability 'No Violence' indicator (Worldwide Governance Indicators)



Source: World Bank – Worldwide Governance Indicators.

Next to increasing production in primary products, the SMCs have also the chance to further grow their agri-food processing industries. Apart from fruits and vegetables, most agricultural products consumed in the SMCs go through agro-industrial processing. [409] According to several sources, agri-industry supply chains have replaced the informal production where independent

[406] FAO/EBRD (2015) Egypt, Jordan, Morocco and Tunisia. Key Trends in the Agrifood Sector. Country Highlights.
[407] Ait Ali, Abdelaaziz and Dadush, Uri and Msadfa, Yassine and Myachenkova, Yana and Tagliapietra, Simone (2019) Towards EU-MENA shared prosperity. Bruegel Policy Report, 3rd ed. February 2019.
[408] Ibid.
[409] Belghazi S. (2013) Scenarios for the Agricultural Sector in the Southern and Eastern Mediterranean. MEDPRO Report No. 4.

workers were the main drivers of production. The development of supply chains goes together with the development of logistics and transport operations which provides opportunities of economies of scale.[410] In fact, a "sophistication" of exports is observed with countries in the region increasing their exports of processed goods such as canned fish, canned vegetables and vegetable-based preserves, pasta, olive oil and cheese.[411] Among the four, especially Lebanon and Morocco, but also Egypt have well-developed food processing industries. Tunisia is considered one of the world's leading producers of olive oil. In Egypt, there is also a potential for moving the country from low or medium value-added primary production to higher value-added production. Processed or semi-processed agri-food exports in Egypt are currently concentrated in fruit and vegetable and dairy products.[412]

4.2.8. Innovation in the Southern Mediterranean countries

Innovation in the agricultural sector occurs at all dimensions of the production cycle. Along the value chain for example it affects how crops are produced, inputs such as fertilisers are managed and how agro-processing and market access are organised.[413] Overall, innovation is the key for making farming and the entire farming system more sustainable and hitherto more attractive for business and employment opportunities. Some governments have created supporting policies focusing on enhancing the investment climate in innovation in the agricultural sector. An example is the Green Morocco Plan of the Moroccan government which aims to focus on funding and developing projects to innovate the sector.[414]

In very recent years, the ongoing debate has especially focused on disruptive agricultural technologies and its potential for a sustainable agricultural transformation. It is argued that disruptive technologies can sustainably deepen the role of value chain development for production, marketing and consumptions systems.[415] Research shows that countries in the wider MENA region have increased their efforts in understanding the possibilities of disruptive technologies in the agricultural sector and have launched initiatives to push for a technological change in the sector. One of the most prominent examples is Egypt, which has set up various projects in cooperation with the International Fund for Agricultural Development (IFAD) to research the potentials of innovation on the most rural population.[416] More specifically, researchers from Mansoura University in Egypt are investigating the potential of agricultural knowledge and innovation systems (AKIS). The research focuses on the existing framework of innovation systems and aims to develop a framework to improve and strengthened ongoing practices with supporting policies.[417]

To summarise, even though the importance of innovation policies is weighted differently in public discourse in the SMCs, it can be argued that a trend towards integrating agricultural innovation is evident across all regions.

4.3. Chemicals

This case study focuses on the chemicals sector and is divided into distinct sub-sections. The first section, *Global Definition and Coverage*, presents the chemical sector globally, the main traded products, the largest importer and exporter countries as well as an explanation of

[410] Ibid.
[411] FAO/EBRD (2015) Egypt, Jordan, Morocco and Tunisia. Key Trends in the Agrifood Sector. Country Highlights.
[412] Tellioglu, Isin, and Panos Konandreas. 2017. Agricultural Policies, Trade and Sustainable Development in Egypt. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and Rome: United Nations Food and Agriculture Organization (FAO).
[413] FAO. (2020). Innovation in Agri-food systems. Retrieved 25.08.2020 from http://www.fao.org/neareast/events/agri-food-systems-innovation/en/.
[414] Invest in Morocco. (2020). Investment Opportunities. Retrieved 25.08.2020 from http://www.invest.gov.ma/?Id=25&lang=en&RefCat=5&Ref=148.
[415] Puplampu K.P., Essegbey G.O. (2020) Agricultural Research and Innovation: Disruptive Technologies and Value-Chain Development in Africa. In: Arthur P., Hanson K., Puplampu K. (eds) Disruptive Technologies, Innovation and Development in Africa. International Political Economy Series. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-40647-9_3.
[416] IFAD. (2018). Investing in rural people in Egypt. Retrieved 25.08.2020 from https://www.ifad.org/en/web/knowledge/publication/asset/39319844?inheritRedirect=true.
[417] Zahran et al. (2020). Shifting from Fragmentation to Integration: A Proposed Framework for Strengthening Agricultural Knowledge and Innovation System in Egypt. Sustainability 2020, 12, 5131. Retrieved 25.08.2020 from https://www.mdpi.com/2071-1050/12/12/5131#cite.

the sector value chains and role of the SMCs in the global marketplace. The second section, *Global Trends and Developments*, includes information on recent mergers and acquisitions, chemicals trade between the EU and SMCs, Rules of Origin and non-tariff barriers (NTBs). The third section, *Opportunities for SMCs,* includes information on the pharmaceutical subsector as a niche chemical area with high growth potential for the EuroMed countries. The fourth section, *Environmental Impacts Of The Chemical Sector In Southern Mediterranean Countries,* focuses on the environmental effects of different uses of chemicals across the SMCs. The fifth section covers *Industrial and Innovation Polices Across SMCs* and the sixth provides details on *Market Surveillance* in relation to the sector across the EuroMed countries. Country specific sub-chapters for Algeria, Egypt, Jordan and Tunisia can be found in Annex E.

4.3.1. Global Definition and Coverage

The chemicals sector, as defined by this case study, includes two main categories: Chemicals, as defined by UN Comtrade, comprising of the HS chapters 28-38, and Polymers, represented by chapters 39 and 40.418 We exclude 17 lines from the HS notation list at the six-digit level, spread over almost all chapters: the manufacture of basic metals and metal ores (nfm and oxt), furniture (omf), non-metallic minerals (nmm), paper (ppp) and wearing apparel (wap), as they are not directly involved in the value chain of the industry, but are rather tertiary products.

The economic modelling provided by DG Trade is based on the GTAP model. The GTAP model itself splits the sector into chemicals (chm), pharmaceuticals (bph) and rubber and plastic products (rpp). They have, however, for the aim of this report, been combined. This specification combines almost all chemical products, as per the above-mentioned HS classification.

4.3.2. Trade figures

The chemicals sector at large is a key sector as it supplies inputs to almost all sectors of the global economy, such as metallurgy, pharmaceutical, veterinary, cosmetic, agriculture, textiles and electronics, among others. This is reflected in the high trade volume of the sector globally, with world chemicals exports reaching USD 2.8 trillion (14.04% of world goods exports).[419] The leading exporters and importers are the United States, China and Germany followed by other large and medium sized economies (See Table 4.9). The global imports and exports of chemicals show a high degree of variation. Plastics and pharmaceutical products dominate the world trade, with exports of USD 592 billion and USD 527 billion respectively. Organic chemicals follow with a smaller share of the total the trade value (USD 378 billion). China and Germany belong to the top five exporters in each sub-sector, but they are joined by other countries such as France, Japan, South Korea, Russia or Ireland further down in the ranking.

Table 4.9 World trade in Chemicals by HS chapter, 2017, US$bn

Rank	Sub-sector	Export value	Sub-sector	Import value
	Exports		Imports	
1.	39 - Plastics	$ 591,81	39 - Plastics	$ 597,93
2.	30 - Pharmaceutical products	$ 526,55	30 - Pharmaceutical products	$ 554,64

[418] The relevant HS codes are: 28 - Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of isotopes; 29 - Organic chemicals; 30 - Pharmaceutical products; 31 – Fertilisers [are phosphates now covered in the scope of this chapter or not?]; 32 - Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints and varnishes; putty and other mastics; inks; 33 - Essential oils and resinoids; perfumery, cosmetic or toilet preparations; 34 - Soap, organic surface-active agents, washing preparations, lubricating preparations, artificial waxes, prepared waxes, polishing or scouring preparations, candles and similar articles, modelling pastes, "dental waxes" and dental preparations with a basis of plaster; 35 - Albuminoidal substances; modified starches; glues; enzymes; 36 - Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations; 37 - Photographic or cinematographic goods; 38 - Miscellaneous chemical products; 39 - Plastics and articles thereof; 40 - Rubber and articles thereof.

[419] Source: UN Comtrade. UN Comtrade splits chemicals (as defined in this study) into "Chemicals" (HS 28-38) and "Plastics and Rubber" (HS39-40). The figures in the main text were thus computed by adding the aggregates provided. These are: world exports of chemicals: USD 1.9 trillion (9.59% world export product share), world exports of plastics and rubber: USD 0.9 trillion (4.45% world export product share), world imports of chemicals: USD 1.7 trillion (9.56% world import product share), world imports of plastics and rubber: USD 0.8 trillion (4.52% world import product share).

Rank	Sub-sector	Export value	Sub-sector	Import value
3.	29 - Organic chemicals	$ 377,80	29 - Organic chemicals	$ 411,04
4.	38 - Chemical products n.e.c.	$ 187,70	38 - Chemical products n.e.c.	$ 195,27
5.	40 - Rubber	$ 184,90	40 - Rubber	$ 190,75
6.	33 - Essential oils and resinoids; perfumery, cosmetic or toilet preparations	$ 129,31	33 - Essential oils and resinoids; perfumery, cosmetic or toilet preparations	$ 125,05
7.	28 - Inorganic chemicals	$ 103,58	28 - Inorganic chemicals	$ 119,10
8.	32 - Tanning or dyeing extracts	$ 79,24	32 - Tanning or dyeing extracts	$ 78,64
9.	34 - Soap	$ 58,91	31 - Fertilizers	$ 58,95
10.	31 - Fertilizers	$ 53,41	34 - Soap	$ 57,50
11.	35 - Albuminoidal substances	$ 28,47	35 - Albuminoidal substances	$ 29,31
12.	37 - Photographic or cinematographic goods	$ 14,62	37 - Photographic or cinematographic goods	$ 14,89
13.	36 - Explosives	$ 4,30	36 - Explosives	$ 4,33

Source: UN Comtrade.

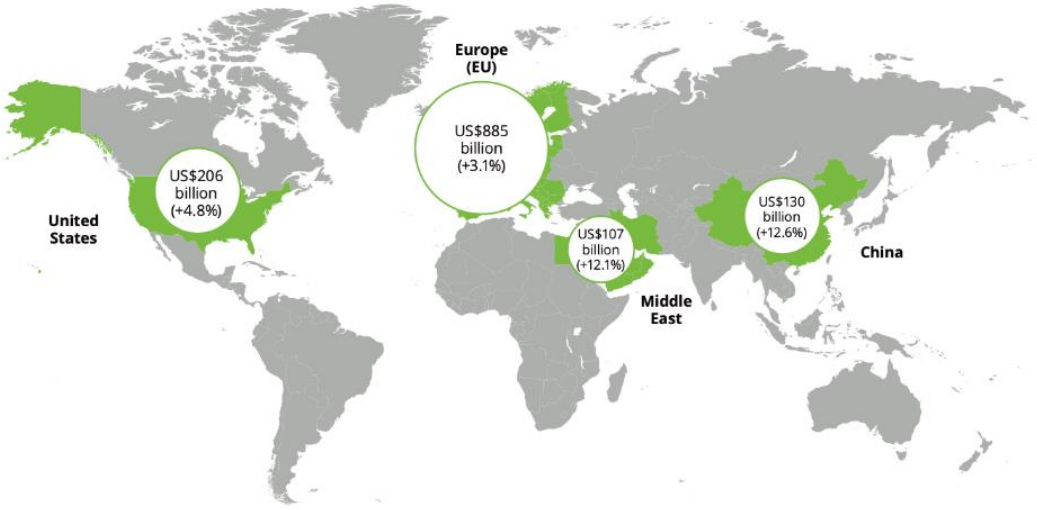
In terms of **exports**, the EU is the largest chemicals exporting region in the world: EU chemicals exports to the rest of the world (intra-EU trade excluded) amounted to €158.3 billion in 2017. The EU area accounts for 23% of world chemicals exports. The four major destinations for EU chemicals are the United States, the rest of Europe[420], the Rest of Asia[421] and China.

The top four largest chemicals exporting regions in the world are the EU, Rest of Asia, the USA and China[422]. Exports from China and the Middle East have been increasing at a much faster pace than exports from the EU or the US, as shown in Figure 4.4 below.

China in particular has seen the strongest growth over the past decade, with rapid investment and intense competition and fragmentation across large numbers of segments. Production technology has been increasingly available, along with financing for new business ventures and upgrading. In recent years the Chinese market has seen a new phase of development, with a clear shift towards specialty chemicals posing a direct competition to EU exports[423]. Mergers and Acquisitions (M&A) activity has also seen substantial developments, with ChemChina's acquisition of Syngenta starting in 2017, the biggest-ever overseas acquisition by a Chinese company[424].

[420] Europe excluding EU; it covers Russia, Norway, Turkey, Switzerland and Ukraine.
[421] Asia excluding China, Japan and Middle East.
[422] https://mce.eu/global-shifts-chemical-industry/.
[423] https://www.mckinsey.com/industries/chemicals/our-insights/chinas-chemical-industry-new-strategies-for-a-new-era.
[424] https://www.caixinglobal.com/2020-02-29/exclusive-chemchinas-syngenta-group-to-seek-china-ipo-by-mid-2022-101522258.html.

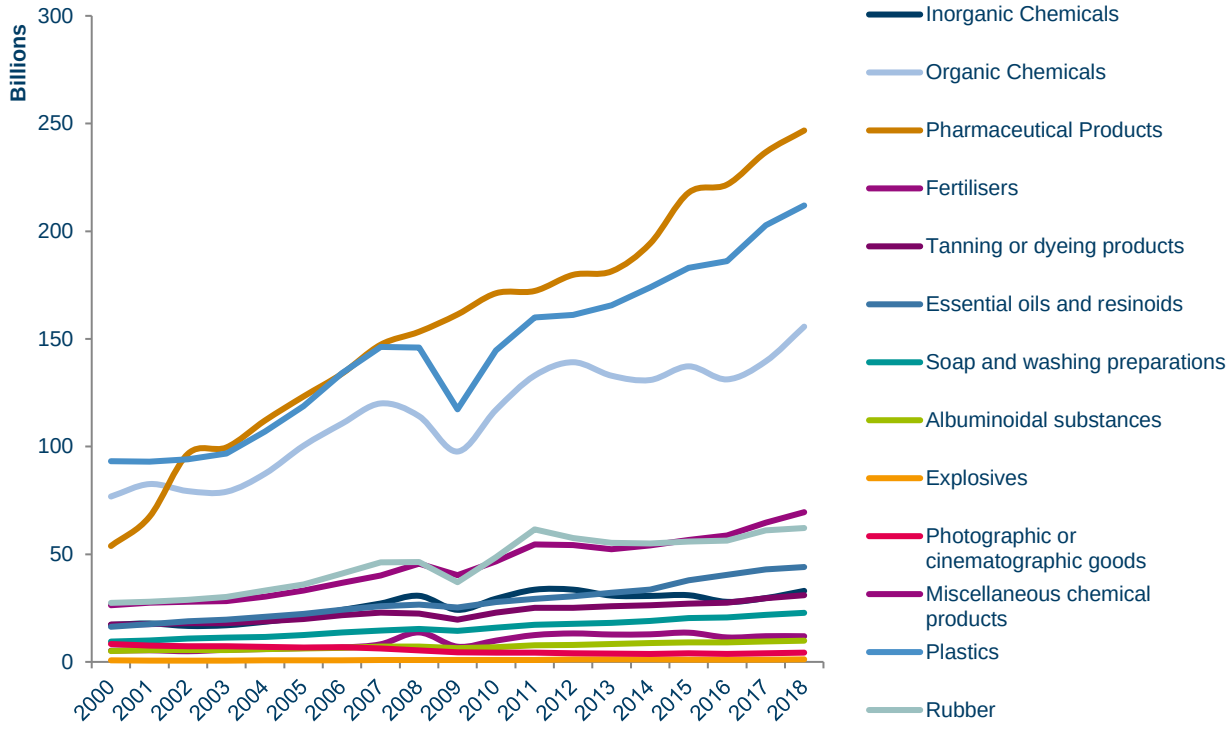
Figure 4.4 Chemical exports (2015) and annual export growth rate (CAGR 2006-2015), selected countries



Source: Chemical Multiverse Report[425].

EU chemical **imports** in 2018 exceeded €900bn. With the exception of 2009, after the global financial crisis, imports have steadily increased, with pharmaceutical products, plastics and organic chemicals being the main drivers of this growth (see Figure 4.5 below). The import growth of several sub-sectors such as albuminoidal substances and photographic goods have been stagnant or decreased over the past two decades, indicating a shift in consumer demand in Europe.

Figure 4.5 EU chemical imports from the world, €bn



Source: Eurostat Easy Comext.

[425] https://www2.deloitte.com/eg/en/pages/consumer-industrial-products/articles/gx-chemical-industry-trends.html.

None of the countries of the Southern Mediterranean are among the leading exporters or importers in the sector or in any of its subsectors. Countries with large domestic oil industries, such as Egypt and Algeria, are also the main exporters of chemicals to the EU, as shown in table 4.12. Other countries, such as Jordan and Lebanon have much lower levels of chemical exports, and also show low levels of chemical imports. Trade flows with the EU, in some cases, are not reflective of the relative ranking of the countries' levels of chemical exports globally (table 4.10 and 4.11).

Table 4.10 Leading exporters and importers of chemicals, excluding polymers (HS 39 and 40), trade volume, €bn in parentheses, 2017

Global rank	Exporters		Importers	
1.	United States (242)		United States (172)	
2.	China (123)		Germany (167)	
3.	Germany (103)		China (111)	
4.	Switzerland (69)		Ireland (89)	
5.	Belgium (65)		France (84)	
	42.	Egypt (8)	41.	Morocco (3)
	50.	Algeria (6)	49.	Egypt (3)
	57.	Morocco (4)	61.	Jordan (2)
	68.	Lebanon (3)	70.	Algeria (1)
	74.	Tunisia (2)	78.	Tunisia (1)
	75.	Jordan (2)	104.	Lebanon (0.2)

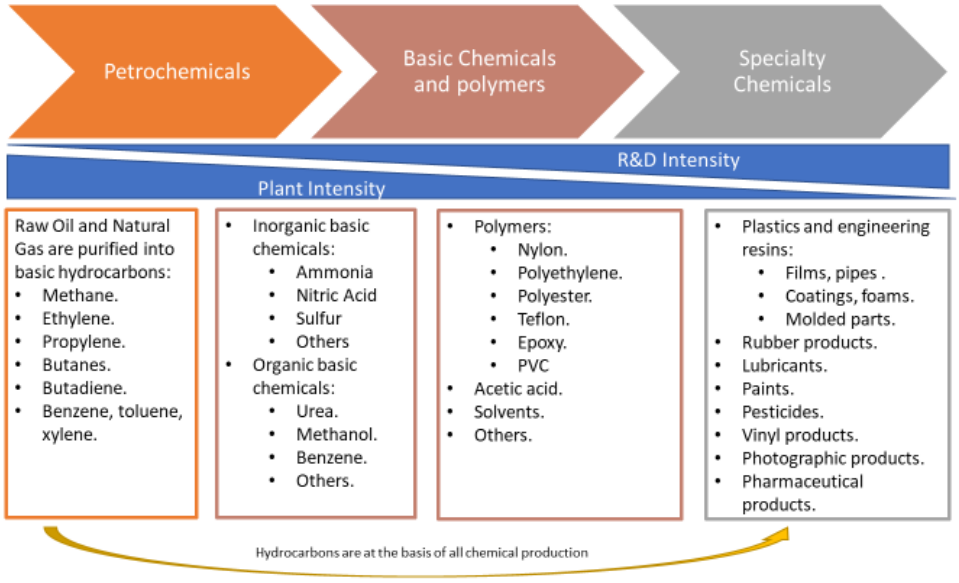
Source: UN Comtrade.

A closer look at value chains

The chemical sector is an extremely diverse sector, with direct links to nearly all other sectors of the economy. Indeed, the products of the chemical industry reach nearly all economic activities, with key chemical inputs used for manufacturing activities. This characteristic represents a challenge in tracing trade developments back to an FTA or to attributing changes in the exports of chemicals to the sector itself. In some countries, much of the increased trade comes from chemicals used in other sectors. Taking a closer look at intra-industry trends, one can delineate a distinct value chain.

Raw materials and petrochemicals, which are mainly minerals and natural ores, oils or gases, are at the base of the production of all chemicals, and the first step in the value chain is the production and processing of basic chemicals, by means of synthesis, distillation, thermal cracking or polymerization. Polymers are the end result of polymerization and are primarily used to produce plastic goods. Polymer by-products are around 80% of the chemical industry's output globally. The remaining 20% of the industry's output is represented by specialty chemicals used in additives, coatings, or pharmaceuticals. These are generally produced in low quantities and at higher prices.

Figure 4.6 Chemical industry sample value chain



Source: Ecorys based on ECHA, Kearney, Logistics View Point: Chemical industry vision 2030: a European perspective.

The last step in the value chain is marketing, distribution and sales of final products[426]. The industry can be differentiated across more general business activities, such as purchase, sale, brokerage of chemical products, logistics, and formulation, conditioning and packaging of products. As presented in figure 4.6, given the large variety of products in the sector, this last step can vary substantially depending on the specific sub-product taken into consideration. The marketing of basic chemicals such as ammonia and urea as well as intermediate products will be very different than marketing customer ready products such as paints, films and rubber tires. Moreover, the typology of transportation and storage of chemicals also varies greatly, depending on the components and relative level of danger associated with the selected product. Within this sector study we single out pharmaceuticals in several instances, as this sub-sector involves a more sophisticated transformation and use of basic chemical products.

4.3.3. Global trends and developments

As briefly presented in the introduction of this case study, China, US, Germany are the most prominent single country chemical exporters and importers worldwide[427]. In recent years there has been a clear global market shift towards Asia, both in terms of exports and imports trends, with major Asian economies gaining prominence in the industry. Examples include India, which gained prominence as a major importer of organic chemicals and Thailand, which became a major exporter of rubber products[428]. According to industry specific studies, the chemical industry's global economic impact in 2017 was substantial, with an estimated total annual contribution to global GDP equal to US$5.7trn, equal to roughly 7% of the world's GDP in 2017[429]. The chemical sector itself directly added US$1.1tn to global GDP in 2017, while directly employing 15m people. This makes it the fifth-largest global manufacturing sector. Within this context, the chemical industry within the Asia-Pacific global region made largest contribution to GDP and job creation worldwide, being attributable for 45% of the total industry global GDP contribution in 2017[430]. Europe and North America follow the Asia Pacific lead, with 23% and 15% of the total industry global GDP contribution respectively in the same year. Moreover, data on global FDI trends also show that investments in chemicals have been very substantial

[426] https://www.technofunc.com/index.php/domain-knowledge/item/business-model-value-chain-of-chemicals-industry.
[427] Although EU countries cumulatively represent the biggest chemical exporter and importer worldwide, as shown later I the report.
[428] UN Comtrade.
[429] World Bank Group WDI data.
[430] According to ICCA, this equals to a total GDP contribution of 2.6 trillion from Asia Pacific's chemical industry to global GDP, of which $1.5 trillion GDP and 60 million jobs coming from China alone. See https://www.icca-chem.org/wp-content/uploads/2019/03/ICCA_EconomicAnalysis_Report_030819.pdf.

worldwide, with USD 87 billion worth of capital invested globally in the sector 95,653 jobs created by the sector between 2018 and 2019.[431]

According to the latest figures, EU chemical production has been slightly negative or at best stagnant during the past years, with limited sales growth (domestic sales and exports). With total manufacturing output in Europe slowing down, especially in the automotive industry and in durable consumer goods, demand for chemical inputs has also decreased. Moreover, the EU contribution to world chemical sales dropped from 33% in 1998, to 26.5% in 2008 and 17% in 2018. The EU gradually lost its top spot in world chemical sales to China, the Middle East and the rest of Asia (excluding Japan). Specialty chemicals, including paints and inks, crop protection, dyes and pigments, and auxiliaries for industry, are the largest sub-sector sold by the EU. In terms of sales structure, Intra-EU sales represent 58% of total EU chemical sales in 2018, while Extra EU sales stood at 29% and Home Sales (i.e. German companies selling products in Germany) at 13%. This downward trend has been occurring in parallel with a shift in production closer to demand markets and sources of inputs. Moreover, high energy prices in the EU, lagging innovation, currency appreciation, high labour costs, and regulatory and tax burdens have further enabled competitor regions such as the Middle East and China to increase their market share.[432]

Moreover, demand from non-European countries in the chemical industry was weaker in 2019 than in the preceding year and does not compensate for lower internal demand. Nevertheless, imports in 2019 increased on year-on-year basis and the positive performance of domestic EU industries such as non-durable consumer goods and construction indicates a likely growth in domestic demand for chemical inputs in the years to come pending the resolution of the current pandemic.[433]

Mergers and acquisitions

The chemical sector is known for the presence of large multinational companies. According to the latest M&A figures, several prominent global deals occurred in recent years within the chemical industry[434]. This includes major developments especially among agrochemical firms such as the dissolution of DowDuPont, which took place in June 2019, resulting in the establishment of three independent companies active in all chemical production sub-categories: Dow, Dupont, and Corteva Agri-science. The take-over of Switzerland's Syngenta by ChemChina which took place between 2017 and 2019, was prompted primarily by China's desire to use Syngenta's portfolio of top tier chemicals and patent protected seeds to improve domestic agricultural outputs. ChemChina-Syngenta represents China's biggest foreign takeover to date[435]. Finally, another major M&A deal which took place over the past years was the Bayer take-over of US agrochemical and agricultural biotechnology giant Monsanto. After gaining US and EU regulatory approval, the sale was completed in June 2018, with Bayer taking over the Monsanto product brand, though maintaining Monsanto's previous product lines' brand names. Some environmental NGOs, especially in Europe, have expressed their concern over these recent M&A developments, mainly because the above-mentioned companies have been previously accused of bio-piracy[436], favouring the introduction of invasive species[437] and pushing environmentally-harmful industrial agriculture in the EU through digital farming.[438]

Chemicals trade between EU and SMC

For the chemicals sector, trade between the SMCs and the EU is only sizeable in some sub-sectors. These are mainly fertilizer related chemical products from Egypt, and to a lesser extent Algeria, plastic products from Tunisia and potassium nitrate from Jordan.

[431] FDI Markets, data over the last 24 months, as of December 2019.
[432] https://cefic.org/app/uploads/2019/01/The-European-Chemical-Industry-Facts-And-Figures-2020.pdf.
[433] https://cefic.org/app/uploads/2019/01/The-European-Chemical-Industry-Facts-And-Figures-2020.pdf.
[434] 2019 Global chemical industry mergers and acquisitions outlook.
See:https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Energy-and-Resources/2019-global-chemicals-ind-mergers-acquisitions-report.pdf.
[435] https://fortune.com/2017/05/05/chemchina-syngenta-deal-acquisition/.
[436] https://www.theguardian.com/science/2000/nov/15/genetics2?INTCMP=SRCH.
[437] https://www.academia.edu/36848516/Genetically_Modified_Organisms_GMOs_as_Invasive_Species.
[438] See: http://www.foeeurope.org/sites/default/files/gmos/2020/foee-digital-farming-paper-feb-2020.pdf.

In terms of trade volume, as of 2017, Egypt was the largest EU partner among the countries in focus. Algeria was the second largest exporter to the EU, although nearly the entirety of its export basket is represented by basic chemicals and direct oil and gas by-products. Jordan has the lowest share of exports to the EU and the second lowest share of imports. The specific share of Jordan's chemical exports heading to the EU is 6 %. Among the other countries, the EU represents over 70 % of all chemical export destinations for Algeria, 45% for Tunisia, 33% for Egypt, 24% for Morocco and 12% for Lebanon.[439]

Table 4.11 Chemical exports to and imports from the EU, trade value, €m in parentheses, 2017 (aggregated data); HS 28-40

Rank	Exports	Imports
1.	Egypt (3.527)	Egypt (1.478)
2.	Algeria (3.256)	Morocco (856)
3.	Morocco (2.895)	Algeria (546)
4.	Tunisia (1.653)	Tunisia (506)
5.	Lebanon (1.096)	Jordan (141)
6.	Jordan (675)	Lebanon (80)
Total EU trade	376.313	237.252

Source: UN Comtrade.

Intra-regional trade between the countries of the Southern Mediterranean is limited, with very low levels of trade in chemicals for most country pairs. Interestingly, large (global) exporting countries like Algeria do not export much to peer countries. The major exceptions are exports from Egypt to Algeria, Jordan, Lebanon and Morocco, valued at approximately € 330 million as well as exports from Jordan to Algeria, Egypt and Lebanon, valued at € 195 million in 2017. Tunisia has also established a comparatively noticeable export of chemicals, mainly to Algeria in 2017.

Table 4.12 Intra-regional trade in Chemicals, 2017, €m

Exports originating from	Imports into					
	Algeria	Egypt	Jordan	Lebanon	Morocco	Tunisia
Algeria	-	0,00	0,08	0,07	10,98	6,58
Egypt	99,66	-	55,93	47,66	77,55	51,87
Jordan	73,32	62,21	-	46,74	1,83	13,00
Lebanon	5,22	8,41	27,68	-	2,49	3,31
Morocco	20,00	1,95	0,38	1,48	-	10,63
Tunisia	90,64	24,56	2,09	3,05	28,77	-

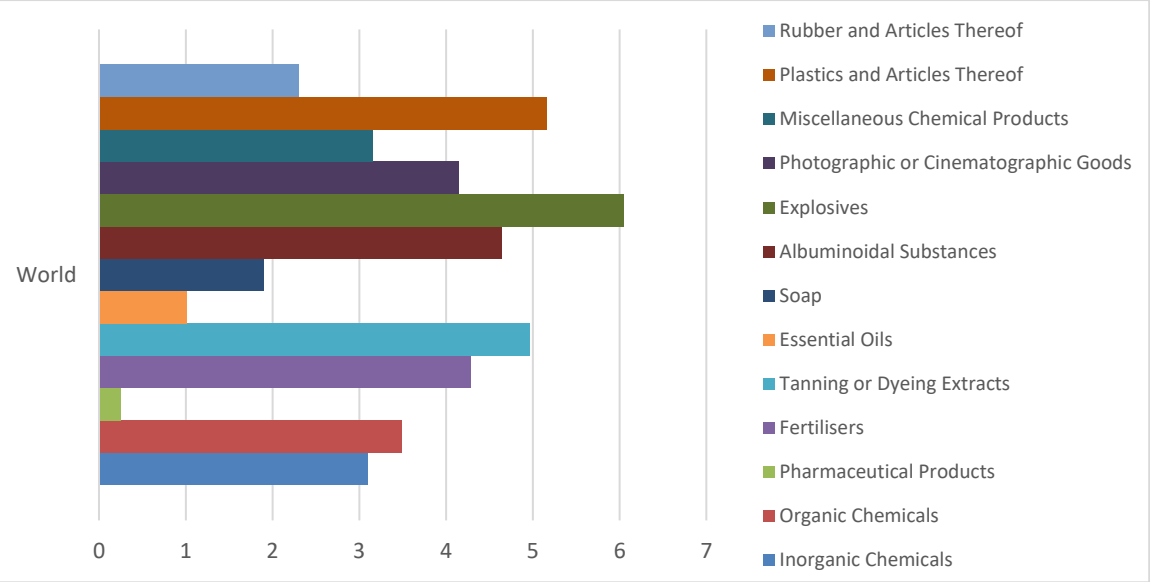
Source: UN Comtrade.

4.3.4. Trade barriers

As shown in figure 4.7, EU tariffs on chemical imports vary greatly across the spectrum of industry products. On average, the highest tariffs are placed on explosives, above 6%, while plastics and dyeing products are subject to a 5% tariff. Fertilizers, albuminoidal products (glues and modified starches) and photographic goods are subject to a lower tariff rate, approximately 4 to 4,5 %, while remaining chemical product lines are subject to tariffs equal to approximately 3,5 % or below. Pharmaceuticals, however, generally present very low to no tariffs. EU tariffs on chemicals for the SMCs are zero as a result of the FTAs. Therefore, they enjoy preferential access compared to other suppliers to the EU market[440]. Moreover, as shown in figure 3.9 in the Economic Analysis chapter of this study, within the chemicals sector preferential margins in accessing the EU since the entry into force of the FTAs has increased overtime for all SMCs, except Tunisia.

[439] See: Atlas of Economic Complexity.
[440] Exception to this is Egypt, with a tariff of 0,01% on albuminoidal substances.

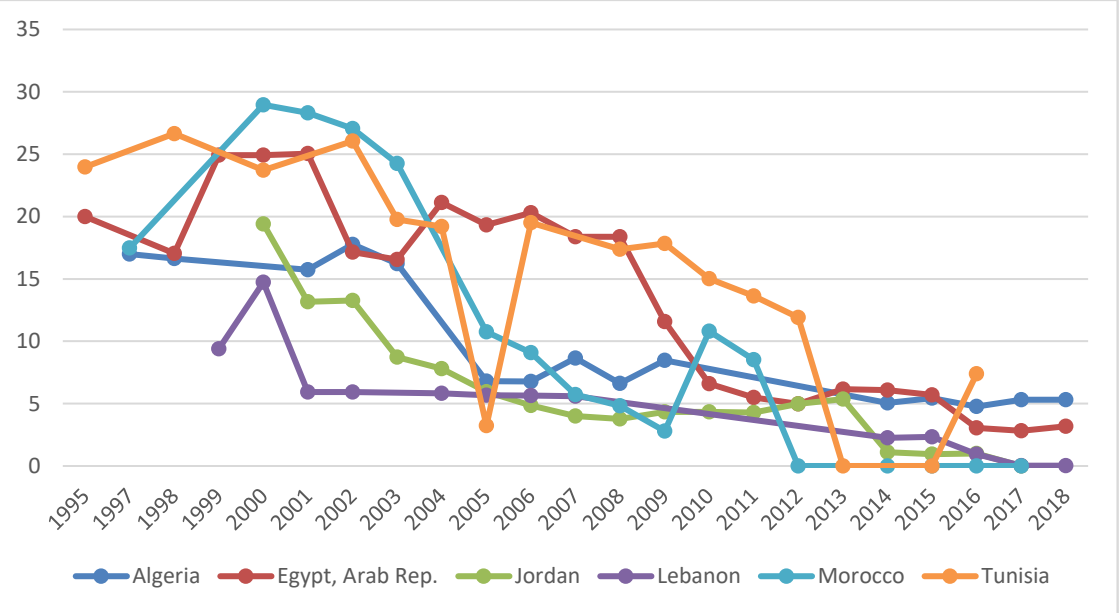
Figure 4.7 EU tariffs on chemicals, %, 2017



Source: UNCTAD TRAINS.

Figure 4.8 shows that SMC tariffs on EU chemical imports have decreased substantially in the past two decades across all chemical products. As presented in section 3.3 of this report, while a phasing out of SMC tariffs was agreed with EU to be finalized by 2017, in 2012 an extension was granted, leading to several tariffs still being in place (until 2020). In 2018, or in the latest reported year, countries such as Jordan, Lebanon and Morocco reported average tariffs for EU imports between 0 and 1%. Most products have been seeing decreasing tariff rates over time for all countries. However, the rates for soap and essential oils, as well as rubber, have remained quite high. In 2018, essential oils imported into Egypt had a tariff rate of 44.32% and in Algeria 19.1%. Soap has been subject to the highest tariffs in Tunisia, with a rate of 18.12%. Jordan and Lebanon have the lowest rates over all chemicals. The highest tariff rate in Lebanon in 2018 was 3.69%, whilst Jordan taxed rubber highest, at 7.64%, which is by far the highest rate among all chemicals in the country.

Figure 4.8 Development of SMC Tariffs on imports of EU Chemicals



Source: Computed average per SMC, UNCTAD TRAINS.

Rules of Origin

All countries in the Pan Euro Mediterranean (PEM) system of rules of origin have FTAs with each other and follow the same Rules of Origin (RoOs). This harmonized system of RoOs is meant to

simplify trading within the network. Moreover, given that two parties to an FTA can treat each other's goods as domestically produced and that the same RoOs are applied, raw materials and intermediary products can be imported by e.g. EU countries from third parties and the finished product will qualify as being of "EU origin" and then can be exported to other EU countries at a preferential rate.[441]

Specific rules of origin apply to chemical products coming from the Southern Mediterranean countries in question[442]. The rules of origin for chemical products are generally determined at the HS2 or HS4 categorization level and differ slightly based on specific products[443]. Nevertheless, the following rules are generally applied: manufacture or processing of any materials of a different HS heading (than that of the product in question) confers originating status to the product in question. If materials of the same heading are used, their total value must not exceed 20% (in a few cases up to 50%) of the ex-works' price of the product. Manufacture in which the value of the materials does not exceed 40% (sometimes 25%) of the ex-works' price of the product qualifies as a product of origin as well. Moreover, higher or lower percentages can be found for some specific products, as well as some exceptions to the EuroMed FTA RoOs altogether.[444]

Non-tariff barriers

Non-tariff barriers are policy measures, including tariffs and quotas, can have a direct impact on the price and quantity of trade products.[445] Countries around the world have applied various types of non-tariff barriers to achieve different policy objectives. Such barriers can be broadly differentiated into two types: technical measures, which include standards and certifications schemes (TBT), and non-technical measures, which include forced logistics. Among non-tariff barriers related to chemicals, it is also worthwhile to highlight inefficiencies in the regulatory and administrative processes, local content rules, as well as safety and health standards issues concerning especially pharmaceutical products[446]. In regard to the latter, patents can also represent a specific non-tariff barrier for Southern Mediterranean companies willing to export to the EU[447]. Patent laws in the EU forbid the same patented non-EU products to be sold on the EU market. SMCs can however produce and set up their value chains and subsequently sell in the EU when the respective patents expire. More details can be found below in each country sub-section of this case study.

4.3.5. Opportunities for the South Mediterranean countries

In principle, there are significant opportunities in the chemical sector for the countries of the southern Mediterranean. Located in close geographic proximity to a major chemical manufacturer and importer, the European Union, they could exploit advantages such as preferential market access, cost advantages and, in some cases, a large and well-educated labour force. As shown in the previous section, in all SMC's, the tariffs have decreased across most product categories. This has created the potential for cheaper access to high-quality chemicals from the EU, which SMC producers can use to sell higher-value products on the domestic market and export to third countries, with product categories having different degrees of complexity. For individual SMCs, tariffs towards EU imports dropped for essential oils and soap in Jordan, Lebanon and Morocco. In both Algeria and Egypt, tariffs on plastics and rubber witnessed a significant drop, though, as of 2018, the countries still applied double digit tariffs on products such as essential oils, soap, organic surface-active agents and albuminoidal substances. Rubber also saw a significant drop in applied tariffs in Jordan, while Tunisia saw the steepest drops in fertilisers, soap, and photographic equipment.

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[441] https://www.nepic.co.uk/wp-content/uploads/2018/12/Chemicals-Roadshow-Rules-of-Origin-Distribution-Slides.pdf.

[442] https://trade.ec.europa.eu/tradehelp/myexport#?product=3102000000&partner=DZ&reporter=NL&tab=100.

[443] See: https://trade.ec.europa.eu/tradehelp/myexport#?product=3102101000&partner=DZ&reporter=AT&tab=100.

[444] See: https://trade.ec.europa.eu/tradehelp/myexport#?product=3102101000&partner=DZ&reporter=AT&tab=100.

[445] See: https://www.oecd.org/trade/topics/non-tariff-measures/.

[446] https://www.americanchemistry.com/Policy/Trade/Keys-to-Export-Growth-for-the-Chemical-Sector.pdf.

[447] See: https://unctad.org/en/PublicationsLibrary/ditctab2019d5_en.pdf.

Moreover, considering the global market trends presented above, with fast growth in EU imports in higher value sub-sectors such as pharmaceuticals and plastics, the SMCs can leverage their preferential access to cheaper, higher quality inputs from the EU. The pharmaceutical sector is a case in point, considering this is the fastest growing chemical sub-sector among EU imports, with high-complexity products.

Pharmaceutical sector

The global pharmaceutical market reached US$1.2trn in sales in 2018 and will likely exceed US$1.5trn by 2023 growing at a 3–6% compound annual growth rate over the next five years[448]. The key drivers of growth will continue to be the United States and emerging markets with 4–7% and 5–8% compound annual growth, respectively. In the United States, overall spending growth on pharmaceuticals is driven by a range of factors including new product uptake and brand pricing, while it is offset by patent expiries and generics. Historically, the industry is known for its stable growth and profitability. This growth is expected to continue, although strong competition and political pressure for affordable medicines have decreased margins and profitability. Prescription drug sales is expected to reach US$1.2trn in 2024, due to novel therapies addressing key needs, as well as increasing access to medicines globally according to key industry reports.[449]

The industry is research intensive, highly innovative and requires a delicate balance between human capital and access to technology. The essential position of R&D for the sector is visible in the general distinction made in two types of pharmaceutical companies: originator companies and generic companies.

Originator companies undertake research into new pharmaceuticals, develop them from the laboratory to marketing authorisation and sell them on the market. The process up to the introduction of new medicines on the market is lengthy and includes cost-intensive R&D. Only one to two in every 10,000 substances synthesized in laboratories becomes an approved and marketed medicine. The total costs of researching and developing a new medicine easily surpasses €1bn[450].

Generic companies use a business model aimed at the development of a medicine which is identical or equivalent to (already existing) originator products. Generic companies market their products as soon as the originator product encounters loss of exclusivity for data obtained in costly clinical trials, and their products are sold at a much lower price than the original product. The difference between these two types of pharmaceutical companies is clearly visible when comparing the average cost structure (see table 4.13)[451],[452]. The sample cost structure below reflects the differences between the two types of pharmaceutical firms[453].

Table 4.13 Cost structure of originators and generic companies (% of turnover)

	Marketing, promotion	Manufacturing	R&D	General adm. and overhead	Distri-bution	Others
Originators	21%	21%	18%	7%	1%	2%
Generics	13%	51%	7%	6%	3%	1%

Source: European Commission. (2009) Pharmaceutical Sector Inquiry: Final Report. Based on a sample of 32 originators and 16 generics.

The pharmaceutical sector in southern Mediterranean countries

[448] See https://www.iqvia.com/insights/the-iqvia-institute/reports/the-global-use-of-medicine-in-2019-and-outlook-to-2023.
[449] EvaluatePharma World Preview 2018, Outlook to 2024. See https://www.pharmastar.it/binary_files/allegati/Report_Evaluate_Pharma_81701.pdf.
[450] European Commission. (2012) Pharmaceuticals Sector Fiche (16.12.2011).
[451] Ecorys. (2009) Competitiveness of the EU: Market and Industry for Pharmaceuticals: Volume II: Markets, Innovation & regulation.
[452] See: https://www.mckinsey.com/~/media/mckinsey/dotcom/client_service/pharma%20and%20medical%20products/pmp%20new/pdfs/generating%20value%20in%20generics_final.ashx.
[453] https://ec.europa.eu/competition/sectors/pharmaceuticals/inquiry/staff_working_paper_part1.pdf.

As shown in figure 4.5 above, the pharmaceutical sector has been the single fastest growing imported subsector among EU countries. The pharmaceutical sector has witnessed strong growth in Algeria, Egypt, Jordan and Tunisia, however most domestic companies operating in the sectors are generic firms, with very limited investments in R&D and high value-added jobs. While the four countries have exports of pharmaceutical which are just a small portion of total chemical exports, all four have shown strong ambitions in recent years to increase pharmaceutical exports and their footprint in the EU as well as Africa. However, factors such as such as low security and safety, limited regulatory predictability and overall unconducive investment climates has limited foreign direct investments in the region[454].

Tunisia is home to 39 drug manufacturing companies, which primarily operate as joint ventures with international firms. Adwya is the largest local drug manufacturer, followed by Unimed, Sanofi Tunisie, Teriak and Opalia. Most companies are generic focused and were founded by local professionals following the sector's privatization in the 1990s and the introduction of favourable tax incentives, including exemption from import duties, tax breaks and improved conditions for public bids. While many Tunisian companies are increasingly eying export markets, with an emphasis on Francophone countries in Africa, they face issues such as lack of infrastructure allowing for direct air connections, maritime routes or business events that would allow them to fully tap into the potential of African countries."[455] Moreover, while many companies operating in Tunisia are also registered in the EU, the rapidly changing market environment with new drug launches has not translated in direct opportunities for Tunisian pharmaceutical firms.

Egypt's sales stood at EGP44.7bn in 2019, with a growth rate of 8%, and are expected to reach EGP56.6bn by 2022. Egypt is the largest populated country in the Middle East region, with a population of 100m, making it a large market for pharmaceuticals and healthcare services.[456] Hence, the current government aims to attract market seeking FDI as an omen to benefit from technology spill overs for the local industry[457].

Jordan stands out in terms of competitiveness of its pharmaceutical sector. The sector has been of specific interest to Jordanian policy makers, being a knowledge intensive, human capital intensive and export-oriented sector[458]. The 2015-2019 National Health Strategy for the Health Sector in Jordan showcases the willingness of the government to promote the country as a regional centre for health tourism and incorporates objectives to strengthen the national pharmaceutical industry[459]. As a result, the country has become more attractive for cross-border acquisition and strategic partnerships[460]. Regarding input, however, nearly all pharmaceutical material intermediate inputs for manufacturing are imported, mostly originating from China, India, the US, and the EU[461]. However, most companies operating in Jordan are still focused on generics and have not yet been able to tap into the EU market as an export destination.

Patents

Intellectual property rights (IPRs), and more specifically patents, have been increasingly used over the past two decades particularly in industries where knowledge, innovation and appropriability play a key role. Reforms in the national and international legal frameworks that have resulted in the strengthening of IPRs, have specifically involved sectors such as chemicals, biotechnology and pharmaceuticals [462].

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[454] See:http://documents.worldbank.org/curated/en/727941530222301892/Investment-motivation-survey-summary-report.
[455] https://oxfordbusinessgroup.com/analysis/good-shape-local-pharmaceutical-industry-looking-export-more.
[456] https://www.egypttoday.com/Article/3/77836/Pharmaceutical-sales-hit-LE-44-7B-in-2019.
[457] https://foreignpolicy.com/sponsored/the-new-egypt-attractive-fdi-environment/.
[458] Sharabati, A.A. and Jawad, S.N. (2010) Intellectual capital and business performance in the pharmaceutical sector of Jordan. In Management Decision, 48(1), pp. 105-131.
[459] See : https://extranet.who.int/countryplanningcycles/sites/default/files/planning_cycle_repository/jordan/jordan_national_health_sector_strategy_2015-2019_.pdf.
[460] Jordan's Competitiveness report 2007. Chapter 3: Pharmaceuticals.
[461] Ayoub, R. and Qadoumi, H. (2007) Pharmaceuticals in Jordan: Sectoral report. Awraq investments, Research division.
[462] See: https://www.wipo.int/export/sites/www/ip-development/en/economics/pdf/wo_1012_e.pdf.

Patents and IPRs are key factors determining R&D pharmaceutical investment decisions worldwide as well as fair access to medicines[463]. Patents are valid in a certain geographical region only. For this reason, the manufacturing and marketing of a pharmaceutical products can be prohibited in the EU, while being allowed outside the EU. This theoretically opens up the opportunity to manufacturing outside the EU a product which is then still protected in the EU. Once the IP rights expire in the EU, the non-EU producer can then immediately enter the EU market with its ready-made product. In this way, the non-EU producers have an advantage compared to EU producers. A number of Jordanian pharmaceutical companies have attempted to make use of this strategy in entering the EU market but have been unsuccessful so far.

Regarding the pharmaceutical sector, effects of the existing FTAs are likely to result from changes in IP protection. In line with the EU goal of including IPR sections in bilateral trade agreements which aim at (where possible) similar levels of IPR protection to that existing in the EU[464], SMCs are in the process of aligning their IP protection with EU standards. As some countries increase their IPRs restrictions, proponents of increased IPRs protection in countries with a pharmaceutical sector focused on generics, argue that such an increase results in a sector that is more competitive, more innovating and results in a higher availability of drugs. The line of argument is that a high protection increases the presence of MNE originators from developed countries such as from the US, EU and Japan. Through their FDI, strategic alliances and cooperation, innovation in the sector is promoted, technological spillovers occur and human capital investments will follow[465].

Opponents of higher IP protection argue that the abovementioned spillover effects tend not to occur. Instead, the protection of originator drugs reduces the possibilities of the local companies to manufacture and market generics, therefore losing part of their market. Furthermore, the higher and longer protection of intellectual property means a delay of generics which are easily 30-50 % cheaper than the originator drugs[466]. IP protection is therefore argued to lead to higher prices of medicines, reducing the local access to medicines, especially for vulnerable groups.[467]

IPRs and patent policies are a key factor in facilitating pharmaceutical investments in the region. Southern Mediterranean countries must carefully choose the right degree of IPRs protection in order to facilitate FDI from multinational corporations, which in turn can create positive R&D spill over effects with local enterprises and boost knowledge intensive employment.

4.3.6. Environmental impacts of the chemical sector in Southern Mediterranean countries

While this study has been primarily focused on the recent trends and potential impacts of the FTAs on the chemical sector in the focus countries, it is of paramount importance to mention the potential negative impacts of the industry's related activities. While chemical substances and their derivatives are vital in many economic activities including health, agriculture, mining and industry, the large-scale production and use of chemicals has been accompanied by the release into the environment of many types of dangerous substances over the course of history[468]. This has often resulted in the exposure of humans to levels of chemicals that cause adverse impacts on health and the environment[469].

As mentioned in Section 6.3 of this report, Algeria, Egypt, Jordan and Tunisia still face a number of environmental challenges. Issues of environmental concern have been recorded across the four selected countries. According to a WHO survey, when Algerian authorities were asked about chemical stockpiles and contaminated sites in the country in 2003, they reported 145 contaminated sites with 3.44 tonnes of polychlorinated biphenyls (PCBs), 1,731 tonnes of

[463] See: https://trade.ec.europa.eu/doclib/docs/2015/october/tradoc_153873.pdf.
[464] See http://ec.europa.eu/trade/policy/accessing-markets/intellectual-property/.
[465] See: OECD. (2002) Foreign Direct Investment for Development: Maximising benefits, minimizing costs.
[466] Heimler, A. The Pharmaceutical Industry and Parallel Trade.
[467] See: https://trade.ec.europa.eu/doclib/docs/2015/october/tradoc_153873.pdf.
[468] See: WHO (2016) The Public Health Impact Of Chemicals: Knowns And Unknowns.
[469] WHO, Chemicals of public health concern and their management in the African region. See: https://www.afro.who.int/sites/default/files/2017-06/9789290232810.pdf.

pesticides and toxic equivalents (TEQ) 22,642.32/year of dioxins and furans[470][471]. PCBs are generally used in many different products, ranging from electrical equipment, to adhesives and paints and may be released into the environment, for instance, when waste that contains PCBs is incinerated or stored in landfills. Humans can be exposed to PCBs predominantly through food consumption as PCBs can contaminate rivers and lakes and attach to sediments where they can remain buried for a long time[472]. While more recent and specific data is not available for Algeria in particular, such findings indicate how the industry's environmental impacts should be monitored in order to safeguard public health.

Water pollution is also a major issue concerning several countries globally. Egypt and the Middle East have not been exempted from this problem. Agriculture remains one of the principal sources of revenue in Egypt, and chemical products including pesticides have been increasingly used in production activities. This has resulted in high concentrations of pesticides being found in the Nile and in the Rosetta and Damietta branches, as drainage wastewater from farming and industrial processing sites is released through drains into the river and its Delta. These discharges have increased concentration of heavy metals and toxins such as lindane, DDT[473], and HCB[474] in Egyptian riverways, contaminating fish stocks and water reserves[475].

Water scarcity and quality are serious environmental issues for Jordan and Tunisia as well[476]. The annual average of water availability in Tunisia is 465 m3 per capita which is well below the water poverty threshold of 1,000 m3 per capita per year (FAO, 2009) and classifies the country in situation of absolute scarcity. Water pollution, notably chemical and bacteriological contamination is a notable issue in Tunisia. Growth in agricultural output is likely to further increase water scarcity, due to use of irrigation in the sector. The expansion of the sector may also negatively affect water quality, e.g. through salinization or increased use of fertilizers.[477]

In order to fully appreciate the effects of the FTAs, the economic and commercial performance of the chemical sector in the selected countries has to be measured, to the extent possible, against the environmental impacts of the industry.

4.3.7. Industrial and Innovation Policies across SMCs

The SMCs taken into consideration for this case study have introduced a limited set of specific policies to support industrial development and innovation in the chemical sector. The SMCs have achieved some degree of structural transformation over time; in particular moving from the agricultural-based sector towards services and industrial sectors. Our sectoral evaluation indicates that limited diversification has occurred within the sector, with the exception of Tunisia. Furthermore, our analysis of industrial polices across these SMCs indicates that support programs actually had little sectoral selectivity.

For the purposes of this case study, we refer to vertical industrial policies, or policies which are designed to support the development of specific economic activities. Such policies may entail trade protections, directed allocation of credit, subsidized interest rates, various forms of tax and financial incentives or special rules in public procurement that favour domestic suppliers.

In Algeria industrial policy over the course of the past decade has been increasingly focused on Local Content Requirements (LCRs) and investment incentives. In January 2013, the parliament approved the introduction of fiscal incentives to attract foreign companies and encourage new

[470] See: https://www.afro.who.int/sites/default/files/2017-06/9789290232810.pdf.
[471] Toxic equivalency factor (TEF) expresses the toxicity of dioxins, furans and PCBs. With the TEFs, the toxicity of a mixture of dioxins and dioxin-like compounds can be expressed in a single number - the toxic equivalency (TEQ). See: 2005 World Health Organization re-evaluation of human and mammalian toxic equivalency factors for dioxins and dioxin-like compounds.
[472] See: http://www.inchem.org/documents/cicads/cicads/cicad55.htm.
[473] Synthetic organic compound used as an insecticide. Like other chlorinated aromatic hydrocarbons, DDT tends to persist in the environment and become concentrated in animals at the head of the food chain.
[474] hexachlorobenzene, a toxic fungicide used as a seed treatment.
[475] Dahshan, Hesham & Megahed, Ayman & Abd-Elall, Amr & Abd-El-Kader, M.A.-G & Nabawy, Ehab & Elbana, Mariam. (2016). Monitoring of pesticides water pollution-The Egyptian River Nile. Journal of Environmental Health Science and Engineering.
[476] Tarawneh, Nidal. (2007). Environmental Issues in Jordan, Solutions and Recommendations. American Journal of Environmental Sciences.
[477] See: http://trade.ec.europa.eu/doclib/docs/2013/november/tradoc_151923.pdf.

ventures, particularly in the offshore exploration of shale gas. The Algerian government has stressed the importance of involving foreign partners to increase oil and gas reserves and explore new territories. Algeria opened a new set of oil and gas fields to international bidders in January 2014[478]. Moreover, In an effort to limit international competition and favour local industries in the chemical sector, the government of Algeria has been introducing policies such as import restrictions on several hundreds of goods and raw materials (Executive Decree n°18-02, January 2018), ranging from mixtures of odoriferous substances to plastics (including sheets, film, foil and packaging)[479].

While such measures might prove to appease some local producers, they have not been very conducive to diversification within the chemical sector, where the production and export of basic chemicals is dominant and (cheaper) access to imported inputs could facilitate the competitiveness of local firms. With most tax incentives being offered to investors within the oil and gas sector, this foregone revenue limits the possibilities to provide incentives targeting foreign or domestic investors in the chemical industry. Effective measures addressing challenges for innovative and nascent firms in the sector, including access to finance and export assistance, are also currently lacking in the country. Furthermore, based on the findings of our analysis, the government of Algeria has not adopted a comprehensive innovation strategy for SMEs within this sector, which in turn could spur growth in areas within higher complexity sub-sectors such as plastics and pharmaceuticals.

In Egypt, the Industry and Trade Development Strategy set forth in 2015 by the country's Ministry of Industry clearly identifies the chemical sector as one of the "selected sectors to deepen the industry, rationalize imports and increase exports''. As mentioned in the specific country section, In 2002, the Government of Egypt introduced a 20-year, USD 10 billion national plan to increase local chemical production expand the capacity to export intermediate and final products.[480] In the past years, however, the level of innovation and diversification within the sector have remained low, with limited technology transfers from R&D institutes to enterprises. Furthermore, the implementation of the Industry and Trade Strategy has not included measures such as tax exemptions offered to companies on any expenditure related R&D.[481] Firms also tend to struggle in finding investors, as the government does not seem to provide much support in that regard, especially in terms of investment promotion policies and match-making services.

While no specific industrial policy has been put in place for the chemical sector in Jordan, much focus has been placed in the past decades on both health tourism and the development of the pharmaceutical industry. The National Health Strategy for the Health Sector launched by the High Health Council (HHC) in 2015, is a 5 year strategy with four key goals: ensuring provision of high-quality health care services, boosting investment in the health system, raising levels of medical and health tourism, and upgrading local production of pharmaceuticals. Nevertheless, our research findings show that one of the main factors which poses an obstacle for further development of higher value added sub-chemical sectors in Jordan is the country's immigration policy. Jordan's immigration system has historically been very liberal for low-skilled workers, while being very restrictive for high-skilled labour. Studies have shown that this can keep the economy from acquiring specific skills and experience that could be secured from the global labour market. Econometric research and firm interviews provide strong suggestive evidence that this policy constraint is suppressing growth of high-skill, tradable services in Jordan that would otherwise be poised to grow.[482]

Through the National Industrial Strategy 2016 (Stratégie industrielle nationale à horizon 2016), Tunisia has tried to move toward higher-value added production and a knowledge intensive

[478] https://www.privacyshield.gov/article?id=Algeria-Oil-and-Gas-Hydrocarbons.
[479] The 2018 bans are still in place, with a few exceptions where bans were removed in the fourth quarter of 2019. https://www.globaltradealert.org/state-act/29680/algeria-the-government-temporarily-suspends-the-import-of-851-product-types.
[480] https://www.globalmarketsinternational.com/latestmarketpost/egypt-chemical-industry-companies-projects-petrochemical-agrochemical-pharmaceutical/.
[481] See:http://www.mti.gov.eg/English/MediaCenter/News/PublishingImages/Pages/2017-Strategy/2017%20Strategy.pdf.
[482] https://growthlab.cid.harvard.edu/files/growthlab/files/2019-02-28-cid-wp-346-jordan-growth-strategy-revised.pdf.

economy in an effort to absorb the increasing number of unemployed graduates. While the strategy does not provide specific policies for the chemicals sector, it targets a wide range of different groups such as exporters, foreign investors, small and medium-size enterprises, and specific high-value added sectors, including chemicals. Numerous instruments have been mobilized to support firms, ranging from market-access restrictions to protect incumbents, tax incentives, and horizontal and sector-specific programs and support institutions. In addition to abundant duplication and overlap, many support programs are distortionary because they largely extend support to selected firms rather than providing horizontal sector-wide support to sectors. As a result, firms—even within preferred sectors— often face an uneven playing field, which could to discourage firm entry and lower productivity growth.[483]

4.3.8. Market Surveillance

Concerning the chemicals sector, SMCs have in place different systems of market surveillance through various governmental bodies. In Algeria entities which are involved in market surveillance include the Environmental Policy Department within the Ministry of Regional Planning and the environment, as well as the Environment Departments of Local Governments (DEW), and the Environmental Monitoring Agency (ONEDD). In the pharmaceutical sub-sector, The Directorate of Pharmacy and Medicine oversees the registrations and licensing management for market access. Moreover, all regulated products imported into Algeria have to meet the mandatory quality, safety, and security requirements as per the Algerian technical regulations and standards approved by IANOR (Institut Algérien de Normalisation).
In Egypt, the market for chemical products is characterized by extensive government regulation. The Egyptian Organization for Standardization & Quality has a testing department for chemical products and building materials[484]. The regulatory authority for pharmaceuticals is the Egyptian Drug Authority, which belongs to the Ministry of Health[485]. Manufacturers and importers of dietary supplements, medicines and their raw materials (active ingredients and precursors), biocidal products, cosmetics, medical equipment, and aids must register their products with the Central Administration of Pharmaceutical Affairs (CAPA) in the Ministry of Health in order to obtain marketing authorization. Depending on the nature of the goods, various documents may be required for the registration application, including a certificate of analysis, a manufacturer's declaration of conformity, an over-the-counter sales certificate, proof of good manufacturing practice and CAPA price approval for pharmaceuticals.

In Jordan The Ministry of Health (MOH) supervises the medical device's Regulatory system in the region through Jordanian Food and Drug Administration (JFDA). Though manufacturers can obtain registrations, approvals, and market authorizations in short timeframes, the challenge they might face is with the timely updated guidelines of MOH.

In Tunisia, the National Environmental Protection Agency (ANPE) is called upon performing technical, legal, administrative, training and certification activities for several chemical products. Moreover, pharmaceutical manufacturers willing to enter the market must obtain the Authorization for Market Commercialization (AMC) from the Directorate of Pharmacy and Pharmaceuticals (DPM) of the Republic of Tunisia.

4.4. Machinery & transport equipment

This case study focuses on the machinery & transport equipment sector and is divided in distinct sub-sections. The first section, provides a definition of the sector, thereafter the case study presents trade figures, an analysis of value chains, and trade barriers. Finally, an overview over opportunities as well as information on industrial and innovation policies and market surveillance practices in the SMCs is provided.

A country-level analysis for the machinery and transport equipment sector in Algeria, Egypt, Morocco, and Tunisia can be found in Annex E Part 1.

4.4.1. Global definition and coverage

[483] http://documents1.worldbank.org/curated/en/658461468312323813/pdf/861790DPR0P12800Box385314B00PUBLIC0.pdf.
[484] http://www.eos.org.eg.
[485] http://www.eda.mohp.gov.eg.

The machinery and transport equipment sector, as defined in this sector case study, includes four broad subsectors. These subsectors are electric or mechanic machinery, motor vehicles, and other transportation equipment such as aircrafts, railways and ships. For practical reasons, our analysis, unless otherwise noted, is based on the HS chapters 84 to 89.[486]

The economic modelling provided by DG Trade is based on the GTAP model. It splits the sector into electronic equipment (ele), motor vehicles and parts (mvh), other transport equipment (otn) and other machinery and equipment n.e.c. (ome). We exclude, in particular, metals and metal products (for comparison with the CGE modelling results in Chapter 4 GTAP codes: i_s, nfm and fmp), as being mainly concerned with providing raw materials to the sector, and other manufactures (lum, ppp, omf, ely, gdt), as being mainly concerned with wood and paper products, as well as gas and electricity production and distribution. These GTAP codes correspond to 1242 HS lines at the six-digit level. With only a few exceptions these are mainly chapters 84 and 85 (machinery and electrical) and 86 to 89 (transportation equipment) of the Harmonized System. The few products that are included in the economic modelling, but not the chosen range of the Harmonized System, are a few highly specific industrial products, optical products, clocks and watches or arms and ammunition, categorized in GTAP as machinery and equipment n.e.c.

4.4.2. Trade figures

Machinery and transport equipment is a key manufacturing sector, producing a wide range of often highly differentiated products. These are highly tradeable, with global exports of this sector of USD 6.432 trillion and global imports of US$6.52trn in 2017.[487] The leading exporters and importers tend to be China, Germany and the United States, followed by other large economies (See Table 4.14). However, reflecting the diversity within the sector, there is also considerable variation across subsectors. Of these, electrical and mechanical machinery as well as vehicles are the largest, with global exports of US$2.49trn and US$2.03trn in 2017 respectively. Exports are dominated by China, Germany, and the US, but also Italy, Japan and South Korea.[488] Among transport equipment, vehicles are by far the largest export, worth US$1.42trn. Aircraft (US$328bn), ships and vessels (US$131bn), and, after a significant drop, railways (US$36bn) follow.

None of the countries of the Southern Mediterranean are among the leading exporters or importers in the sector or in any of its subsectors. In general, imports are roughly in line with what should be expected by the size of the economies as a percentage of their GDP. With regards to exports, Morocco stands out in two key industries, automotive and aerospace, and the aerospace industry is also relatively strong in Tunisia and Jordan. Both Morocco and Tunisia are strong exporters in the electrical machinery industry. Apart from these few sectors, export performance is almost uniformly weak. However, in some cases low exports do not equate with low production or a small sector. For example, while Algeria has almost no automotive exports, the automotive sector in the country is relatively large, even if almost entirely oriented towards the domestic market.

Table 4.14 Leading exporters and importers of machinery & transport equipment, 2017

Global Rank	84 – Mechanical machinery	85 – Electrical machinery	86 – Railway	87 - Automotive	88 – Aircraft	89 – Ships
	Exporters					
1.	China	China	China	Germany	USA	South Korea
2.	Germany	USA	Germany	Japan	France	China
3.	USA	South Korea	USA	USA	Germany	Japan
4.	Japan	Germany	Mexico	Mexico	UK	Germany

[486] Note on sectors: 84 – Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof; 85 – Electrical machinery and equipment and parts thereof; sound recorders and reproducers; television image and sound recorders and reproducers, parts and accessories of such articles; 86 – Railway, tramway locomotives, rolling-stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (including electro-mechanical) traffic signalling equipment of all kinds; 87 – Vehicles; other than railway or tramway rolling stock, and parts and accessories thereof; 88 – Aircraft, spacecraft and parts thereof; 89 – Ships, boats and floating structures.

[487] Source: UN Comtrade.

[488] The large exports of Singapore are to a significant extent re-exports through Changi airport and the Port of Singapore.

Global Rank	84 – Mechanical machinery	85 – Electrical machinery	86 – Railway	87 - Automotive	88 – Aircraft	89 – Ships
5.	Italy	Singapore	Spain	China	Canada	Italy
	(59) Tunisia	(38) Morocco	(74) Tunisia	(34) Morocco	(29) Morocco	(60) Tunisia
	(63) Morocco	(39) Tunisia	(91) Morocco	(56) Tunisia	(41) Tunisia	(68) Morocco
	(68) Jordan	(50) Egypt	(102) Lebanon	(67) Egypt	(43) Jordan	(71) Algeria
	(75) Egypt	(67) Jordan	(111) Jordan	(71) Jordan	(90) Lebanon	(94) Egypt
	(76) Lebanon	(77) Lebanon	(115) Egypt	(95) Lebanon	(102) Algeria	(101) Lebanon
	(96) Algeria	(109) Algeria	(133) Algeria	(144) Algeria	(138) Egypt	(n.a.) Jordan
	Importers					
1.	USA	China	Germany	USA	USA	Australia
2.	China	USA	UK	Germany	China	India
3.	Germany	Germany	USA	China	France	Greece
4.	France	Japan	Austria	Canada	Ireland	Norway
5.	UK	Singapore	Canada	United Kingdom	Germany	Russia
	(44) Algeria	(47) Egypt	(47) Algeria	(44) Morocco	(38) Morocco	(30) Algeria
	(49) Egypt	(49) Morocco	(55) Morocco	(52) Algeria	(53) Jordan	(58) Morocco
	(54) Morocco	(53) Algeria	(77) Egypt	(54) Egypt	(56) Algeria	(64) Egypt
	(68) Jordan	(58) Tunisia	(83) Tunisia	(62) Jordan	(62) Tunisia	(70) Tunisia
	(69) Tunisia	(77) Jordan	(96) Lebanon	(65) Lebanon	(96) Lebanon	(87) Lebanon
	(85) Lebanon	(83) Lebanon	(113) Jordan	(72) Tunisia	(133) Egypt	(120) Jordan

Source: UN Comtrade. Data for 2017 as 2018 is incomplete. China also includes Hong Kong and Macau SAR.

These observations do not fundamentally change if only trade with the EU is considered. However, it also becomes apparent that, for the machinery and transportation equipment sector, trade in only some sub-sectors and countries is sizeable. These are chiefly electrical machinery and exports from Morocco, Tunisia and to a lesser extent Egypt; automotive exports from Morocco, and to a lesser extent Tunisia; and mechanical machinery and aerospace exports from Morocco and Tunisia. There are no exports in the railway and shipbuilding subsectors to speak of. Similarly, Algeria, Jordan, Lebanon and Egypt are barely exporting in the machinery and transportation equipment sector. In contrast, imports are substantial for all countries. In general, the level of imports roughly corresponds to the economic size of countries in the region as a percentage of GDP,[489] although imports also include intermediate inputs, such as auto parts for Morocco's automotive industry.

Table 4.15 Exports and imports to and from the EU by the SMCs, trade value, US$m in parentheses, 2017

Rank	84 – Mechanical machinery	85 – Electrical machinery	86 – Railway	87 - Automotive	88 – Aircraft	89 – Ships
	Exports					
1.	Tunisia (416)	Morocco (3,638)	Morocco (3)	Morocco (2,531)	Morocco (420)	Tunisia (22)
2.	Morocco (211)	Tunisia (3,328)	Egypt (1)	Tunisia (455)	Tunisia (170)	Morocco (21)
3.	Egypt (71)	Egypt (661)	Tunisia (0)	Egypt (43)	Jordan (31)	Egypt (12)

[489] Imports of aircrafts and ships exhibit pronounced fluctuations over time because the high cost of a single airplane, ship or vessel means that a single order can significantly affect import figures.

4.	Algeria (52)	Lebanon (16)	Algeria (0)	Algeria (13)	Egypt (4)	Lebanon (9)
5.	Jordan (17)	Algeria (9)	Lebanon (0)	Lebanon (1)	Algeria (3)	Algeria (0)
6.	Lebanon (12)	Jordan (3)	Jordan (0)	Jordan (1)	Lebanon (0)	Jordan (0)
	Imports					
1.	Egypt (4,493)	Morocco (2,852)	Algeria (101)	Morocco (3,147)	Morocco (579)	Algeria (262)
2.	Algeria (3,678)	Tunisia (2,137)	Morocco (45)	Algeria (2,180)	Algeria (305)	Egypt (52)
3.	Morocco (2,891)	Egypt (2,107)	Egypt (13)	Egypt (982)	Jordan (187)	Morocco (27)
4.	Tunisia (1,215)	Algeria (1,048)	Tunisia (9)	Tunisia (930)	Egypt (157)	Lebanon (26)
5.	Lebanon (578)	Jordan (326)	Jordan (1)	Jordan (443)	Tunisia (99)	Tunisia (22)
6.	Jordan (577)	Lebanon (285)	Lebanon (1)	Lebanon (408)	Lebanon (12)	Jordan (10)

Source: UN Comtrade.

Intra-regional trade between the SMCs is extremely limited, with virtually no trade in machinery and transportation equipment for most country pairs. The major exception are exports from Tunisia to Algeria, valued at US$154m in 2017, spread across mechanical and electrical machinery as well as the automotive sub-sector. A notable exception is also Egypt. Although not a major exporter of machinery and transportation equipment, neither to the EU nor the rest of the world, regional exports from Egypt to the other Southern Mediterranean countries are comparatively significant.

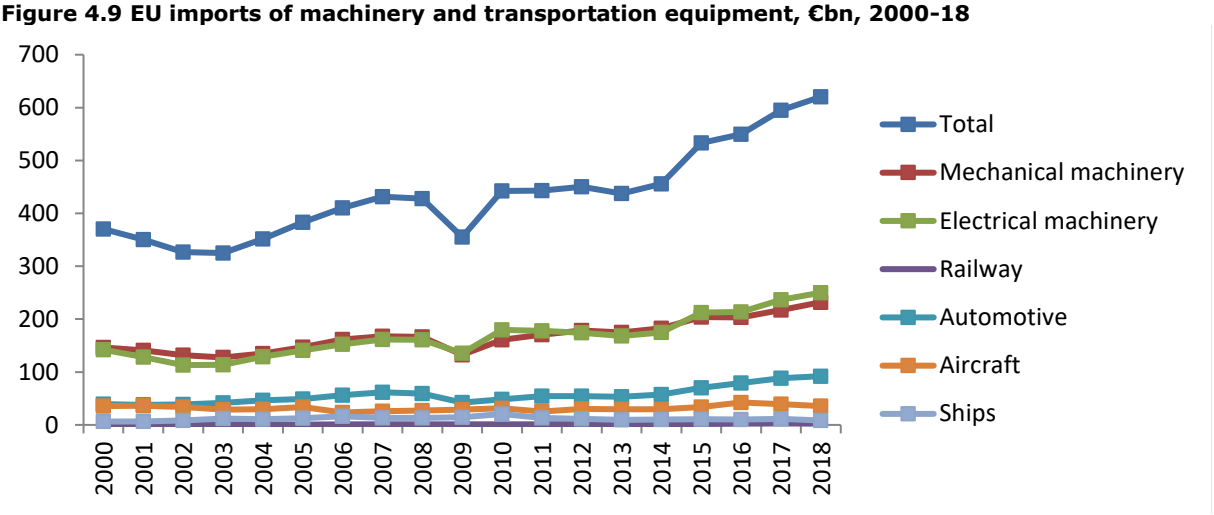
Table 4.16 Intra-regional trade, trade value in, US$1,000s, 2017

Imports into:	**Algeria**	**Egypt**	**Jordan**	**Lebanon**	**Morocco**	**Tunisia**
Exports from:						
Algeria	-	1,228	272	1	1,739	9,764
Egypt	16,530	-	34,784	29,314	44,552	13,707
Jordan	544	3,682	-	3,116	803	54
Lebanon	4,483	9,324	5,624	-	1,532	1,167
Morocco	11,458	39,385	2,529	5,095	-	25,965
Tunisia	154,004	6,240	472	1,676	31,472	-

Source: UN Comtrade.

Lastly, it is worth highlighting that the EU is one of the largest markets in the world for machinery and transportation equipment. Imports in 2018 exceeded € 600 billion. With the exception of 2009, after the global financial crisis, imports have steadily increased, both total imports and imports in sub-sectors. The only exception are ships, which have declined from a peak in 2010, reflecting the cyclical nature of the maritime industry (Figure 4.9).

Figure 4.9 EU imports of machinery and transportation equipment, €bn, 2000-18



Source: Eurostat [DS-645593].

4.4.1. A closer look at value chains

The machinery and transportation equipment sector are a diverse sector, ranging from the production of simple machinery parts to the production of highly complex airplanes made out of millions of parts. Products in the sector are highly differentiated, to the point that even a high level of disaggregation (trade) data will still mask this heterogeneity. Given the complexity of end-products in this sector, supply chains are important to the sector and often highly complex and evolved. For example, suppliers might supply systems (e.g. an avionics bay in an aircraft), itself assembled from parts supplied by a large number of sub-suppliers.

Furthermore, it is not uncommon for different production stages, including service components such as research & development, to be located in different locations or even countries. Given the high level of differentiation as well as the importance of international supply chains, intra-industry trade in the machinery and transportation equipment sector is significant. We also observe that countries tend to simultaneously export and import machinery and transportation equipment.

Given the high level of differentiation as well as the importance of supply chains, the competitiveness of this sector does not only depend on conventional factors. It relies also on productive capabilities, the availability of intermediate inputs, technologies, knowledge and the combination thereof determine how competitive an economy is for a specific product or sector. These capabilities are typically more pronounced in countries and regions with a rich eco-system of suppliers and producers.

4.4.2. Trade barriers

Trade with the EU in machinery and transportation equipment faces several barriers, including tariffs and non-tariff barriers such as standards and technical regulations, or customs barriers. Given the importance and complexity of supply chains, even small barriers have the potential to have a strong and detrimental impact on trade. Furthermore, for tariff barriers even low average tariff rates can easily mask deeper issues related to tariff escalation (higher tariffs going up the value chain), tariff peaks (tariffs above 15%) or trade policy uncertainty (if due to a difference between applied and bound tariffs countries can potentially raise tariffs again).

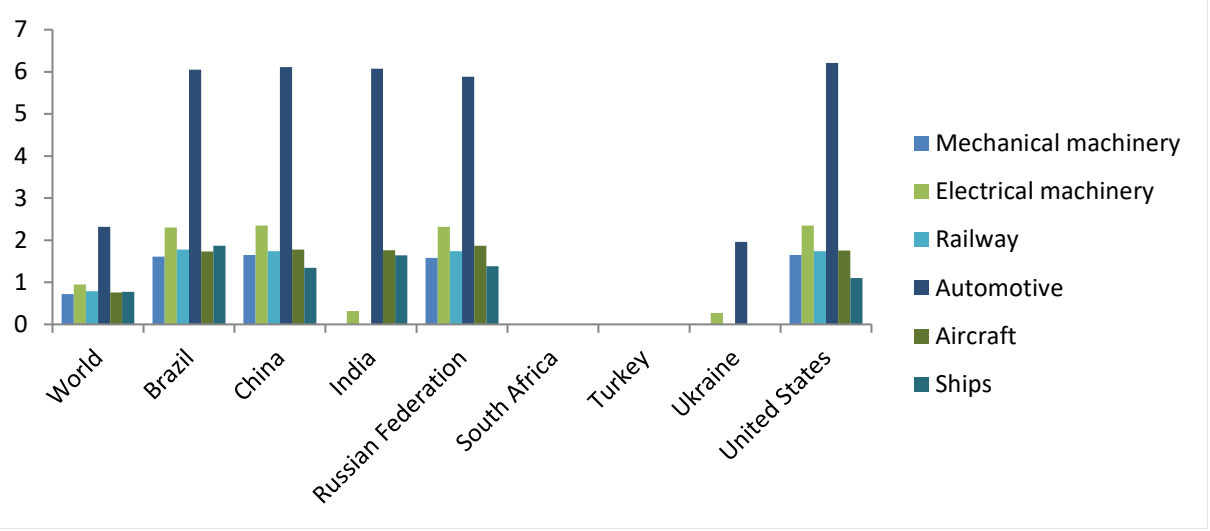
Tariffs on industrial goods (which also include other manufacturing industries such as textiles) have been significantly liberalized in the last few decades and are typically much lower than tariffs on agricultural goods. By region, tariffs on industrial goods are particularly low for developed countries such as in the MENA region, and are on average higher in South Asia and sub-Saharan Africa.

This in particular applies to machinery and transportation equipment. Average tariffs for machinery and transportation equipment are typically below 2% between the MENA region and the European Union, and only slightly above 2% for motor vehicles. Furthermore, the share of trade in this sector facing tariff peaks above 15% is very low, typically below 3% (and below 7% for motor vehicles). In contrast, tariff escalation is more pronounced in machinery and

transportation equipment, particularly transport equipment except motor vehicles, and electrical machinery (UNCTAD, 2019).

The countries of the Southern Mediterranean face zero tariffs on their machinery and transportation equipment exports to the EU. This compares favourably to the preferences granted to other manufacturing exporters, including the BRICS countries (Brazil, Russia, India, China and South Africa) and the US. The preference is particularly pronounced for automotive exports. However, regional competitors such as Turkey (in a customs union with the EU) and Ukraine (in a DCFTA with the EU) enjoy comparable preferences in the machinery and transportation equipment sector (see Figure 4.10).

Figure 4.10 EU tariffs on machinery and transportation equipment, %, 2017



Source: UNCTAD TRAINS.
Note: All tariff rates on machinery and transportation equipment imports from the Southern Mediterranean are zero.

Non-Tariff Measures (NTMs)

A number of non-tariff measures imposed by the EU affect exports from SMCs. These include predominantly technical barriers to trade (TBT). Examples include technical standards for motor vehicles, vessels and vessels parts, machinery and safety components, among others[490]. Selected interviewed stakeholders mentioned TBTs pose an impediment to additional machinery exports from SMCs to the EU, often due to lack of financing for proper upgrading, auditing and certification.

Nevertheless, SMCs also maintain a number of NTMs which represent a de-facto impediment to additional trade flows from the EU. As mentioned in the economic section of this study, NTMs can have significant negative effects on imports. The greatest magnitude of these effects is recorded for Egypt and Lebanon and is related to the incidence of quantitative restrictions, pre-shipment inspection, and export related measures. Imports of machinery, electrical, stone, metal, chemical products and services were also found to be negatively affected by NTMs in all SMCs. Nevertheless, studies show that firms also tend to improve their probability to continue trading (exit probability) and market diversification in response to TBTs[491].

While NTMs may indirectly reduce trade flows in some SMCs, they can also improve the quality of trade, as traded products abide by a certain set of rules and certifications. As a result, NTMs can also induce local SME and suppliers' upgrading as well as trade integration among SMCs.

4.4.3. Opportunities for the Southern Mediterranean countries

In principle, there are significant opportunities in the machinery and transportation equipment sector for the countries of the southern Mediterranean. Located in close geographic proximity to the major global manufacturing hub that is the European Union, they could exploit advantages

[490] https://trade.ec.europa.eu/tradehelp/machinery-and-technical-products.
[491] El-Enbaby and al. (2014).

such as preferential market access, a large and well-educated labour force (at least in principle but not necessarily in practice), and a cost advantage. The story could be similar to the boom of manufacturing industries in several countries of Eastern Europe in the early 2000s. This boom was fuelled by outsourcing, motivated by preferential access to (if not eventual membership in) the European Union, close geographical proximity, cost competitiveness and other factors. However, it also important to note that while there are similarities, there are also crucial differences, in particular with regards to overall competitiveness and supporting policies.

4.4.4. Industrial and Innovation Policies across SMCs

As also presented in the chemical case study of this report, no specific industrial policy or set of policy measures have been introduced to support the machinery sector in Algeria. Algeria's industrial policy has been largely focused on import substitution in recent decades. The newly introduced import ban also covers machinery and transport inputs such as air conditioning machines, machinery elements for changing the temperature and humidity as well as lamps and lighting parts[492].

Morocco, on the other hand, introduced a set of targeted policies for the sector, starting in 2005 with the Plan d'Émergence, which provided a framework for a new industrial policy until 2015. As presented in the respective country section below, this plan was refined in 2008 through the introduction of the National Pact for Industrial Development (Pacte National pour l'Émergence Industrielle, PNEI). Within the scope of this plan, the Moroccan Government identified six key sectors, including automotive, aeronautics, electronics, where specific goals are set, which contribute to the overall objectives of the PNEI. The plan has strongly focused on attracting international companies to settle in Morocco and contribute to the further development of the respective sector, and policy instruments such as financial incentives, that is, tax reductions and subsidies. For manufacturers, an incentive framework is offered together with the provision of approximately 300 hectares (ha) of land for production facilities and high-level logistics. Nevertheless, neither an official incentives inventory nor a specific set of awarding rules are clearly specified in official documents, suggesting that most instruments are not automatically awarded, but rather negotiated directly with beneficiaries[493].

In Egypt, several policies were introduced to support the machinery sector. As explained more in detail in the country section below, in 2004 Egypt began several initiatives specifically targeting the manufacturing industry. These include the introduction of local content requirements for automotive assemblers in the country. Upon meeting these requirements, firms can enjoy customs exemptions of imported components, which encouraged several foreign companies to enter the Egyptian market. Moreover, the Moroccan government introduced the Industrial Modernization Center and a National Supplier Development Programme, which led to the identification of the top 100 local manufacturing firms based on their potential to export, where firms would be eligible for funding for upgrades to their facilities through matching grants. According to recent studies, it is difficult to disentangle any effects of the program from that of the local content requirements. Like the rest of manufacturing, this sector was also likely affected by devaluations throughout the 2000s. While devaluations have positively contributed to exports growth, they shrunk domestic demand and purchasing power for importer higher value added part as of 2002. As a result, while exports were rising, value added for the industry declined since 2002[494].

Under Tunisian law, firms exporting exports at least 70% of their products are considered "offshore" companies. This means they are allowed to import raw materials and components duty-free. According to Tunisia's Investment Code, companies can be distinguished between "onshore" and "offshore" companies, depending whether their production is domestic or export oriented. Historically this model a strong backing of supporters, who emphasized the fact that incentives provided to offshore companies make Tunisia more attractive to foreign investors, with the offshore sector's relatively limited regulations protecting them from the corruption and red tape faced in the onshore sector[495]. Nevertheless, the same system has also drawn

[492] The 2018 bans are still in place, with a few exceptions where bans were removed in the fourth quarter of 2019. https://www.globaltradealert.org/state-act/29680/algeria-the-government-temporarily-suspends-the-import-of-851-product-types.

[493] https://www.die-gdi.de/uploads/media/DP_27.2017.pdf.

[494] See:https://www.eib.org/attachments/country/femip_study_structural_transformation_and_industrial_policy_en.pdf.

[495] See: The Unfinished Revolution, Bringing Opportunity, Good Jobs and Greater Wealth to all Tunisian.

criticism, mainly in relation to the large tax incentives that can be awarded only to companies manufacturing exports. This dual system also applies to the machinery and transport sector, and we evaluate its effect in the specific country section of this case study.

4.4.5. Market surveillance

While our research did not lead to specific mechanisms for market surveillance concerning the machinery and transport sector, different ministries and agencies are responsible for general market surveillance and metrology across the SMCs. In Algeria, the Organisation Algérienne pour la Protection et l'Orientation du Consommateur et son Environnement "APOCE", deals with general issues of market surveillance and consumer protection. In Egypt, The Ministry of Industry and Foreign Trade is tasked with market surveillance, and likewise, in Morocco, the Ministry of Industry, Investment, Commerce and Digital Economy (MIICEN) ensures that products on the market conform to applicable laws and regulations to foster trust from consumers buying products or financial services. In Tunisia, the Institut National de la Consommation (INC) is tasked with general market surveillance and consumer protection, while the National Agency of Metrology (ANM) deals specifically with precision and accuracy testing in production to ensure product safety in the automotive and aeronautics sector[496].

4.5. Textiles and clothing sector

This case study focuses on the textiles and clothing sector. It provides a global overview over the sector in the SMCs and trade with the EU. A country level analysis for Egypt, Lebanon, Jordan and Morocco is provided in Part 1 of Annex E. The global section is divided into a section providing a definition of the sector, thereafter trade figures are presented, an analysis of value chains, and trade barriers. Finally, an overview over opportunities as well as information on industrial and innovation policies and market surveillance practices in the SMCs is provided.

4.5.1. Global definition and coverage

The textile and clothing (hereonafter T&C) sector broadly include the production of all material that consists of interlaced fibres, including yarns, fabrics, carpets and clothing. The sector thus includes more than just clothing and apparel, and includes, for example, home textiles such as bed linen, towels or curtains. The economic modelling provided by the Commission and based on the GTAP model splits the textiles and clothing sector into two subsectors, the manufacturing of textiles (tex) and the manufacturing of wearing apparel (wap). These GTAP codes correspond to 872 HS lines at the six-digit level. With only a few exceptions, these are mainly chapters 50 to 63 of the Harmonized System, which is the classification of products used for trade in goods.[497]

This sector case study covers the following countries: Egypt, Jordan, Lebanon, Morocco and Tunisia. Given the absence of a substantial textile industry, Algeria is not included in this sector case study. The country specific analyses can be found in Part 1 of Annex E.

4.5.2. Trade figures

The global T&C sector is an important light manufacturing industry. The sector includes a wide range of differentiated products with global exports of USD 437.5 billion and global imports of USD 645.9 billion. Global exports are dominated by China with a share of 34%, followed at a distance by Germany and Vietnam with shares around 5%.[498] Among the leading exporters are both high-income and industrialized countries such as Germany, and low-wage developing countries such as Bangladesh. The main importers are large or high-income countries. The main importers are the United States with a share of 17%, Germany with a share of 8%, and France and the United Kingdom with shares of approximately 5%. None of the five Mediterranean countries are major textile importers or exporters at the global level. (Table 4.18).

Table 4.17 Leading exporters and importers of textile and clothing, HS 50 to 63, 2017

Rank	Exporter	Importer

[496] https://www.oiml.org/en/oiml-cs/utilizers-and-associates/tunisia.
[497] The few products that are included in the economic modelling, but not the chosen range of the Harmonized System are wool and plant-based fibres, categorized in GTAP as other agri-food products, and products such as linoleum or electric blankets, categorized in GTAP as other manufactures or chemical, rubber and plastic products. For practical reasons, our analysis, unless otherwise noted, is based on the HS chapters 50 to 63.
[498] Atlas of Complexity, UN Comtrade.

1.	China	United States
2.	Germany	Germany
3.	Vietnam	France
4.	Italy	UK
5.	United States	Japan
6.	India	China
7.	Bangladesh	Netherlands
8.	Turkey	Canada
9.	Spain	Hong Kong
10.	France	Vietnam
	(59) Tunisia	(38) Morocco
	(63) Morocco	(39) Tunisia
	(68) Jordan	(50) Egypt
	(75) Egypt	(67) Jordan
	(76) Lebanon	(77) Lebanon

Source: Atlas of Complexity, http://atlas.cid.harvard.edu.

Despite not being major players in the world market, the countries of the Southern Mediterranean show significant exports of textiles and clothing. T&C are the largest export for Tunisia and Morocco, and Jordan, and the second largest for Egypt. Given close geographic proximity, the EU market is the main destination for these exports for Tunisia and Morocco, while absorbing one third of Egyptian T&C exports. In contrast, the United States represent the largest export destination for Jordanian textiles and clothing products. Moreover, the sector accounts for 30% to 50% of all industrial jobs in Tunisia, Morocco, Egypt and Jordan, employing a large share of women (EU Commission, 2015).

During the period examined in this ex-post evaluation, the sector experienced significant changes. Although it is beyond the scope of this study to analyse all these developments, some are worth highlighting. The phasing out of the Multi-Fibre Arrangement (MFA) in 1995, and its successor, the Agreement on Textiles and Clothing (ATC) which ended in 2005 and the EU lifted all quota restrictions on imports of T&C was a significant change for the industry. Under the MFA and the ATC, textile and clothing exports were subject to quotas. With the phasing out of these agreements, new opportunities emerged for some exporters, although amidst increasing global competition in the industry.

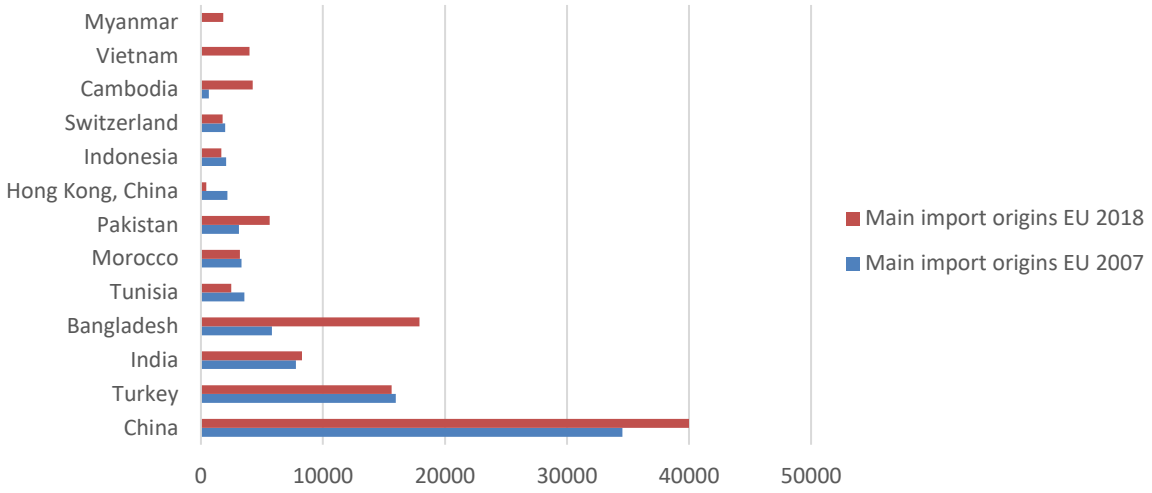
China, as the world's largest exporter, also became a WTO member in 2001. While temporary safeguard measures against Chinese exports remained in place until 2009, thereafter China was able to rapidly expand its exports due to its abundance of cheap labour. For example, in 2007 hourly wages in the T&C sector were €0.30 in China compared to €0.70 in Tunisia (Kahia, 2017). Other countries enjoy a similar cost advantage, such as for example Bangladesh, India, and Vietnam.

During our consultations, stakeholders frequently mentioned that erosion of trade preferences under the FTAs is perceived by the SMCs as an unfair competitive advantage. The increasing number of EU trade agreements as well as other EU preferences like the Generalized System of Preferences (GSP) and the Everything But Arms (EBA) initiative have contributed to the preference erosion for the SMCs. These further increase competition for SMC exporters to the EU, while they also face increased competition created by the phasing out of the MFA and the general increasing competition of some low-wage countries.

Notwithstanding these developments, the EU market has remained among the largest and most important ones for the sector especially in Morocco and Tunisia, even though the main trade partners of the EU have changed significantly in the past two decades. While the Maghreb countries were among the main source countries in 2000, their importance has diminished over time. In 2007, only Tunisia was still counted among the top five source countries. In 2018, the top clothing and textiles import origins to the EU are dominated by Turkey and large Asian countries (see Figure 4.11). Overall, since the removal of MFA quotas, T&C exports from most countries of the Southern Mediterranean to the EU have declined in relative terms. The loss of market share by the countries of the Southern Mediterranean has occurred against the backdrop of a dramatic rise in Chinese exports (41.5%), and increasing exports by India (18%) and Turkey (3.8%) (World Bank, 2006).

However, in absolute value, some Southern Mediterranean countries (e.g. Morocco, Egypt and Jordan) have slightly increased their exports of T&C to the EU since the end of the ATC in 2005.

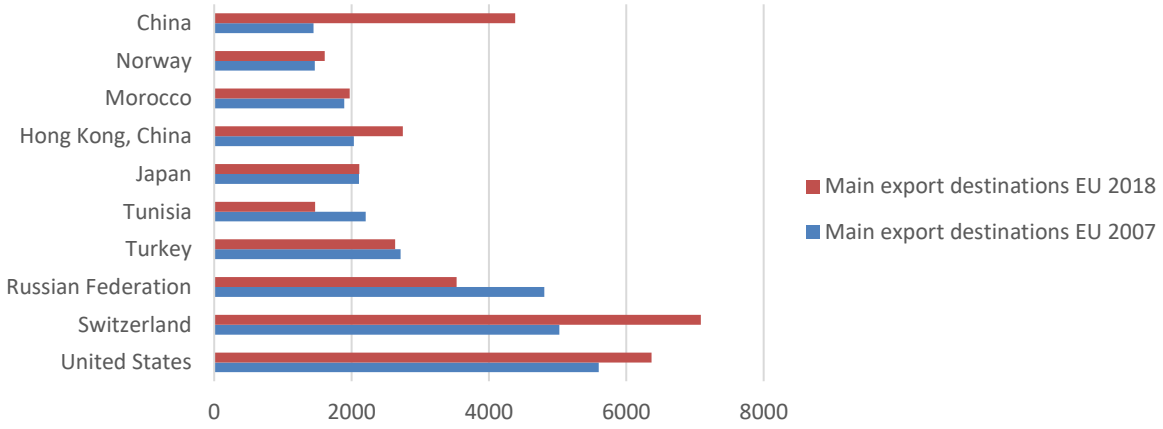
Figure 4.11 Main source countries for textile imports to the EU 2007 and 2018, in million Euro



Source: Own calculations based on World Bank WITS, https://wits.worldbank.org/.

Similarly, while Central and Eastern Europe and the Maghreb countries were among the largest textiles export destinations for the EU in 2000 (EC, 2001), this has dramatically shifted in the last two decades. Currently, the main export destinations of the EU include Switzerland, the USA, China, Russia, Hong Kong and Turkey (see Figure 4.12).

Figure 4.12 Main export destinations of the EU 2007 and 2018, €m



Source: Own calculations based on World Bank WITS, https://wits.worldbank.org/. The figure includes data on textiles and clothing.

4.5.3. A closer look at value chains

Textile and clothing are produced in various value chain stages, often involving different producers, firms and production locations. Countries can specialise in different parts of this value chain. The value chain can typically be described by its three distinct stages:

- The first phase involves the sourcing of raw materials. Raw materials are typically of two kinds of fibres: natural fibre (cotton, silk, flax, hemp and jute) and 'man-made fibre' (nylon and polyester). Then yarn is created from fibre, which involves the ginning, carding, combing and spinning of raw materials. Additionally, dyeing of yarn could take place at this stage;
- The second phase involves making fabric by knitting and weaving yarn. Further, the fabric might be bleached, printed, dyed, impregnated, coated or plasticised;
- The third phase consists of the transformation of these fabrics into clothes, carpets, home textiles etc., by cutting and sewing the fabric (also called Cut-Make-Trim).

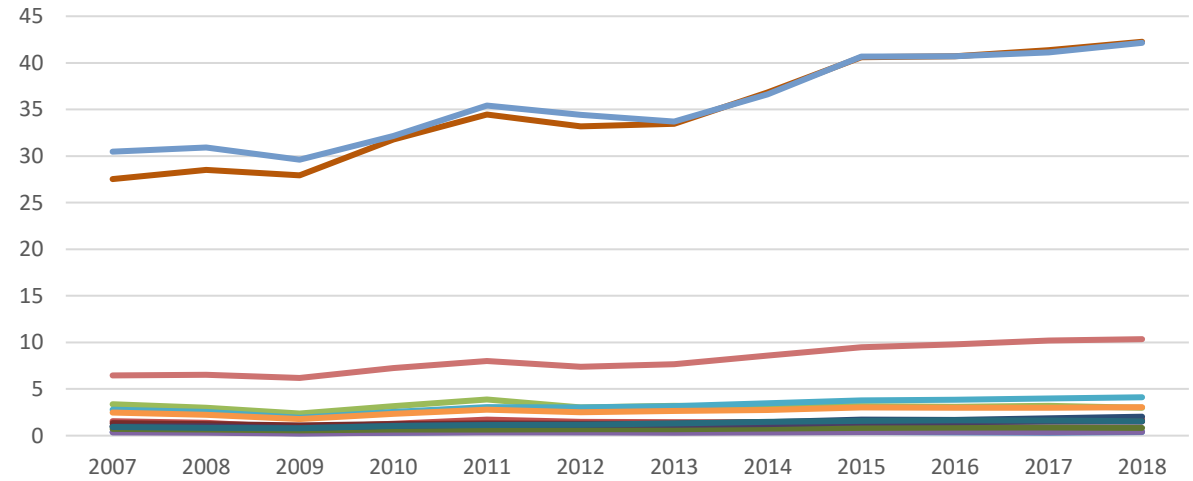
The different value chain stages can also be differentiated by the degree of value-addition that takes place:

- The lowest value-added stage is the one in which fabrics are transformed into apparel or home textile, the Cut-Make-Trim stage;
- More value-added activities take place when manufacturers also source the fabrics themselves (Original Equipment Manufacturing – OEM). These manufacturers are only responsible for the goods until they are loaded, the purchaser is responsible for shipping;
- The design, production, processing and shipping of the product also contain activities that lead to a high value added (Original Design Manufacturing – ODM);
- Most value-added takes place when manufacturers are responsible for their own design and also organise supplies for their own brands (Original Brand Manufacturing – OBM).

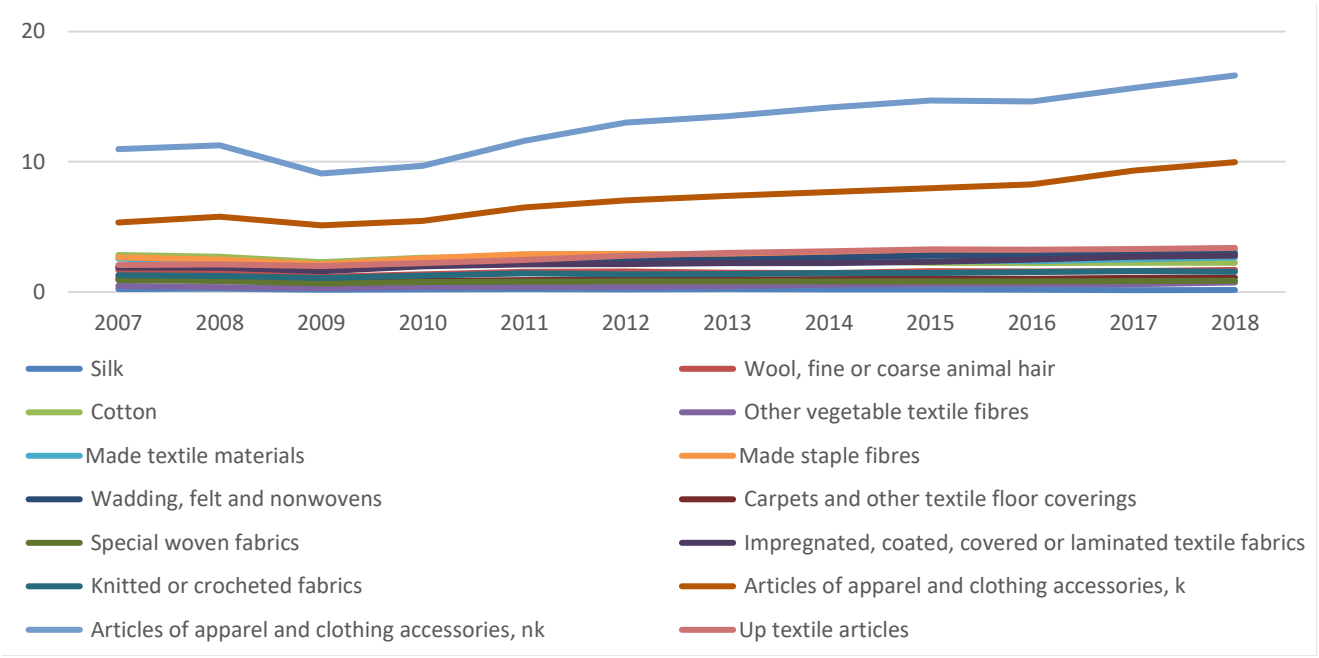
Exports of natural fibre are dominated by China, India and the United States. In turn, the largest market for natural fibre is found in the Asia-Pacific region followed by the United States and Europe (CBI, 2019). Fabrics are mostly exported by China, Hong Kong, Taiwan, South Korea and Turkey, whereas Vietnam, Cambodia, Bangladesh, Sri Lanka and Indonesia are among the largest importers.[499]

The cut-make-trim stages of the value chain are typically found in countries with lower wages. An important trend is that the European manufacturing industry has shifted towards producing textile and clothing with higher value added. European companies have sub-contracted their work to countries with lower labour costs or relocated production facilities for labour-intensive activities to these countries, notably in the Southern Mediterranean region (CBI, 2019). European producers are now focusing more on technical and industrial textiles and non-woven materials as well as on high quality garments with high design content (European Commission, 2019). These trends are also visible in trade data, as the EU imports and exports predominantly articles of apparel and clothing (see Figure 4.13).

Figure 4.13 Main imports (upper figure) and exports (lower figure) of EU, €bn, 2007-2018



[499] Atlas of Economic Complexity, http://atlas.cid.harvard.edu.



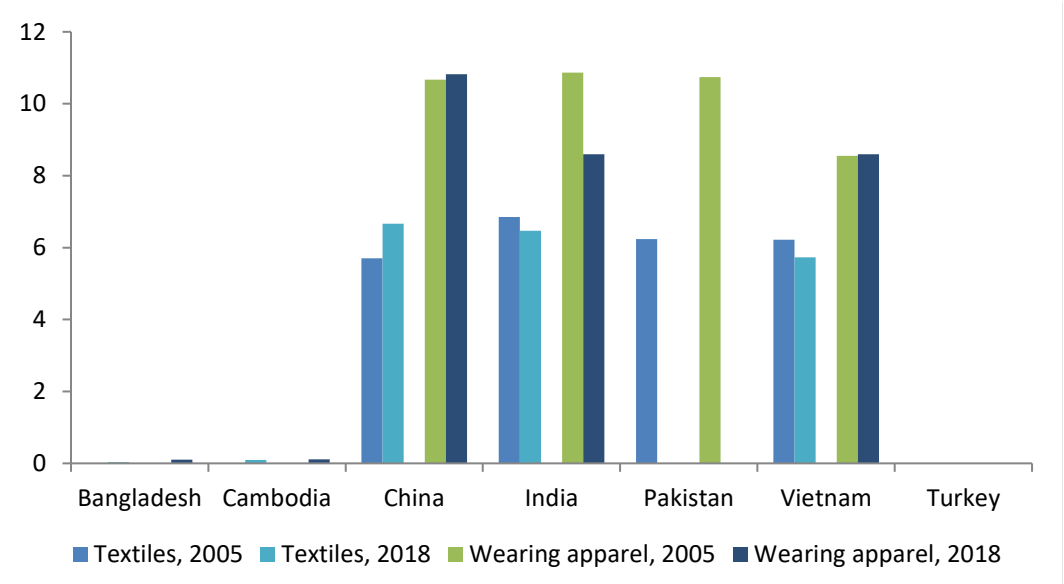
Source: Eurostat Easy Comext.

4.5.4. Trade barriers

Tariff barriers

The countries of the Southern Mediterranean face zero tariffs on their textile and clothing exports to the EU. This compares favourably to the preferences granted to other major textile and clothing exporters, such as China, India or Vietnam. However, comparable preferences are also granted to other exporters such as Turkey (in a customs union with the EU), Bangladesh and Cambodia (as least developed countries eligible for preferences under Everything But Arms). Furthermore, emerging exporters such as Ethiopia also fall under Everything But Arms and can thus export duty-free to the EU (see Figure 4.14).

Figure 4.14 Effectively applied EU tariff rates on textiles and clothing, simple average, in percent, 2005 and 2017



Source: UNCTAD TRAINS.
Note: All tariff rates on textiles and clothing imports from the Southern Mediterranean are zero.

Non-tariff barriers

While tariff barriers have been mostly dismantled, a range of non-tariff barriers remain. These have been indicated by multiple stakeholders and include labelling requirements and various regulations and standards, for example TBT requirements. Tunisian and Morocco stakeholders also consistently highlighted the rules of origin as one of the most problematic 'NTBs'. Labelling requirements include both legal requirements, for example on consumer safety, and voluntary labels. An example of such a voluntary label is the EU Ecolabel, which is an environmental standard for both products and services established by the European Commission.[500] Lastly, there are also various regulations and standards, such as for example those on the use of specific chemicals in textiles.

Rules of origin

Rules of origin requirements can also have an impact on market access, of importance given the intense price competition in the industry (see also Section 3.5). In general, the EU requires a double transformation of the product, which means that the fabric and final product need to be sourced from the EU or the concerned SMC. For the SMCs, this means that they cannot directly import fabrics from Asian countries if they will use these as input for exports to the EU market. The adapted, Pan-Euro-Mediterranean (PEM) rules of origin of 2005, however, allowed Southern Mediterranean countries to source inputs from a selection of other Mediterranean countries, including Turkey a major textile producer, while still being eligible for preferential access to the EU market. The introduction of the PEM rules supported SMCs exporting T&C products to Europe. As shown in the economic analysis findings included in chapter 3, the recorded preference utilization rates for SMC countries stand quite high, (rates ranging from 76% in the case of Jordan to 98% in the case of Morocco), providing a tentative indication that most economic operators are able to meet the RoO requirements to qualify for preferential tariff treatment offered by the Euro-Med FTAs. Nonetheless, during the consultations carried out for this report, selected stakeholders from multiple countries indicated that the rules of origin are still affecting their ability to export to the European market to some extent.

In contrast, the US maintains a triple transformation requirement, which means that the yarn, fabric and final product have to be sourced from the US or the concerned partner country[501]. Jordan and Egypt, however, received an exemption from the triple transformation rule thanks to the American establishment of Qualified Industrial Zones (QIZs). More information on the roles of the QIZs can be found in the country-specific sections of this report.

Rules of origin also provide some benefits, as they force the sector to invest in the local economy. The rules of origin facilitate the development of value chains within one country to export to another, without giving third parties the opportunity to disrupt this production network[502]. However, these benefits cut in both directions. As it has been repeatedly underlined by a number of consulted stakeholders, countries such as a Bangladesh with a large and well-developed T&C industry are arguably better positioned, as the local industry has the capabilities to satisfy both double and triple transformation rules. In contrast, the countries of the Southern Mediterranean often struggle to fulfil these requirements, given that most of their industries are not fully integrated along the value chain.

4.5.5. Trends and developments

In recent decades the textile and clothing industry has rapidly evolved, with all actors along the value chain, from producers to retailers having been exposed to significant changes. While some changes have been subtle, other changes involved more significant shifts in the international production structure and key markets[503]. A number of these trends are described below.

The global fashion industry has been subject to rapid shifts in demands due to constantly changing trends and market requirements, also referred to as the 'fast fashion'. In terms of production, this has meant a growing number of collections per year with shorter turnaround times. This has been positive, in some cases, for the Mediterranean region, as proximity and

[500] https://ec.europa.eu/environment/ecolabel/.
[501] (Azmeh, 2015; Brunelin et al. 2018).
[502] (Azmeh, 2015).
[503] (ILO, 2019).

speed to the market are increasingly important. The fast fashion industry also generally demands low prices. In order to stay competitive, many EU companies have expanded sub-contracting and re-location of production facilities for labour-intensive activities to companies in countries with lower labour costs, notably in the Euro-Mediterranean region[504]. In the country-specific sections of this report we will see that due to the buyers' demand for lower prices and the workers demand for higher wages, any attempt to upgrade the sector may easily fail[505].

Major Corporate Trends

The largest buyers of textile and clothing products have been prominent companies in the apparel space. These consist of major retailers and manufacturers selling a variety of clothing and accessory products in the luxury, non-luxury or off-price category. The emergence of ecommerce has dramatically changed the industry, with both large and small ecommerce retailers and technology retail start-ups becoming major players. The nature of ecommerce platforms has also changed customer demands, with many users ordering larger product volumes, thanks to flexible purchase arrangements and free returns. This in turn has transformed supply chains, with larger warehouses and suppliers having to able to adjust to increasingly large volumes in a short period of time. The apparel retail market has also had to adjust in order to recover from the recession and post-recession slow down. Since 2009, firms have had to diversify and incorporate new technologies to adapt to the demand decrease, consumer preferences for low prices and ecommerce competition.

Traditionally the global apparel space has been dominated by large international conglomerates, such as Walmart, and important discount retailers, such as the TJX Companies. Large e-commerce platforms, such as Amazon and Alibaba, have increasingly been offering their own house brands, providing a direct competition to the above-mentioned players and becoming increasingly influential in the retail space. The emergence of Amazon and Alibaba has arguably been the most influential trend in the apparel industry in recent years. Nevertheless, many traditional companies have been able to adjust by providing their own ecommerce offerings[506] and by sourcing cheaper suppliers. These include fast fashion firms Hennes & Mauritz (H&M) and Inditex (owner of Zara) which have been actively engaged in sourcing T&C suppliers in SMCs[507], and even established own cluster operations in Morocco[508].

Corporate Social Responsibility

Standing in marked contrast to consumer's increasing price sensitiveness, are the demands for more sustainable production practices. Labour conditions in the textile and clothing industry are of concern, as low labour costs form a primary source of comparative advantage for exporting countries. Increased emphasis to deliver in time and at low prices further increase pressure on production costs, leading to a search for production locations with even lower wages. Other issues are the large share of informal workers, gender discrimination, long working hours and poor labour condition[509]. Little interest exists in investing in those locations, simply because it might be cheaper to produce somewhere else in the future. Thus, investment in capital (machinery) and labour (skills and management training) is often limited[510].

Due to these growing concerns about labour conditions, corporate social responsibility (CSR) is gaining in importance. This includes standards and checks on labour conditions, including working hours, safety regulations, wages and medical services. A stakeholder in Egypt mentioned that especially larger clothing brands are strict about audits, as they cannot afford reputational risks. However, stakeholder interviews also indicated that some of these audits are perfunctory. Furthermore, given the intense and increasing emphasis on CSR, some interview partners also indicated that 'audit fatigue' has become an issue. Although the benefits and importance of CSR are widely recognized, stakeholders indicated that there is also a need to improve the process, including enhancing collaboration between different auditors.

[504] (EU Commission, 2015).
[505] (Smith, 2015).
[506] https://www.cnbc.com/2018/12/31/here-are-some-of-the-winners-in-retail-heading-into-2019-like-walmart.html.
[507] https://sustainability.hm.com/en/sustainability/downloads-resources/resources/supplier-list.html.
[508] https://www.inditex.com/our-commitment-to-people/our-suppliers.
[509] (Rossi, 2013).
[510] (Azmeh, 2015).

While increasingly sustainable production processes are enforced through audits, interview partners also expressed the concern that in some cases the smuggling and insufficient supply chain traceability of apparel and clothing undermines the audit process. Smuggled apparel is often produced using inferior labour and environmental standards, and by their very nature audits can rarely uncover these instances.

Environmental Issues

Environmental concerns are also a pressing issue for the sector. Consumption of clothing has increased by 40% in the last few decades, also due to lower prices and fast fashion trends. Water, energy and chemicals are used throughout the different stages of the value chain, but the burden of this use of environmental resources is mostly felt in developing countries. Pesticides are used in growing cotton, whereas possibly polluting chemicals are used to dye fabrics.[511] The spinning, weaving, dyeing of intermediate products are value chain stages requiring significant water and energy resources. However, creating the garments from fabrics is much less resource-intensive and creates hardly any pollution, [512] and this is the part of the value chain where SMCs are most active.

Increasing demand from EU consumers have also led to an increase in the environmental footprint caused by clothing production. As of 2006 T&C accounted for approximately 10% of the total environmental impact of EU consumers, with food and drink, transport and private housing account for 70% to 80%. As of 2015, the global T&C industry was responsible for the consumption of 79bn cu/m of water, 1.7bn tonnes of CO2 emissions and 92m tonnes of waste, with an estimated 50% increase in these figures by 2030.[513]

4.5.6. Opportunities for the Southern Mediterranean countries

In principle, a number of market opportunities exist in the textiles and clothing sector for the Southern Mediterranean countries. The proximity to the EU market and the well-educated labour force in combination with preferential market access could be an advantage. In practice, however, these countries all face obstacles in building business relations and understanding EU consumer preferences, among many other country-specific constraints. Although describing the opportunities for all six Southern Mediterranean countries individually goes beyond the scope of this study, three prospects are worth highlighting.

Firstly, countries should facilitate the linkages between domestic T&C SMEs and international MNE buyers. As large fast fashion brands increase and diversify their production globally, they have also clearly shown interest in linking with suppliers in selected SMCs, such as Morocco. Other SMCs could follow this example and facilitate the export readiness of T&C SMEs by providing certification schemes, reduce the burden of accessing finance and improving the visibility of their enterprises for international buyers.

Secondly, countries may want to specialize in certain niche markets, such as Islamic wear or technological clothing. Success stories from Southern Mediterranean businesses frequently concern business that are able independently producing high quality niche items instead of simply serving as sub-contractors. Good examples of this are companies that export swim wear from Tunisia, haute couture dresses from Lebanon and bullet-proof wear from Egypt.

Finally, by better understanding European preferences, Southern Mediterranean business may be able to engage in the design phase of the clothing value chain as well. Although this is not a reality yet for most Southern Mediterranean businesses, attending trade fairs and other match making activities can help these SMCs to adequately respond to changing EU consumer demands.

4.5.7. Industrial and Innovation Policies across SMCs

Ever since the early 1970s, Egypt has introduced specific policies in order to promote its textile sector, which has been regarded as of key importance due to the historically large production and export of cotton. Egypt has been promoting the establishment of free zones since 1974 where investors have been exempting from import tariffs and a number of taxes, including, income taxes the general sales tax and customs duties. As of 2002, there has been a clear policy shift towards industrial parks, special economic zones (SEZs) or industrial zones (IZ),

[511] https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/633143/EPRS_BRI(2019)633143_EN.pdf.
[512] (European Parliamentary Research Services, 2019).
[513] https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/633143/EPRS_BRI(2019)633143_EN.pdf.

with the goal of providing more streamlined administrative procedures, lower taxes and tariff free imports. Ever since their inception, Egyptian SEZs have been largely targeting the textiles and clothing sector. In 2005 An Industrial Development Strategy (IDS) was introduced, which identified textile and clothing as a strategic sector for the Egyptian economy. The IDS included measures to improve access to finance, infrastructure, innovation and technology, as well as investment and export promotion[514]. Despite the government's efforts, the IDS did not lead to the expected result of transforming the industrial sector into an engine of growth. The implementation of the IDS was carried out by three different ministries. This led to a duplication of administrative structures, lack of coordination and gaps in responsibility. Moreover, the majority of the used instruments focussed on larger enterprises, rather than medium to smaller ones. This led to redundancy in the allocation of funds, with government incentives for export promotion being awarded to companies who were already exporting. Moreover, many of the key constraints faced by Egyptian enterprises, including the availability of affordable land and skills gaps in the labour force, were not tackled by the strategy[515]. As explained more in detail in the country section of this case study, the Government has recently taken additional steps to spur the competitiveness of the T&C sector, including joining forces with international donors in targeted initiatives.

As further detailed in the country section of this case study, there are a number of government bodies, including the Ministry of Trade, Industry and Supply (MOTIS), the Jordan Investment Commission (JIC) and the Ministry of Planning (MOPIC), which support the textile sector through targeted policies. A number of technical assistance programs as well as grants from the donor community have also supported local producers in recent years, which have been well perceived by sector representatives, including the Jordan Garment Accessories and Textile Exporters Association (JGATE) and the Jordan Chamber of Industry (JCI).

In Morocco, numerous institutions have been supporting the sector. The Restructuring of Textiles and Clothing Sector's Fund (FORTEX) created in 2002 provided support to the textiles and clothing subsector. In 2005, the Government of Morocco announced the « Emergence Program ». The program proposed an industrial strategy with three essential goals: attracting new FDI, developing emerging sectors into more sophisticated and competitive products and reorienting key manufacturing export towards markets with expansion potential. The program targeted specific sectors: automotive, aerospace, electronics, textile and the food industry. Investment incentives (to foreign and domestic investment) were granted under the general investment incentives regime (Investment Charter and its implementing decree), under Hassan II Fund for Economic and Social Development and for large projects through an agreement regime.

Under the Emergence Program, the SME Agency (ANPME) manages two support schemes, one that aims to provide direct subsidies to support the growth of promising SMEs, and the second to support efforts by SMEs to increase productivity through efforts in areas such as marketing, finance, quality control, as well as supply management design and R&D. In 2014, the Industrial Acceleration Plan (PAI) followed the line of the Emergence Plan. The new industrial strategy assigns the following general objectives for the sector by 2020: The creation of half a million jobs, half of which comes from foreign direct investment, and the other half from a renovated national industrial base. A nine points growth in industry's share of GDP, increasing from 14% to 23% by 2020.[516] Numerous sectoral initiatives in textiles were undertaken under the PAI, including professional training programmes, which are further explained in the country section of the case study.

Tunisia has promoted the T&C sector through a system of targeted incentives and development programs over the past decades. Tunisia has historically maintained a dual system of "onshore" and "offshore" companies, depending whether their production is domestic or export oriented. As part of this model, Tunisia has been aiming to attract FDI with specific investment codes since the early 1990s, offering generous tax and financial incentives, targeting selected sectors,

[514] See: https://www.eib.org/attachments/country/femip_study_structural_transformation_and_industrial_policy_en.pdf.
[515] Loewe, M., 2013. "Industrial Policy in Egypt 2004–2011," German Development Institute, Discussion Paper No 13/2013.
[516] http://www.mcinet.gov.ma/en/content/industrial-acceleration-plan-2014-2020-0.

including textile and clothing.[517] Moreover, the country has embarked on several international, donor-funded programmes, which aimed at fostering T&C competitiveness and export capacity. The Support Programme for Business Competitiveness and Market Access facilitation (PCAM) (2010–2016) has been instrumental for the modernization of the Tunisian industrial sector and the facilitation of access to the European market. The program aim has been to provide technical assistance for enterprises to notably improve technical norms. This was reflected by the support given to the building and equipment of Tunisian laboratories allowing them to conduct the tests required by the EU for the import of products to its territories.

Concretely, 133 missions were conducted in the textile and clothing sector. The PCAM had also a regional dimension, for it helped the textile sector in the Gafsa and Kasserine regions. Moreover, the Tunisian Ministry of Industry and Small and Medium-sized Enterprises, the Ministry of Vocational Training and Employment, as well as the Ministry of Commerce have paired with the International Trade Center (ITC) in the Global Textiles and Clothing Programme, to promote the export readiness of the sector. The aim of this ongoing program is namely to improve sector-specific institutional infrastructure and an improved Trade and Investment Support Institutions (TISI) eco-system as well as increasing the competitiveness of 50 selected companies in the product categories.

4.5.8. Market Surveillance

European market surveillance in the textile sector mainly refers to the labelling of textiles fibers as well as the fibre composition of textile products. While the European Union market surveillance works through a system of national market surveillance authorities to ensure the quality and application of legal requirements in the textile sector, the status of market of surveillance in the EuroMed countries is less apparent and varies per country. As such, the Lebanese Ministry of Economy and Trade states that a strategy for market surveillance is currently under development and that crucial steps for drafting legislation and procedures and strategic planning have been taken. Morocco portrays the most developed market surveillance system as the country has a specific market surveillance authority which is part of the Ministry of Industry, Trade, Green and Digital Economy (MCINET). Yet, for both countries the authorities remain sector unspecific and a clear strategy for the textile sector is not visible. In comparison, Tunisia, Jordan and Egypt portray the least developed market surveillance strategy as it remains unclear which bodies facilitate surveillance and how this surveillance looks like.

[517] See: The Unfinished Revolution, Bringing Opportunity, Good Jobs and Greater Wealth to all Tunisian.

5. SUSTAINABILITY ANALYSIS

Summary

Next to economic and sectoral effects, the FTAs may also have had an **effect on the social and human rights situation and on the environment in the SMCs**. **In addition, the FTAs probably had impacts on third countries, in particular developing countries and LDCs**. These effects have been studied as part of the sustainability analysis of this ex-post evaluation.

While in the Association Agreements (AAs) there is attention to sustainability-related issues (e.g. co-operation on environmental issues, economic cooperation to support efforts to achieve social development), the AAs do not include a Trade and Sustainable Development chapter *per se*, as in new generation EU FTAs. **Any sustainability-related effects therefore follow rather indirectly from the FTAs, through the economic changes brought about by the agreements**. While assessing the economic impacts of the FTAs is already challenging as outlined earlier, for the sustainability impacts, it is even more **difficult to establish a causal link** between the Euro-Med FTAs and sustainability-related developments in each of the six SMCs.

- *Social and human rights impact*

Impact areas that were identified as particularly relevant in relation to the FTAs in terms of social and human rights are employment, income, labour conditions, gender and the right to food. In other areas (e.g. social protection, social dialogue, poverty reduction, vulnerable groups, as well as other economic, social and cultural rights)[518] no inputs have been obtained in the literature review and stakeholder consultations.

The CGE modelling results show that **the impact of the FTA preferences with the EU is positive with respect to the social indicators, both in the EU and the SMCs, with higher welfare, higher wages for both low skilled and high skilled labour, and lower consumer prices**.[519] However, the impacts are also modest, with most estimated impacts below 1%. Only in Tunisia are the estimated impacts on wages more significant, with an increase of more than 3%.[520]

Economic theory predicts a positive impact of trade liberalisation, as FTAs are expected to lead to economic growth, which in turn is expected to have a **positive impact on employment, government revenue through taxes and relative prices**. However, it is also clear that there are transitional and adjustment effects, as some sectors will have been able to expand as a result of the FTA, while others contracted. This also requires labour to move across sectors. Based on the literature review, effects on employment seem limited, however and some studies even find a decrease in employment in the SMCs associated with their FTAs with the EU. For example, in sectors employing a large part of the workforce in Tunisia, and in the agricultural sector for women in Egypt and Morocco (Zorob, 2017); in the manufacturing sector in Cairo, Alexandria, Suez and Port Saïd in Egypt (Gignoux and Suwa-Eisenmann, 2017)

Employment effects are explored by a focus on two sectors that have been most affected by the Euro-Med FTAs: textiles and clothing and chemicals, plastics and rubber. While employment effects in *Chemicals, plastics and rubber* appear to be negative in nearly all SMCs (except Jordan) based on trends in the bilateral trade balances and estimated output changes from the CGE model, for *Textiles and clothing* it is likely that the FTA has had positive effects in Morocco, Tunisia and Egypt. These effects seem to be small at sectoral level, given that even where a negative employment effect of the FTA is found, the value added and wages in the sectors have still increased. In the context of whole economies, these

[518] For the human rights analysis, the analysis has taken into account the guidelines of the EC on the analysis of human rights impacts in impact assessments for trade-related policy initiatives, available at http://trade.ec.europa.eu/doclib/docs/2015/july/tradoc_153591.pdf. We have selected a number of human rights for which we expect a more direct link with the FTA (see the inception report of this study for more details).

[519] With the exception of consumer prices in the EU, which very marginally increase based on CGE results.

[520] Please note there are no CGE results for Algeria and Lebanon.

changes are even smaller, given that these sectors, while accounting for a large share of bilateral trade with the EU, only account for only a small share of total employment in the SMCs.

Gender-related impacts also are examined via an analysis of female employment in the agricultural sector. It shows that there are differences between the SMCs in terms of trends in female employment in relation to trade with the EU. Female employment decreased in the SMCs except in Morocco and Egypt, where it increased, but there is no clear link with the bilateral trade balance. There are also differences in the vulnerability of female employment in agriculture across SMCs, e.g. in Morocco the increase in female employment was associated with an increase in formal employment, while in Egypt, this increase was associated with an increase in informal employment. The case study also shows that women face particular challenges, e.g. due to lack of education or access to specific networks. Given the complex relationship between the FTA and employment, it is difficult to draw strong conclusions on FTA-related effects.

With respect to labour conditions, we note that most countries already ratified the ILO's core labour conventions before they signed the FTAs. Feedback from stakeholders suggest that **the impact of the Euro-Med FTAs on working conditions has been either neutral (e.g. because EU investors only comply with local regulations) to positive (conditions improve in response to demand of EU buyers)**. Effects are estimated to be small, mainly affecting companies directly involved in trade or investment.

With respect to the **right to food**, a link with food security has been made. On the one hand, the FTA has helped to improve access to food, as staple foods like cereals can be imported from the EU at lower prices. On the other hand, it implies that there is more reliance on food imports.

- *Environmental impact*

The evaluation focuses on the effects of the FTAs on different environmental issues.

The CGE modelling results show that despite the economic growth predicted by the model, **CO2 emissions in the SMCs are estimated to be lower with the Euro-Med FTA in place than without it.** This is largely due to a change in sector structures, where more polluting sectors (notably other manufacturing) contracted as a result of the FTA. A case study on air emissions looked at air pollutants (Carbon monoxide (CO) nitrogen oxides (NOx), fine particulates and dust (PM), sulphur dioxide (SO2), and volatile organic compounds (VOCs)) as well as CO2 effects. Emissions have clearly increased over the evaluation period, but **based on a quantitative analysis, the impact of the FTA on air pollutants and greenhouse gas (GHG) emissions is estimated to be small**. The analysis shows the FTA contributed to a reduction in some air pollutants (e.g. a reduction of SO2 emissions in the four countries analysed) and to an increase in others (e.g. an increase in NOx emissions in Egypt and Jordan), depending on the country and the pollutant. The effect of the FTA is therefore not homogeneous across countries, it depends on what sectors have been impacted most by the FTA and in what direction. It also shows increased production of energy from renewable sources (solar, wind) and energy efficiency in the SMCs. However, progress is slow and the use of **fossil fuel has increased faster than the use of renewable energy, thus increasing the share of fossil fuels in the energy mix**. The case study also points **to emissions (both for air pollutant and GHG) from increased international transports induced by the FTA** and, in particular from the maritime transport, which has also very likely increased outside the borders of the 4 SMCs.

Analysing estimated output effects for the primary sectors give an indication of **effects on land use**, which often has a link with biodiversity. For Egypt, Morocco and Tunisia, (most of) these sectors contracted, and a decrease in land use seems likely, while for Jordan, the direction of effects is mixed across sectors and therefore the resulting effect on land use could be negative.

An analysis of trade in environmental goods[521] **reveals that the FTAs may facilitate the trade in these goods, and thereby indirectly contribute to the greening of the economy in the SMCs**. Imports to SMCs of environmental goods from the EU have expanded significantly over the period examined in this ex-post evaluation (almost tripling between 1998 and 2017) and we observe a positive link between the decrease in tariffs and the level of imports. **However, there are also many other factors at play, which seem more important.** For example, the stringency of environmental regulations, the urgency and seriousness of the environmental problems, and development co-operation. It should be noted that, especially with respect to the development of bilateral co-operation, a link can be made with other parts of the AA.

With respect to water and waste, the SMCs clearly face challenges, but based on stakeholder consultations the effect of the FTA is mixed. While the increase in production as a result of the FTA is likely to have had a negative impact, changes in production structures could change this picture. This was not possible to assess within the scope of this project. Stakeholders pointed to the positive effects of interaction with EU, e.g. through technology improvements as well as through regulations and requirements in this area.

Stakeholders have pointed to negative impacts on animal welfare of the FTAs, as the FTAs have contributed to increased EU exports of live animals, which face poor conditions during transport, live, and slaughtering in the SMCs. Indeed, live animals' exports from EU to SMCs has increased between the pre and post association agreement period[522] except for Egypt (+282% for Algeria, -60% for Egypt, +197% for Jordan, +9% for Lebanon, +30% for Marocco, +71% for Tunisia).

- *Effects on developing countries and LDCs*

The FTAs will not only have impacted bilateral trade flows between the EU and the SMCs, but also trade flows with third countries. For example, SMCs can import from the EU products which they imported from other countries before. On the other hand, as SMCs are able to increase their export to the EU, they need to source more inputs from third countries, including from other SMCs. From a sustainability perspective, it is important to examine the impacts of these changes, especially on developing countries and LDCs.

As it is difficult to link all changes in trade flows with third countries to the FTAs, we have mainly relied on the CGE modelling results, which provide an estimated impact of the FTA on third countries. For all four SMCs covered in the CGE analysis, **the imports from China decreased the most in absolute terms as a result of the FTA (ranging from a decrease of imports in Jordan of €171m to a decrease of €744m in Egypt).** In addition, **Turkey appears to export less to the four SMCs (a decrease of exports to the SMCs of €792m (-11.1%) only partly compensated by an increase of exports to the EU of €150m (0.2%) for all four FTAs combined)** than it would without the Euro-Med FTAs in place. Geographical proximity also plays a role, e.g. the North African region is more affected by the FTAs of Tunisia and Morocco, while the FTA with Egypt has larger effect on the Gulf countries.

Overall, **imports from LDCs into the SMCs show a decrease, but for most SMC countries, this decrease is small (reduction of €35m of exports to SMCs (-3.1%), and a reduction of €139m of exports to the EU (-0.3 %), for all four FTAs combined)** compared with the effects on other trade partners. Only in Egypt is the decrease in imports somewhat significant. The sector studies did not identify a major impact on LDCs. From direct

[521] Please note there is no consensus on what environmental goods are. The definition of environmental goods used in this evaluation is the WTO "Friends list" (see WTO document "JOB(07)/54") which has been elaborated with countries participating to the WTO negotiations on the Environmental Goods Agreement (EGA).

[522] Pre-association agreement period considered depends on sectoral data available. It starts in 1992 for Algeria, 1994 for Egypt and Jordan, 1997 for Lebanon, 1993 for Morocco, 1991 for Tunisia. The end of this period is the year preceding the association agreements with the EU for each country. The post-agreement period starts in the year of the agreement and continues until the latest annual data available in UNCOMTRADE.

trade perspectives, their markets are relatively small. In terms of value chain effects, an increase in imports of LDCs into SMCs (notably Bangladesh) has been observed in the textile and clothing sector, as these imports provide low-cost inputs and therefore help the sector to remain competitive.

5.1. Introduction

Any analysis of the impacts of the FTAs in the Southern Mediterranean should also include their possible impact on longer-term issues such as sustainable development and human rights. This portion of the ex-post evaluation is therefore divided into four specific areas related to sustainability: social impact, environmental impact, human rights impact and impact on third countries outside of the FTA. Based on the ToR and similar studies, these four areas of impact cover many different elements. The aspects that the analysis covers with respect to the four areas are the following:

- **Social impact**: effects on employment, wages, household incomes, labour standards and working conditions, health & safety, social protection, social dialogue, poverty reduction, gender-related issues, and vulnerable groups;
- **Environmental impact**: effects on waste, energy use and mix, air pollution, natural resources (water resources, agricultural fertilisers, land use, soil, and livestock, forests/forest resources, fisheries/fish resources, wildlife resources) and the greening of the economy (incl. trade in environmental goods and services);
- **Human rights impact**: effects on economic, social and cultural human rights, with an emphasis on the right to work and worker's rights, the right to food, the right to water, the right to a healthy environment and cultural rights;[523] and
- **Impact on developing countries and Least Developed Countries (LDCs)**: trade diversion and trade creation, and possible resulting economic, social, environmental and human rights effects of the Agreement.

As with other parts of the analysis, there have been many developments in the four impact areas in each of the given countries. Rather than describing developments in these areas, our approach is focused on identifying causal links with the FTAs. In order to keep focus on the specific effects of the FTAs, the sustainability analysis focuses on:

1. Analysis of trade chapters of the association agreements on texts linked to the four areas. The aim of this analysis is to identify if the agreements can have brought any direct changes to the four areas;
2. Analysis of sustainability-related indicators in the CGE model. The aim of this analysis is to find the direction and significance of FTA-related effects;
3. Case studies on specific impact areas, to be able to provide additional insights into FTA related effects.

In addition, the analysis is complemented by a literature review on sustainability impacts of the FTAs, as well as stakeholder consultations. It should be noted that this implies that the level of depth of the analysis varies across impact areas: in the areas covered by the case studies, the analysis can be more in-depth than for other areas, for which only literature review and stakeholder consultations are available.

While the analysis of the text of the agreement aims to identify direct effects of the trade chapters in the area of sustainability, the FTAs also have had indirect effects, stemming from the economic changes brought about by the agreement. This indirect effect is studied in more detail in the following sections of this chapter, based on the other types of activity as outlined above. The results of these activities are presented for the four impact areas. Because of the overlap between the social and human rights analyses (e.g. employment and rights to work, labour conditions and workers right), these have been integrated in one section. Please note that the full results of the literature review and consultations on the link between the FTAs and sustainability are included in Annex F.

[523] For the human rights analysis, the analysis also takes into account the guidelines of the EC on the analysis of human rights impacts in impact assessments for trade-related policy initiatives, available at http://trade.ec.europa.eu/doclib/docs/2015/july/tradoc_153591.pdf. We have selected a number of human rights for which we expect a more direct link with the FTA (see the inception report of this study for more details).

5.2. Text of the trade chapters and sustainability

With respect to the first step, there are two main points to highlight (see also Chapter 3). First, these first-generation FTAs do not contain Trade and Sustainable Development chapters, as are included in new generation EU FTAs. Secondly, the FTAs are part of the broader Association Agreements. In these AAs, there is specific attention to sustainability issues (e.g. co-operation on environmental issues, economic cooperation to support efforts to achieve social development). However, the scope of this ex-post evaluation only covers the trade chapters of the Association Agreement, not such co-operation clauses.

The analysis of the texts of the Euro-Med FTAs shows that there is limited reference to sustainability issues in the agreements. In general terms, the FTAs do provide the opportunity to introduce temporary measures or maintain certain trade-restricting measures on the grounds of sustainability-related considerations. With respect to human rights, the Association Agreement starts with the Parties affirming the importance they attach to the respect for human rights, democratic principles and political and economic freedoms, which allows all Parties to suspend and take countermeasures when human rights violations occur.[524]

Based on this analysis, sustainability-related effects will not follow directly from the legal obligations of the FTAs, but rather indirectly, through the economic changes brought about by the agreement.

5.3. Social and human rights impact

In this section, we present the results of the FTAs in the areas of social and human rights impacts. Based on our analysis, overall impacts are small. Impact areas that were identified as particular relevant in relation to the FTAs considering the results of the general equilibrium model, the literature and stakeholder consultations are employment, income, labour conditions, gender and the right to food. For the other areas that we planned to cover, no evidence has been found on FTA-related effects.

The areas for which we identified impacts from the FTA are discussed in the next sections. Two case studies have been conducted on social and human rights impact: one on employment, with a closer look at two more trade-intensive sectors; and one on gender, with a focus on female employment in the agricultural sector. These case studies have been selected based on initial literature review and first feedback from the consultations. The purpose of the case studies is to have a more in-depth analysis of the effects of the FTA in these areas.

5.3.1. Employment

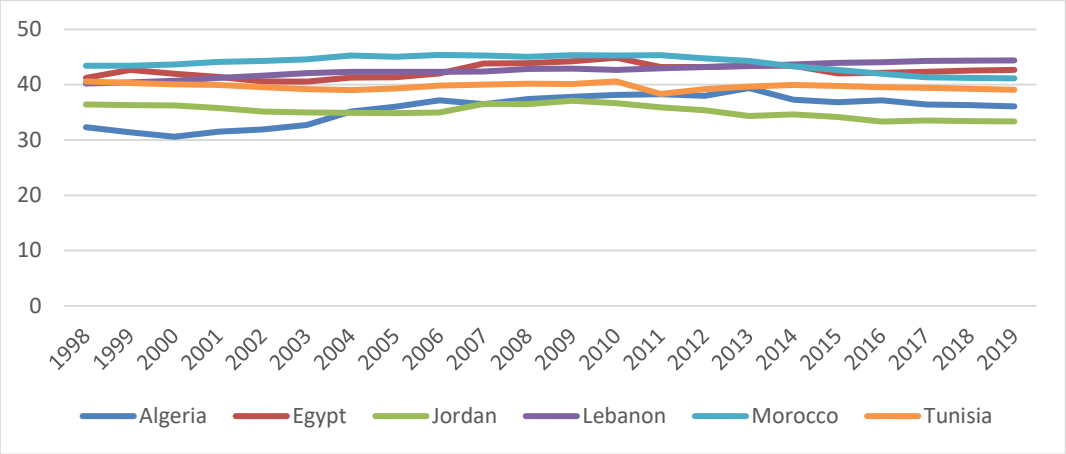
Employment has been one of the indicators considered most closely linked to the FTA. Before we move to the impact of the FTAs specifically, it is interesting to look at the development of some labour-market indicators over the evaluation period.

Unfortunately, there are only a few indicators for which data are available to compare developments across countries. These relate to the employment to population ratio, and to the unemployment ratio, for the EU (aggregate) and six SMCs. It should be noted that the employment to population ratio encompasses the working age population and thus also includes people not actively seeking employment.

The figures (5.1 and 5.2) show that that although the changes are on average relatively small over time, the employment to population ratio has decreased in Jordan, Morocco and Tunisia, while it slightly increased in Algeria, Egypt and Lebanon. While unemployment increased in Lebanon and Jordan, it decreased in the other SMCs, with the largest decrease taking place in Algeria. However, it should be noted, that these figures should be taken with caution as a large part of the economy is informal in SMCs. For example, in Egypt, Lebanon, Jordan and Morocco, informality accounts for more than 90% of primary sector employment (Angel-Urdinola and Tanabe, 2012, more details in Annex F in Table F.2).

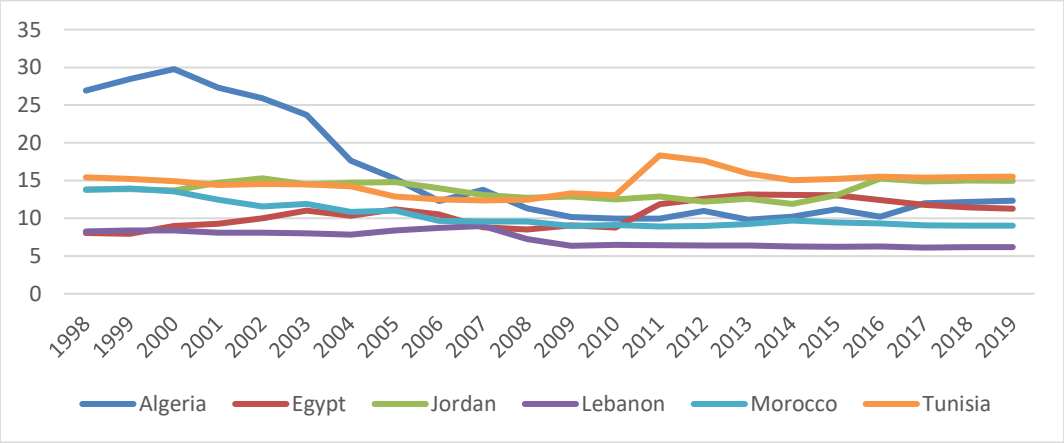
[524] In this regard, see Tobias Dolle, Human Rights Clauses in EU Trade Agreements: The New European Strategy in Free Trade Agreement Negotiations Focuses on Human Rights – Advantages and Disadvantages, The Influence of Human Rights on International Law, Springer, 2015.

Figure 5.1 Employment to population ratio (%), SMCs, 1998-2019



Source: World Development Indicators.

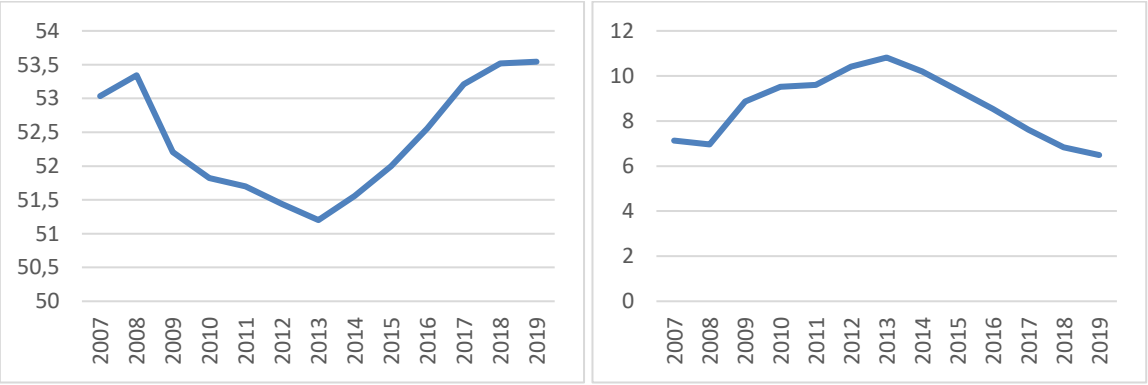
Figure 5.2 Unemployment (% of labour force), SMCs, 1998-2019



Source: World Development Indicators.

For the EU, we show data from 2007, as the shifting composition of the EU pre- and post-accession wave in 2004 makes the pre-2004 data not strictly comparable. While the difference between 2007 and 2019 is relatively small, it shows that economic performance has affected both indicators: when the economic performance of the EU improved, unemployment gradually decreased and a larger share of the population was active in the labour market.

Figure 5.3 Employment to population ratio (%) and unemployment (% of labour force), EU, 2007-2019



Source: World Development Indicators.

The key question is of course how the FTAs have contributed to these developments, as there are many other factors that affect employment. For example, employment is clearly affected by the global financial crisis and the recession that followed in most countries.

Results of the literature review suggest that the impact of the FTAs on employment has been modest for SMCs and, in some cases, even negative (see Annex F).

Results from the stakeholder consultations are mixed. Some point to the increased competition of EU companies, driving local firms out of the market in some shrinking sectors, and claim that there have been huge job losses. Other stakeholders on the other hand, point to the employment created, not only by the direct export opportunities, but also by EU FDI and subcontracting by EU companies.

A case study on employment has been carried out to have a closer look at employment in two sectors that have significant trade flows with the EU, and where the impact is likely to be bigger (see section 4.3.5). However, it finds that the link between the FTA and employment is not straightforward, and therefore it is difficult to draw strong conclusions. In addition, while these sectors might be among the ones relatively impacted most by the agreement, their share in overall employment (based on the wage bill) is relatively small, and effects on the total employment rates are therefore likely to be only small.

5.3.2. Wages, welfare and prices

Wages, welfare and consumer prices may also have been affected by the FTAs. On these indicators, we can establish a more direct link with the FTAs, as these are included in the Commission's CGE model, which compares the situation with and without the current FTAs (see Section 3.4).

It should be noted that the CGE model assumes fixed employment in each of the economies studied, and changes in the demand for labour are therefore reflected through wages rather than quantities. Higher wage levels reflect that demand for labour increases as a result of the FTAs. In reality, increased demand for labour could translate into higher wages or increased employment. With respect to the labour market, the model also assumes that labour is fully flexible, and that employees can frictionless move from one sector to another. In practice, this is not the case as there are differences in the required knowledge and skills, differences in production location, as well as other structural and regulatory barriers to labour mobility throughout the region. This has been confirmed in stakeholder consultations.

CGE modelling results are only available for four countries: Egypt, Jordan, Morocco and Tunisia (see Section 3.4).[525]

Table 5.1 CGE modelling results- selected indicators for the social analysis, SMCs

	Egypt		Jordan		Morocco		Tunisia	
Indicator	Impact of the FTA (%)	Impact of the FTA (€m)	Impact of the FTA (%)	Impact of the FTA (€m)	Impact of the FTA (%)	Impact of the FTA (€m)	Impact of the FTA (%)	Impact of the FTA (€m)
Welfare	0.39%	795	0.11%	41	0.37%	292	1.46%	465
Low skilled wages	0.55%	n.a.	0.09%	n.a.	1.52%	n.a.	3.30%	n.a.
High skilled wages	0.59%	n.a.	0.11%	n.a.	1.09%	n.a.	3.40%	n.a.
Consumer prices	-0.05%	n.a.	-0.44%	n.a.	-0.01%	n.a.	-0.28%	n.a.

Source: EC, CGE Modelling results.

As can be seen, the impact of the Euro-Med FTAs is positive with respect to the social indicators, with higher welfare, higher wages across the skills spectrum, and lower consumer prices, with changes relatively small for Jordan and highest (in relative terms) for Tunisia. The higher effects for Morocco and especially Tunisia as compared to Egypt and Jordan reflect the relative importance of the EU market for these countries. While in Egypt and Morocco, the benefits are felt most strongly in wages, in Jordan the strongest effect is in consumer prices.

[525] For Algeria and Lebanon CGE modelling results are not available, and only effects on trade flows have been calculated. We therefore have less insights in the social effects of the FTAs, as for these countries we can only rely on literature, consultations and deeper analysis performed for the case studies.

Overall, the impact of the FTA on social indicators at macro level is positive but modest. Most changes are below 1%, with the exception of Tunisia, where the estimated impacts on wages are more significant with a more than 3% increase. The differences in wages increases between high skilled and low skilled labour are small to negligible, with the exception of Morocco, where wage increases for low skilled labour are more pronounced than for high skilled labour. While the literature on the FTA-related effects is limited, Zorob (2017) finds that increased competitive pressure on industries and labour markets appears to have contributed to an increase in existing wage gaps, with better conditions for high-skilled labour.

Impact on consumer prices are below 0.5% in all four countries according to the CGE results. In the stakeholder consultations, a number of stakeholders confirmed a decrease in prices as well as better availability of some products.

Table 5.2 presents the results on social indicators in the EU, stemming from the different FTAs. The tables show that results for social indicators in the EU are all below 0.1%, and in most cases even below 0.05%.

Table 5.2 CGE modelling results - selected indicators for the social analysis, EU

	Egypt FTA		Jordan FTA		Morocco FTA		Tunisia FTA		Total	
Indicator	Impact of the FTA (%)	Impact of the FTA (€m)	Impact of the FTA (%)	Impact of the FTA (€m)	Impact of the FTA (%)	Impact of the FTA (€m)	Impact of the FTA (%)	Impact of the FTA (€m)	Impact of the FTA (%)	Impact of FTA (€m)
Welfare	0.01%	1,199	0.00%	232	0.01%	1,047	0.01%	1,187	0.03%	3,665
Low skilled wages	0.02%		0.01%		0.02%		0.02%		0.07%	
High skilled wages	0.02%		0.01%		0.02%		0.02%		0.07%	
Consumer prices	0.02%		0.00%		0.01%		0.01%		0.04%	

Source: EC, CGE Modelling results.

Stakeholders from southern European Member States mentioned that agreements negatively affected wages and income of farmers because competition from the SMCs increased.

5.3.3. Labour conditions in the EU and SMCs

The ILO elaborates and promotes international labour standards to guarantee minimum levels of protection for labour internationally. In the context of the Euro-Med FTAs, it is relevant to assess whether the partner countries have ratified the ILO's core labour standards.

The ILO core labour standards, or fundamental conventions, cover four main categories: freedom of association, forced labour, discrimination and child labour and cover the following:

- *Freedom of association* - to protect workers and employers by ensuring their right to set up their own rules, to join federations and confederations, to form workers' unions and by ensuring respect for the abovementioned rights;
- *Forced labour* - to supress and eradicate the use of force and compulsory labour;
- *Child labour* -to prevent the endangerment and exploitation of young children by setting up sets of rules and standards to follow;
- *Discrimination* - to reduce or eliminate remuneration discrimination based on "race, colour, sex, religion, political opinion, national extraction or social origin, which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation"[526].

Each of the four categories includes two standards. This results in eight core Conventions as set out by ILO:

- Right to Organise Convention (C087);
- Right to Organise and Collective Bargaining Convention (C098);
- Forced Labour Convention (C029);
- Minimum Age Convention (C138);

[526] C111 – Article 1.

- Abolition of Forced Labour Convention (C105);
- Worst Forms of Child Labour Convention (C182);
- Equal Remuneration Convention (C100);
- Discrimination (Employment and Occupation) Convention (C111).

Table 5.3 and 5.4 shows the dates of ratification of the core labour standards for the SMCs and the EU respectively.

Table 5.3 Ratification (year) of the fundamental labour conventions, SMCs

Countries	Freedom of association		Forced Labour		Discrimination		Child labour	
	C087	C098	C029	C105	C100	C111	C138	C182
Algeria	1962	1962	1962	1969	1962	1969	1984	2001
Egypt	1957	1954	1955	1958	1960	1960	1999	2002
Jordan		1968	1966	1958	1966	1963	1998	2000
Lebanon		1977	1977	1977	1977	1977	2003	2001
Morocco		1957	1957	1966	1979	1963	2000	2001
Tunisia	1957	1957	1962	1959	1968	1959	1995	2000

Source: ILO website.

Table 5.4 Ratification (year) of the fundamental labour conventions, EU

Countries	Freedom of association		Forced Labour		Discrimination		Child labour	
	C087	C098	C029	C105	C100	C111	C138	C182
Austria	1950	1951	1960	1958	1953	1973	2000	2001
Belgium	1951	1953	1944	1961	1952	1977	1988	2002
Bulgaria	1959	1959	1932	1999	1955	1960	1980	2000
Croatia	1991	1991	1991	1997	1991	1991	1991	2001
Cyprus	1966	1966	1960	1960	1987	1968	1997	2000
Czech Republic	1993	1993	1993	1996	1993	1993	2007	2001
Denmark	1951	1955	1932	1958	1960	1960	1997	2000
Estonia	1994	1994	1996	1996	1996	2005	2007	2001
Finland	1950	1951	1936	1960	1963	1970	1976	2000
France	1951	1951	1937	1969	1953	1981	1990	2001
Germany	1957	1956	1956	1959	1956	1961	1976	2002
Greece	1962	1962	1952	1962	1975	1984	1986	2001
Hungary	1957	1957	1956	1994	1956	1961	1998	2000
Ireland	1955	1955	1931	1958	1974	1999	1978	1999
Italy	1958	1958	1934	1968	1956	1963	1981	2000
Latvia	1992	1992	2006	1992	1992	1992	2006	2006
Lithuania	1994	1994	1994	1994	1994	1994	1998	2003
Luxembourg	1958	1958	1964	1964	1967	2001	1977	2001
Malta	1965	1965	1965	1965	1988	1968	1988	2001
Netherlands	1950	1993	1933	1959	1971	1973	1976	2002
Poland	1957	1957	1958	1958	1954	1961	1978	2002
Portugal	1977	1964	1956	1959	1967	1959	1998	2000
Romania	1957	1958	1957	1998	1957	1973	1975	2000
Slovakia	1993	1993	1993	1997	1993	1993	1997	1999
Slovenia	1992	1992	1992	1997	1992	1992	1992	2001
Spain	1977	1977	1932	1967	1967	1967	1977	2001
Sweden	1949	1950	1931	1958	1962	1962	1990	2001
United Kingdom	1949	1950	1931	1957	1971	1999	2000	2000

Source: ILO website.

The tables show that most conventions were ratified well before the EuroMed FTAs were signed. Only Jordan, Lebanon and Morocco have not ratified the right to organise Convention.

Based on the stakeholder consultations, and despite all these ratifications, there are still implementation and enforcement issues.

The question is then to what extent the FTA has brought about a change in the working conditions (other than wages, which have been addressed above). In the literature review, we found no evidence in either direction. In the stakeholder consultations, a mixed picture emerged. Some pointed to general better working conditions at exporting firms, and also with EU investors. Increased focus on sustainability in the EU market was also said to have some positive effect. Other stakeholders indicated that EU companies make use of the lower labour

standards in the SMCs and therefore do not have a positive impact. While for employment and incomes, negative effects were also reported, we have not heard concrete examples of a worsening situation in terms of labour conditions in relation to the FTAs.

5.3.4. Impacts in other social and human rights areas

As indicated earlier, the main other areas for which an FTA-related impact seems to occur are gender equality and food security, including the right to food.

With respect to gender equality, stakeholders pointed to gender-related challenges in the SMCs. On the one hand, they point to increased demand for female labour, e.g. in the textile and clothing sector. It was also pointed out that businesses, however, continue to be reluctant to employ women. On the other hand, one stakeholder also noted that EU companies are more likely to employ women. The case study on female employment in agriculture (see section 5.3.6) shows the development of female employment in agriculture in relation to trade with the EU and addresses some of the challenges these women face. Again, there are no straightforward conclusions on the FTA-related effects, as there are differences between countries, not only regarding the importance of the agricultural sectors and the impact of the FTA on the sector. The situation for female employment in the sector also differs from country to country, for example with regard to the vulnerability of jobs and jobs changes. The FTA only seems to play a minor role in these developments. The case study does show that women face particular challenges (e.g. related to level of education, access to finance or networks) that make it harder to benefit from the opportunities offered by the agreement.

With respect to food security, there seems to be a difference between access to food and import dependency. In most SMCs, the production of export-oriented products (mainly vegetables and fruits) has expanded, while cereals have been increasingly imported. The latter is positive from an efficiency point of view, as it reflects specialisation according to comparative advantage. It implies that the availability of cereals, an important staple food, increases. However, it also implies that countries become more dependent of imports of these products. One stakeholder also noted that this can have local effects, as in the areas where a switch in production to export products was made, it may be more difficult, especially for vulnerable groups, to access staple products.

We have found little existing analysis on the other areas which could plausibly fall under social impact (for social: health & safety, social protection, social dialogue, poverty reduction, and vulnerable groups and for human rights, the right to water, the right to a healthy environment and cultural rights). While there are clearly challenges in the SMCs in these areas (on which there is information available), we have not been able to find a clear link with the FTAs. Stakeholders have also not been able to provide inputs in these areas. This is not to say that there has not been any impact. Especially for certain products, and the regions in which they are produced, impacts could be present. However, at macro level, these effects are likely to be small. As far as government spending in SMCs is concerned, the decline in customs revenues associated with FTAs has not led to a significant decline in government spending, education and health spending (figure AF.2.b in the annexes).

5.3.5. Case study: a closer look at employment effects

The literature review and CGE model provide a first indication of results in the social realm. To delve in deeper into the social and human rights impacts of the preferences under the Association Agreements, the analysis is complemented with case studies, which are selected on the basis of the preliminary results from the CGE modelling, literature review and stakeholder feedback. The first case study takes a closer look at the effects on employment in the textile and chemical sectors.

In this first case study, we examine the impact of the Euro-Med FTAs on employment in the six EU partners in more detail. Based on the CGE modelling results, effects on the economy are positive but based on the literature review, effects on employment seem limited or even negative. In the consultations, stakeholders also expressed their disappointment with respect to employment effects of the FTAs. Unemployment is a significant issue in the SMCs, especially youth unemployment, and therefore a deeper analysis into the effects of the FTAs on employment is highly relevant. At the same time, we note that expectations of these trade agreements may be too high: given the political and demographic context in the SMCs, the FTAs alone are unlikely to be a sufficient tool to address the social challenges of the region.

In this case study, we focus on two sectors that are expected to be significantly impacted by trade opening as shown in Chapter 3 and 4: textiles & clothing (positive impact) and chemical, plastic & rubber products (negative impact). Indeed, these two sectors would account for a significant share of the new trade flows between the EU and SMCs attributable to FTAs. For example, and as detailed below in table 5.8, the textile and wearing apparel sector could represent nearly 55% of additional export flows to the EU (case of Tunisia). In addition, the chemical, rubber and plastic products sector could represent up to 57% of additional export flows to the EU (case of Algeria). These sectors appear to be particularly sensitive to changes in international trade conditions. Depending on the country, impacts are positive or negative, and smaller or larger.

Alcidi & Al (2017) confirm this observation of country differences in terms of impact, looking at the restructuring effects of trade opening, including the attractiveness of foreign direct investment for Egypt, Jordan, Morocco and Tunisia. Zaafrane and Mahjoub (2000) point out that, in the case of Tunisia, 60% of industrial production is potentially impacted by tariff liberalization and that only 30% are really competitive. This could be worrying for jobs in this sector. According to Investment Development Authority of Lebanon (2016), for the chemical, rubber and plastic products sector, the MENA region would be a significant emerging player in this field. In particular for textiles and wearing apparel, there is a large body of literature on the impacts of FTA. Therefore, these sectors are particularly interesting to study in the context of the EuroMed FTAs. Finally, these two sectors are interesting to compare, as the textile and clothing sector is labour-intensive, while the chemical, rubber and plastic products sector is more capital intensive. In the case study, we identify channels through which trade could affect employment and examine subsequently the extent to which the different channels have had an impact.

In this case study, we first present the sectors, their importance in the economy and in employment. We then look at the change that took place as a result of the FTA, and through which channels this impacts employment. Then we look at the changes that occurred as a result of the FTA, looking both at CGE results and actual observations. Finally, we present conclusions.

General presentation of the sectors

What do these sectors contain?
The *Chemicals, rubber and plastics* sector covers the manufacturing of basic organic and inorganic chemicals, pharmaceutical products and pesticides and rubber tyres and plastic tubes. The main raw materials used in this sector include oils, minerals, metals and agricultural products (such as natural rubber and fats). Many of the key ingredients for chemical, rubber and plastic goods are hydrocarbon derivatives from oil. Hence, they are linked and vulnerable to the uncertainty surrounding oil and gas markets. This sector is generally known for being capital intensive. On the contrary, the textile sector is more labour intensive. Indeed, according to Eora database (2019), the share of wages in value added (VA) in the year 2015 ranges from 29% to 51% for the textile and clothing sector and from 17% to 36% for the chemicals, rubber and plastics products sector. The textile sector covers the preparation and spinning of textile fibres as well as the weaving, finishing of textiles and clothing, and the manufacturing of other made-up textile articles. A related sector is the wearing apparel sector, which covers the entire production, in all materials, of all clothing and clothing accessories. For more details on the textile & clothing sector, we refer to the dedicated sector study in Chapter 5.

Economic weight of these sectors
In view of the fears or hopes that may surround FTAs, it is important to carry out an exercise to measure the weight of these sectors in the economies of partner countries in order to bring the issues back to their true dimension. Both sectors have a low weight in the creation of wealth in the economies of SMC countries. This ranges from 0.43% of the national added value in Algeria to 1.28% of the added value in Tunisia for the textile and clothing sector. For the chemicals, rubber and plastics products sector, this ranges from a contribution of 0.06% of national value added for Algeria to 2.42% for Jordan.

Table 5.5 Share of each industry's value added in national value added

VA sect./National	Textiles & Wearing apparel	Chemical, rubber and plastic products
Algeria	0.43%	0.06%

Egypt	0.59%	0.63%
Jordan	0.65%	2.42%
Lebanon	0.49%	0.11%
Morocco	1.04%	1.36%
Tunisia	1.28%	1.45%

Source: Eora global supply chain database (2019), for year 2015, authors calculations.

As services are less directly impacted by FTAs, whereas they are important in terms of employment, it may be interesting to report the weight of the two sectors in relation to the total value added of activities producing goods. With this standard, the textiles and wearing apparel sector can reach 5% of total value added (case of Tunisia) and the chemicals, rubber and plastic products sector can exceed 10% of total value added (in case of Jordan).

Table 5.6 Share of each industry's value added in national goods sectors value added

VA sect/VA goods	Textiles & Wearing apparel	Chemical, rubber and plastic products
Algeria	1.43%	0.19%
Egypt	2.56%	2.74%
Jordan	2.81%	10.44%
Lebanon	2.21%	0.49%
Morocco	4.04%	5.33%
Tunisia	5.02%	5.67%

Source: Eora global supply chain database (2019), for year 2015, authors calculations.

Wage/employment content of these sectors

Ideally, we would like to compare employment levels in the sectors across countries. However, we have not been able to identify the required data for this. Therefore, we use instead data on the wage bill. This is the total amount spent on wages and this is therefore affected by the number of people employed as well as the wage levels. Changes in the wage bill can be indicative of changes in employment.

The shares of contribution to national value added presented above may be misleading when one looks at how much sectors contribute to wages in the economy. Indeed, if a sector is richer in manpower, then it can represent relatively more in terms of wage contribution to the national economy. The opposite is the case for highly technological sectors (they must remunerate technological capital first and foremost with the added value they generate). UNIDO (2017) classifies textiles and clothing as low-tech sectors. The technology level is higher in the Chemicals, rubber and plastics sectors, although this depends on the specific subsector. Rubber and plastics are classified as low to medium tech, and chemicals as medium to high tech, while medicinal chemicals are high tech.

Table 5.7 Share of each industry's wages in the national wage bill

Wages sect./National	Textiles & Wearing apparel	Chemical, rubber and plastic products
Algeria	0.52%	0.04%
Egypt	0.74%	0.52%
Jordan	0.58%	0.92%
Lebanon	0.58%	0.09%
Morocco	1.25%	1.14%
Tunisia	1.56%	1.20%

Source: Eora global supply chain database (2019), for year 2015, authors calculations.

This theoretical expectation is empirically verified for the two sectors studied in the SMCs. In table 5.7, either the share of wage compensation is higher in the textile sector and lower in the chemical sector compared to the share of value added in table 5.5 (Algeria, Egypt, Lebanon, Morocco, Tunisia) or the share attributed to wages is lower in the textile sector than in the chemical sector compared to the share of value added (Jordan). For example, in the case of Algeria, the textile and clothing sector contributes 0.43% of value added but contributes more to wages in the economy with a share of 0.52%. Conversely, in the chemicals, rubber and

plastics products sector, while the sector's contribution to value added is 0.06%, the sector's contribution to national wages is only 0.04%.

At this stage of the analysis, it can be said that, in most of the countries studied (Algeria, Egypt, Lebanon, Morocco, Tunisia), trade shocks in the textile and clothing sector will have a greater impact on the wage bill than trade shocks in the chemical, plastic & rubber products sector for a given variation in activity. In Jordan, it is the other way around. It should also be noted that, given the wage shares of these sectors in the total for the SMCs economies, the expected effects on overall employment will be small.

FTA changes and channels of impact

A first step in analysing the social impact of FTAs is to outline the order of magnitude of tariff cuts in the sectors on which our analysis focuses. Tables F.1 to F.6 in the annex F3 show that barriers to exports to the EU have changed very little as a result of the agreement. Very small changes have only occurred in Egyptian export tariffs to the European Union for products in the textile, chemical, plastic and rubber sectors. In contrast, import duties on products from the EU were very high in the textile sector for all countries Table F.7 to F12 in Annex F3), ranging from about 30% to 50%, except for Lebanon where duties were about 6%. For pre-liberalization customs duties in the chemical, rubber and plastic products sector, two groups of countries can be distinguished. A first group containing Tunisia and Morocco with customs duties exceeding 20%. A second group consisting of the other four SMCs with more moderate customs duties. After liberalization, the custom duties in Egypt, Jordan, Lebanon and Morocco for EU products have been very close to 0 for products in both sectors analysed. On the other hand, EU exports still face low to moderate customs duties in Algeria and high duties in Tunisia. In general, the reduction in customs duties was high for the textiles sector (from about 6% to 50% depending on the country) and low up to high for the chemical, rubber and plastic products sector (from 0.18% in Algeria to 44% in Morocco). This means that there is a significant reduction of customs barriers throughout the region.

As shown in the previous chapters, these tariff reductions have increased trade between the EU and SMCs. We have identified main channels through which changes in trade could affect employment. Both comparative advantages and organizational and technological change were assessed.

Comparative advantage
The comparative advantage channel represents the most direct effect of openness on employment. The theory of comparative advantage states that countries move towards a specialization in products and services for which they are relatively most productive. With trade opening, they can export more of these competitive products and services, while they will import more products and services in which they are less productive. As imports of goods in which the economy is not specialized can be cheaper than the same good produced domestically, competitive sectors that use these imports during the production process, can further increase their competitiveness.

In terms of employment, it is likely that competitive sectors will expand and hire more workers, while less competitive sectors will contract and reduce the number of jobs. The final effect on employment is related to the labour intensity of expanding and contracting sectors but also on the extent to which labour can move from one sector to another. As explained in section 5.2.2, there may be various barriers that prevent this movement.

Organizational and technological change
Trade opening can also lead to organisational and technological change. On the one hand, it is an autonomous phenomenon in the sense that any organization is asked to review its way of producing with the objective of increasing its productivity. Trade openness can then provide access to foreign technologies at a lower cost. In this case, the intention to change exists before the commercial opening, but the latter facilitates it. In other words, in this representation, the driving force of technological and organisational change is the quest for efficiency. This is a phenomenon that is autonomous with respect to commercial openness. On the other hand, this channel of impact is an induced phenomenon when new trade conditions create incentives or even injunctions for change. This is the case when a technology becomes so affordable with the lowering of tariffs (incentives) that companies wonder about integrating it into the production process. This is also the case when a reduction in customs duties at a trading partner prompts the company to review its technology or management techniques in order to penetrate a foreign

market more quickly. This organizational or technological change can finally be the result of an injunction: adapt, upgrade or perish. This is the case when more efficient foreign companies enter the domestic market following a reduction in customs protection.

These organizational and/or technological changes can have an impact on employment and wages. This impact can be negative. For instance, when employees are dismissed because they are replaced by machines or when wages are reduced. The impact can also be positive. For example, when the managerial policy consists in increasing salaries to retain employees (bet on a return on investment through their gain of experience) or when technology pushes to employ highly qualified employees to deal with sophisticated new technologies.
Effects of this channel will often not be immediate but develop slower over time. In addition, it is more difficult to analyse, especially in the context of SMC data availability. In this study, we will therefore focus on the analysis of the effects related to the first channel presented.

Dynamics of the sectors: CGE results and observed trends

Results of the modelling simulations
As presented in section 3.4, general equilibrium modelling (Egypt, Jordan, Morocco, Tunisia) and partial equilibrium modelling (Algeria and Lebanon) have been conducted in order to estimate the effects of the FTAs on the different SMCs economies (comparing the situation with and without the FTA). According to the results of these simulations, the textile and clothing sector would absorb between 2.15% (Algeria) and 17.54% (Tunisia) of the additional import flows in value in the national economy. Concerning exports, this sector would account for 0% (Algeria) to 54.61% (Tunisia) of additional export flows in value in the national economy. The chemical, rubber and plastic products sector would absorb between 8.54% (Jordan) and 28.89% (Egypt) of the additional import flows in value in the national economy. Concerning exports, this sector would account for 3.62% (Morocco) to 56.57% (Algeria) of the additional export flows in value in the national economy.

Table 5.8 Share of each sector in total additional bilateral trade flows of the SMC resulting from the Euro-Med FTAs

%total	Textiles & Wearing apparel		Chemical, rubber and plastic products	
Change in	imports	exports	imports	exports
Algeria *	2.15%	0.00%	24.12%	56.57%
Egypt	2.98%	40.11%	28.89%	19.05%
Jordan	4.99%	20.00%	8.54%	8.89%
Lebanon*	4.51%	14.61%	24.31%	26.97%
Morocco	10.05%	49.84%	13.27%	3.62%
Tunisia	17.54%	54.61%	13.43%	4.36%

Source: European Commission (EC, 2019), authors calculations. The star indicates countries for which the impacts are calculated with partial equilibrium models.

The conversion of these variations into currency units, i.e. in million euros, makes it possible to assess the order of magnitude of these FTA-induced trade flows with the European Union. Thus, for Algeria, Jordan and Lebanon, additional imports in the textile sector are estimated to exceed additional exports while the opposite is true- for the much larger trade flows in absolute terms- for Egypt, Morocco and Tunisia. In the chemical sector, additional imports in value terms would exceed additional exports for all six SMCs.

Table 5.9 Additional bilateral trade flows of the SMCs resulting from the Euro-Med FTAs for the sectors under study, (€m)

€m	Textiles & Wearing apparel		Chemical, rubber and plastic products	
Change in	imports	exports	imports	exports
Algeria *	67	0	751	142
Egypt	133	602	1291	286
Jordan	45	9	77	4

Lebanon*	41	13	221	24
Morocco	561	1554	741	113
Tunisia	739	1440	566	115

Source: European Commission (2019), over the period of Euro-Med liberalization. The star indicates countries for which the impacts are calculated with partial equilibrium models.

To understand the potential structural adjustment implications of these flows on the economy, it is possible to relate these flows to the added value of sectors in different countries. However, it should be kept in mind that we are comparing imports and exports, which are gross concepts (including intermediate inputs), with value added, which is a margin. Based on the modelling results, additional import flows can reach 132% of the added value of the textile and clothing sector in Tunisia. In terms of exports, additional exports from Tunisia can even reach 257% of the sector's added value. In Algeria, in the chemical, plastic & rubber products sector, additional import flows can reach 611% of value added while additional export flows for this country can reach 116% of value added.

Table 5.10 Estimated bilateral trade flow increase compared with sectoral value added (VA)

% of sect. VA	Textiles & Wearing apparel		Chemical, rubber and plastic products	
Share of the change in	imports	exports	imports	exports
Algeria *	7%	0%	611%	116%
Egypt	9%	39%	77%	17%
Jordan	22%	4%	10%	1%
Lebanon*	22%	7%	546%	59%
Morocco	55%	153%	55%	8%
Tunisia	132%	257%	90%	18%

Source: EC (2019) & Eora global supply chain database (2019), VA base year: 2015, authors calculations. The star indicates countries for which the impacts are calculated with partial equilibrium models.

The above estimations of effects on trade flows focus on bilateral trade of the SMCs with the EU. It should be kept in mind that bilateral trade is only part of the story. FTAs are also likely to lead to changes in trade flows with third countries. For example, while certain chemicals may have been imported from a third country without the FTA in place, the FTAs might make it more attractive to import these products from the EU. In that case, the imports from the EU would not affect domestic competition, but only change the origin of imports.

In addition, there are value chain effects. Imports of certain intermediate inputs from the EU could make the end product more competitive and help to increase exports to third countries. Taking these relations into account will also help to better represent the effects on economic activity and employment than when only looking at bilateral exports to the EU.[527]

The advantage of the of CGE model is that these value chain and third country effects are included in the modelling and reflected in output changes. These results are only available for countries that have been studied using a general equilibrium model, namely Egypt, Jordan, Morocco and Tunisia.

Table 5.11 Estimated impacts of Euro-Med FTAs on sectoral output in four SMCs

Output	Textiles & Wearing apparel		Chemical, rubber and plastic products	
	Relative change	€m	Relative change	€m
Egypt	1.24%	435	-1.70%	-230
Jordan	-0.07%	-1	0.50%	15
Morocco	17.43%	1445	-2.50%	-366
Tunisia	39.24%	1108	-2.00%	-78

Source: European Commission (2019), authors calculations.

[527] Although it should be noted that if the imported intermediate efforts replace domestic inputs, employment in that sector could still decrease.

The results of these simulations suggest a positive effect of the opening on employment in the textile sector in Egypt, Morocco and Tunisia, and a small negative effect in Jordan, to the extent that the labour intensity of the sector does not change. For the chemical, plastic and rubber products sector, the CGE results point to a negative effect on employment of the opening for Egypt, Morocco and Tunisia, but a small positive effect for Jordan. For Algeria and Lebanon, we can only base the effects on employment on developments in the trade balance, as there are no CGE results available. The effects on the trade balance suggest a negative effect on employment in both the textile and clothing sector and the Chemical, rubber and plastics sector for both countries.

Actual observations of trade flows over the time period of the ex-post evaluation
The question that can be asked at this stage of the analysis is: do the economic variables of the six countries bear the trace of such effects of trade opening on employment ex-post? The answer to this question raises the difficulty of distinguishing between the effects on economic variables related to the FTAs and those related to other parameters. Given the difficulty of overcoming this limitation, we prefer to discuss, in the rest of this case study, the "likely" or "potential" impacts of the FTAs.

We can try to answer the question posed above by starting with the part related to trade flows. Indeed, these flows are the most direct economic effects and therefore the most easily attributable to the FTAs. The employment effect in both sectors, is linked to the impact on economic activity in these sectors. So, an economic variable adapted to measure this activity is value added. We will examine the evolution of this variable as well as the evolution of the wage bill as an approximation variable for employment. In general, over short time horizons, wages represent a relatively constant share of value added. Trade openness may be responsible for a change in this share insofar as it may lead to new organisations or new production technologies.

The channel through which the effects of liberalisation on employment most clearly occur is the comparative advantage channel. The trade balance can be a first approximation of the direct effects of trade on employment, although as indicated earlier, this can only be a first and rough indication on the effects on employment. Trade balance movements are part of the transmission chain from the additional reduction in trade barriers related to FTAs to economic activity. This in itself is correlated with employment. This is a step in explaining the propagation of changes in trade conditions on economic activity. This step is important because in our analysis, one of the difficulties is to distinguish what is related to FTAs and what is not. Since the trade balance is at the beginning of the transmission chain, the evolution of its balance is more likely to be due to FTAs than to movements in other macroeconomic variables further downstream.

If imports compete with domestic production, imports can have a negative effect on employment, and if exports do not replace existing sales to other markets, they can increase domestic production and employment. Although this conception may seem a little static, mainly because the workforce that would be laid off from one sector could relocate to another sector, some of the literature supports this. In analysing 25 episodes of liberalization, Wacziarg and Wallack (2004)[528] showed that labour reallocation due to liberalization was not mainly between the broad sectors defined at the 1-digit level of disaggregation but rather within the sectors defined at the 3-digit level of disaggregation. Our two sectors are here defined as a sum of sectors at the 2-digit level of disaggregation and should, according to this position of the literature, include within them the movement of intersectoral redistributions. However, the relationship between trade and employment in reality is more complicated. In addition, there are indirect and value chain effects to take into account as indicated earlier. We proceed below to parallels with Chapter 5 which can provide an interesting analytical grid, since we can put into perspective the movements in trade balance observed with ROW with the potential value chains movements that could have taken place. Keeping these arguments in mind, the trade balance does give a first indication of the overall likely direction.

A first way to assess free trade agreements is to observe the evolution of the sectoral trade balance with EU in absolute terms. It is then interesting to contextualize and observe the evolution of the trade balance in relative terms, i.e. in relation to the movements for trade with the rest of the world. As far as the evolution in absolute terms is concerned, table 5.12 below

[528] Wacziarg, R., and J. S. Wallack. 2004. "Trade liberalization and intersectoral labour movements". *Journal of International Economics.* 64 (2): 411-439.

summarizes the trade balance movements detailed in Figures F.3 to F.14 in Annex F3. Over their respective liberalization periods, all SMCs appear to have suffered from the free trade agreement with regard to employment in the chemical, rubber and plastic products sector. On the other hand, in the textile and clothing sector, the results are more mixed. The group of countries for which liberalisation agreements may have been harmful includes Algeria and Lebanon, while the group of countries that may benefit from the agreement includes Egypt, Jordan, Morocco and Tunisia.

One interesting point about these flows is that they are very close to those obtained in the CGE simulations. On the one hand, in the chemical, plastic and rubber products sector, it was possible to deduce, a negative effect in the trade balance with the EU for all SMCs. In line with the latter results, after at least 10 years (depending on the country concerned) of trade flows following the implementation of FTAs, actual trade flows reveal that the trade balance has decreased for all SMCs. On the other hand, in the textiles sector, the estimated positive effects on the sectoral trade balance for Egypt, Morocco and Tunisia match with observed trends. On the contrary, for Algeria and Lebanon, negative effects had been estimated on the sectoral trade balance and historical flows also revealed a deterioration in this trade balance. Only the positive trend in Jordan's sectoral trade balance was not in line with the CGE result.

However, in order to assess the benefits of a trade agreement, it is necessary to look at how trade flows with other countries in the world have evolved. Indeed, we can observe in absolute terms a decrease in the sectoral trade balances between the EU and SMCs, but that this decrease is much less significant than those experienced by other countries. In this case, a trade advantage could be deducted from the Euro-Med agreement. On the contrary, a growing sectoral trade balance between the EU and SMCs, in this perspective, does not guarantee that the liberalisation agreements have been positive. The other countries may have experienced a stronger increase in trade balance over the period. While the observation of relative flows can provide a better picture of the trade environment, it is nevertheless necessary to stress that this does not allow us to assess the influence of the other free trade agreements that can take place bilaterally between countries.

For the textile and clothing sector, after liberalisation under the Euro-Med FTAs, SMCs' trade balances perform relatively better with the EU than with the rest of the world. Only the case of Jordan is a little ambiguous insofar as the trade deficit with the EU has almost reached balance in recent years, while Jordan is improving its trade surpluses with the rest of the world. For these six countries, we can wonder about the reason for these better trade balance performances with the European Union than with the rest of the world. It appears that the best export performance to EU markets is not the main cause. The main reason is rather that imports from the EU grew less as compared to imports from the rest of the world. Indeed, in 2005, with the end of the multi-fibre agreement, all countries had to face an increase in imports from countries such as China, Bangladesh, India and Vietnam (see also below and in section 4.5).

In general, in the Chemical, plastic & rubber products sector, after the implementation of the Euro-Med FTAs, the SMCs' trade performance with the EU is slightly worse than with the rest of the world. Egypt is an exception because its trade deficit with Europe is growing less than with the rest of the world following the Euro-Med FTAs. It can also be noted that for Algeria, the trade balance trends are roughly equivalent with the EU and with the rest of the world. Indeed, although there is somewhat a better performance in exports to the EU, imports are also increasing. For the other countries, trade performance with the rest of the world appears to be better than with the EU despite the implementation of the Euro-Med FTAs. The few differences between the CGE modelling results and actual observations are likely to be explained by the effects of the general equilibrium and other indirect ones.

Table 5.12 Employment effects of Euro-Med FTAs approximated by trade balances

Employment effects	Textiles & Wearing apparel	Chemical, rubber and plastic products
Algeria	-	-
Egypt	+	-
Jordan	+	-
Lebanon	-	-

Morocco	+	-
Tunisia	+	-

Source: UN COMTRADE (2019), author's calculations.

It should be kept in mind that there will also be impacts from the second channel, i.e. the technological/organisational changes affecting the employment content of the product. If the latter evolves, it is possible, for example, to have a greater demand for the activity to meet export needs, but little employment created because of the increased technological content of this activity. Or the reason may be that organizational methods would have evolved. This issue is considered as a long-term phenomenon with less pronounced and severe effects than the channel of changes in export and import volumes.

Another comment that needs to be made is the likely link between these movements and the integration of SMCs into global value chains. Given the nature of these sectors, value chains can be established within the sectors we have selected (vertically). This is particularly the case for the textiles and wearing apparel sector.

A parallel can be drawn here with Section 4.5. The textiles and wearing apparel sector can be considered as containing three distinct stages. The sourcing of raw materials, manufacturing by sewing and weaving, and processing into a final product.

In the graphs of trade balances and import and export movements between SMCs and the rest of the world (Figures F.3 to F.14 in Annex F.3), it can be seen that imports from the rest of the world have increased for the 6 countries. This is consistent with the comments in Chapter 5 on the dominant roles of China and India, particularly in the field of natural fibres. It is also noted that imports of textiles and wearing apparel from the European Union have increased for most SMCs. However, these imports have increased less than exports, as shown by the positive bilateral trade balances for SMCs in this sector. Thus, with the observations on imports of the rest of the world and bilateral trade balances, we draw a portrait of international trade consistent with what is argued in section 4.5: SMCs import raw materials from countries such as China, India but also Turkey (the latter country being compatible with Pan-European rules of origin) but also semi-finished products from Europe, to complement their work at the Cut-Make-Trim stage. The SMCs also export (or re-export) their work to Europe and to the rest of the world. This participation in value chains is a promising point for employment insofar as the SMCs play the role of subcontractor for Europe on labour-intensive activities.

Actual observations of economic activity and wages over the period of the ex-post evaluation
In Figures F.15 to F.26 in Annex F.3, it can be seen that the wage bill (used as an approximation of employment in absence of sectoral employment data) moves in the same direction as sectoral indicators of activities for the two sectors studied across all SMCs over their respective trade opening periods with the EU. However, the annual growth rates can be quite different amongst the different sectors.

For all countries, we observe an improvement in indicators of activities and sectoral employment in both the chemical, plastic & rubber products and textile sectors. While the positive trend in activity[529] in the textile sector in Egypt, Morocco and Tunisia is in line with the CGE modelling results, this is not the case for Jordan. Conversely, for the chemicals sector, the actual positive trend of economic activity is in line with the results of the CGE model in Jordan and differs from the latter for Egypt, Morocco and Tunisia. The same is true for Algeria and Lebanon, in the two sectors, where, in the absence of explicit results of the partial equilibrium model on production or value added, we had envisaged that the modelling suggested a negative evolution in line with the partial equilibrium results on bilateral trade balances. But this is not contradictory. Observation of the actual data does not make it possible to isolate a particular phenomenon like the CGE model does, because all the other parameters do not remain static. The most useful observation we can make in these circumstances is to point out that the positive developments in the sectoral balances of Egypt, Jordan, Morocco and Tunisia with the EU have likely contributed, in part, to the general trend of growth in value added or production,

[529] The measure of activity is production for the EC and value added or other indicators of production in our study, but this is not a problem since it is known that these variables move in the same direction.

and employment in the given sectors. In addition, the deterioration in other sectoral trade balances has not brought all the activity in the sector into insurmountable difficulties.

Conclusion

SMCs have liberalized their trade with the EU over the past one to two decades, depending on the country. The new efforts to reduce customs barriers mainly took place on the side of SMCs, since customs barriers to Europe were already at almost zero thanks to preferential trade agreements. The intensification of trade that has occurred between the countries of the southern Mediterranean region and the European Union in the sectors of Textiles & clothing, and Chemical, plastic & rubber products, was characterised by a stronger increase in imports from the EU to SMCs than in exports from SMCs to the EU in the chemical, plastic & rubber products sector. These results are, however, more mixed in the Textiles and clothing sector. While the actual evolution of deficit in trade balance increase by 46% in Algeria and by 5% in Lebanon between the pre-opening period and the period from the opening to the last years with available data[530], Jordan's trade balance deficit decreased by 2% and the trade surpluses of Egypt, Morocco and Tunisia respectively increased by 61%, 172% and 186%. Since changes in the trade balances are larger in absolute terms in the Chemical, plastic & rubber products sector, than in the Textiles and clothing sector, the cumulative developments in these two sectors show a negative bilateral trade effect as a result of the trade agreements. Moreover, these performances of SMCs are not accompanied by any significant improvement in the trade balances achieved with the rest of the world.

Based on bilateral trade balance alone, one could assume that the FTAs would have a negative impact on employment in the chemical, plastic & rubber products sector. In the textile sector, the impact would be negative for Algeria and Lebanon but positive for Egypt, Jordan, Morocco and Tunisia. However, in reality, the relations between trade and employment are complicated: imports will not be necessarily at the expense of domestic jobs and exports will also not automatically lead to an increase in employment. It depends on several factors, like the extent to which imported products compete with domestic products, or whether exports to the EU replace domestic sales or exports to other markets or lead to additional production. Other channels for transmitting the effect of openness are also relevant and not captured by the trade balance, e.g. sourcing of imports from the most efficient local companies (the only ones to survive), the integration of technology or organisational methods driven by commercial openness or the purchase at a lower cost of the intermediate products necessary for local activity. More specific data would be needed to look at the importance of these elements.

Considering that these elements have acted in conjunction with the opening up of trade in both sectors but without being able to fully determine what weight trade has played in these developments, data still suggest a positive trend on employment. As a matter of fact, the observation of value added and wages at sectoral level shows that these two variables have increased over the period studied for both sectors. This would at least suggest that trade has not been influential enough to induce a negative trend in the chemical and plastic & rubber products sectors and in the textile& clothing sector for Algeria and Lebanon. On the other hand, it allows us to see that the positive contribution of the trade balances of Egypt, Jordan, Morocco and Tunisia may have had positive effects on these countries' activity in the textile & clothing sector. It is therefore difficult to make a strong conclusion on the link between the FTAs and employment.

It should be kept in mind that there are many other factors that affect the performance of the sectors and their employment. In particular, over the period of liberalization observed, events outside of the agreements may have played a major role in the economies of the southern Mediterranean (e.g. erosion of preferences, emergence of competition (notably from China), the Arab spring, etc.). This certainly affects the extent to which these countries have benefited from the agreements. These factors have been analysed in more detail for the textile & clothing sector in Chapter 5. For the chemicals, plastic & rubber products sector this will be analysed in the next phase of the study.

[530] Pre-association agreement period considered depends on sectoral data available. It starts in 1992 for Algeria, 1994 for Egypt and Jordan, 1997 for Lebanon, 1993 for Morocco, 1991 for Tunisia. The end of this period is the year preceding the association agreements with the EU for each country. The post-agreement period starts in the year of the agreement and continues until the latest annual data available in UNCOMTRADE.

5.3.1. Case study: women in agriculture - a gender study

Introduction

In this second case study, we examine the impact of the Euro-Med FTAs on women in agriculture in the six South-Mediterranean Countries (SMCs) in more detail. Based on the CGE and PE modelling results, effects on the agricultural sector are mixed in the region. The models suggest a weak but positive effect of the EuroMed FTAs on employment in the Agriculture, Forestry & Fishing sector in Jordan and Morocco, and a small negative effect in Egypt and Tunisia. For Algeria and Lebanon, extrapolation of the results of the partial equilibrium models[531] would suggest a very small contribution of EuroMed FTAs to positive effects on agricultural employment in Algeria and a small negative effect on employment in Lebanon.

As far as the literature is concerned, negative effects are not uncommon in low- and middle-income countries from trade liberalisation, since these countries are often characterized by small farms that find it difficult to reap the benefits of liberalization, and agriculture accounts for a large share of employment there, especially when it comes to female employment, since this traditional sector is characterized by more female than male activity (True, 2009)[532]. Specifically, for SMCs participating in the EuroMed Agreement, this limitation has been documented in the Sustainable Impact Assessment (SIA) of the Euro-Mediterranean FTAs for a long time (University of Manchester, 2006)[533]. The purpose of this ex-post study is to try to determine whether these fears were well-founded and what response the development of trade flows may have brought.

Women around the world are missing the opportunity to contribute to the economic activity, and more so in SMCs. In these countries, their participation in economic activities is significantly lower than elsewhere in the world and also significantly lower than men's participation in their own countries. Women's participation in the labour force has slowly increased in the last 20 years but it still lags behind other countries. In 2019, labour force participation by adult women in SMCs was 20%, one of the lowest in the world, less than half of that in the European Union (51%)[534].

The limited participation of women in economic activity is the main cause of the poor performance of SMCs in terms of gender parity. SMCs rank in the bottom quarter of the 153 countries in the Global Gender Index (WEF, 2020) (Table 5.13) [535]. The gender gap is even deeper in terms of economic participation and opportunity. In this sub-index SMCs are ranked at the bottom 10% of all surveyed countries (Lebanon and Algeria present the smallest gender gap, Morocco and Jordan the largest).

Table 5.13 Global Gender Gap Index, SMCs ranking[§] and score[Δ], 2020

	Global		Economic participation and opportunity		Educational attainment		Health and survival		Political empowerment	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
Tunisia	124	0.644	142	0.434	106	0.970	107	0.971	67	0.201

[531] This extrapolation assumes an effect of the variation of the bilateral trade balance on the level of production of Algeria and Jordan. It should be noted here that the bilateral trade balance is an interesting indicator of the effects of FTAs, but that other factors also have an influence. FTAs can also lead to changes in trade patterns with third countries. Indirect effects may occur in intersectoral consumption or through integration into value chains. These effects cannot be captured with partial equilibrium models.
[532] True (2009) Trading-Off Gender Equality for Global Europe? The Eu & FTA agreements; European Foreign Affairs Review 14: 723–742, 2009.
[533] Impact Assessment Centre, 'Sustainable Impact Assessment (SIA) of the Euro-Mediterranean Free Trade Area, First Report on Phase 3 of the SIA-EMFTA Project', University of Manchester (2006), 40.
[534] World Development Indicators - Labour force participation rate, female (% of female population ages 15+) (modelled ILO estimate).
[535] The index provides a comparison across 153 countries in term of gender parity across education, health, politics and across all forms of economic participation.

Algeria	132	0.634	138	0.461	109	0.966	140	0.962	99	0.145
Egypt	134	0.629	140	0.438	102	0.973	85	0.974	103	0.133
Jordan	138	0.623	145	0.408	81	0.991	103	0.971	113	0.121
Morocco	143	0.605	146	0.405	115	0.956	138	0.963	123	0.095
Lebanon	145	0.599	139	0.442	111	0.964	124	0.967	149	0.024

Source: WEF, Global Gender Gap Index, 2020.
§ The index includes 153 countries.
Δ Max value: 0.877 Min value: 0.494.

The analysis of the impact of EuroMed FTAs on women in agriculture raises a range of issues directly relevant to the objectives of the international community on the Sustainable Development Goals (SDGs)[536] and the decent work agenda[537]. The issue of women's work is at the crossroads of different themes of importance for the analysis of the social aspect of trade opening. Women are often discriminated against, depriving them of access to the most skilled and remunerated work. As a result, they are more often found in the informal sector, the most vulnerable part of the labour market, which is quite often in the agricultural sector. As a result, they face poverty more than men. Besides women, there are also girls who are often involved in the work of the agricultural sector. In the world, this sector is the one that exploits children the most (59% of exploited children) especially in the informal economy. However, child labour worldwide has decreased by 40% for girls and 25% for boys since 2000. In the MENA region, 8.4% of the child population works, i.e. 9.2 million children[538].

In the analysis of the impact of the EU-FTA on female employment in agriculture we will address all these issues by first presenting an overview of female employment in agriculture and informality in the SMCs. Secondly, we look at the changes in female employment in formal and formal activities before and after the implementation of the FTAs to understand its impact on employment. Important caveats need to be considered. The 1990s have been characterised by political unrests in the region and many SMCs countries entered in the WTO in that period. This may explain the low level in agricultural trade before the AA implementation. Moreover, in the period after the AA implementation the financial crisis, the Arab Spring and the Syrian war affected the economies of the SMCs that may also have had an effect on women employment in the sector. In the analysis we try to account for these events by computing the changes in trade and employment for the whole period after the AA implementation and the period between the AA implementation and 2008, when the social, political and economic turmoil started. Finally, in order to suggest an effective set of policy recommendations, we review some of the main constraints faced by women in SMCs that may prevent women to adjust in response to negative shocks or reap the benefits from trade liberalisation.

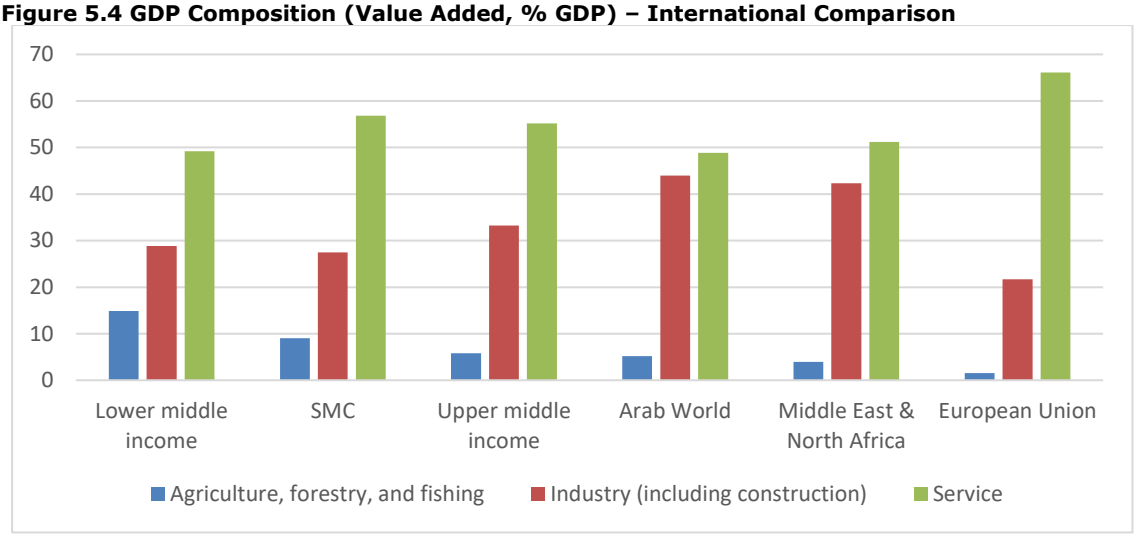
Women in agriculture: an overview

Agriculture and GDP

In SMCs, as in other countries worldwide, agriculture, forestry and fishing (for simplicity we abbreviate as Agriculture) accounts for the smallest share of GDP (9% on average versus 27% for Industry and 53% for Services). However, Lower-Middle Income[539] (LMI) countries in the Southern Mediterranean (SM) present a lower share than their peers (11% in SMC vs 15% worldwide), while the share of Upper-Middle Income[540] (UMI) countries is aligned (6%) (Figure 5.4). The SMCs have a heavy reliance on food imports. Most MENA countries import at least 50% of the food calories they consume, and the region is the largest importer of cereal in the world (Harrigan 2012). This poses challenges for food security in these countries. Agriculture accounts for the largest share of GDP in Morocco (12.2%) and the lowest in Lebanon (2.9%) (Figure 6.2).

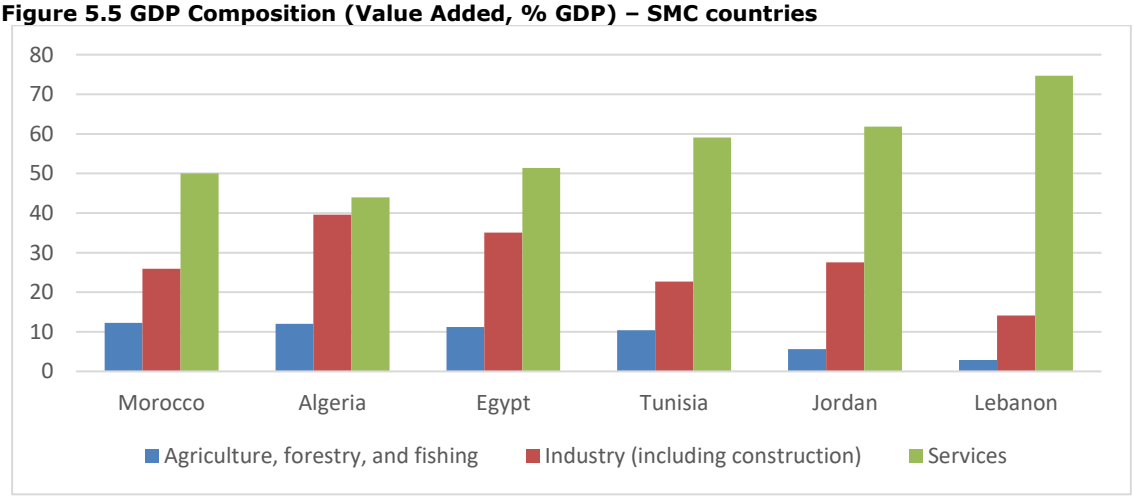
[536] In detail, these are the SDGs: 1.4, 4.5, 5.2, 5.4, 5.5, 5.a, 8.5, 8.8, 10.3.
[537] In detail, these are the ILO's policy outcomes number: 1, 2, 3, 6, 7, 8, 10.
[538] Figures on child labour are taken from the ILO website: https://www.ilo.org/global/topics/dw4sd/themes/child-labour/lang--en/index.htm.
[539] LMI countries amongst SMCs are Egypt, Morocco and Tunisia.
[540] UMI countries amongst SMCs are Algeria, Jordan and Lebanon.

Figure 5.4 GDP Composition (Value Added, % GDP) – International Comparison



Source: World Development Indicators, 2020.

Figure 5.5 GDP Composition (Value Added, % GDP) – SMC countries



Source: World Development Indicators, 2020.

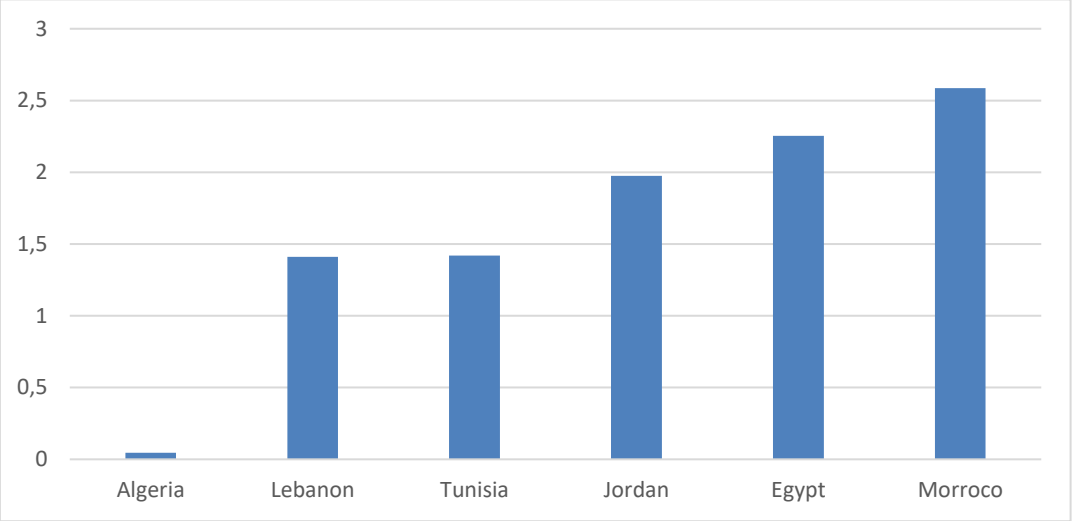
The main constraint to agriculture in SMCs seems to be the lack of water rather than the scarcity of land (except for Algeria, Egypt and Lebanon where arable and agricultural land is scarce – Table F.13, Annex F.4). SMC are among the most water-scarce countries in the world, with a regional annual average of 397 cubic meters (m3) of renewable internal freshwater resources per capita in 2014, much lower than in EU (2960 m3) and even lower than in the average MENA countries (553 m3). Analysis of the impact of climatic variables on agricultural productivity in the MENA region suggests that reduced rainfall, heat waves and drought are the main causes of declining agricultural productivity in the region (Drine, 2011; Waha, K., Krummenauer, L., Adams, S. et al., 2017).

The relatively small contribution to GDP does not fully reflect the strategic importance of the agricultural sector in SMCs. First of all, the agricultural sector's disproportionate role in employment and in water use, issues of food security, the high impact of food price volatility on inflation and on the income of the poor, may negatively impact on the economic growth and political stability of SMCs (see Harrigan 2011, Kamrava and Babar 2012, Paciello, 2015). Secondly, all SMCs countries, except for Algeria, have a relative comparative advantage (RCA)[541] in agriculture (Figure 5.6). Morocco and Egypt are the most competitive exporters of agricultural products among SMCs (RCA>2) but their comparative advantage is lower than in

[541] The RCA is an index used in economics to indicate if a country has an advantage or a disadvantage in each sector or product in comparison to other countries. In our case, we compute the RCA for agriculture in SMCs by dividing the share of agricultural export over total export in SMC by the share of World agricultural exports over total exports. A value of RCA bigger than one means that the country has a comparative advantage in agriculture, i.e. the country is relatively better at producing agricultural products.

LMI countries (IFPRI, 2018). Jordan and Lebanon differ from other UMI countries worldwide, which present a comparative disadvantage in agriculture (IFPRI, 2018). Data from OECD-FAO (2018) suggests that most SMCs have a comparative advantage in the exports of fruits, vegetables and nuts, while they have a disadvantage in meats, cereals, and fish (except for Morocco). The favourable Mediterranean climate, the geographic proximity to Europe and Gulf countries (that allows a timely delivery with lower transportation costs than for example Latin America countries and South Africa) and the timing of the growing seasons that complements and not overlaps with those in Europe, all contribute to the comparative advantage of SMCs in the horticultural production (IFPRI, 2018 and Paciello, 2015). Moreover, horticultural production uses water more efficiently than cereal production and hence is more sustainable given the problem of water scarcity in SMCs (Table F.13, Annex F.4) (IFPRI, 2018; FAO, IFAD, UNICEF, WFP and WHO, 2020).

Figure 5.6 Revealed Comparative Advantage in Agriculture - SMCs



Source: WITS, authors' calculations.

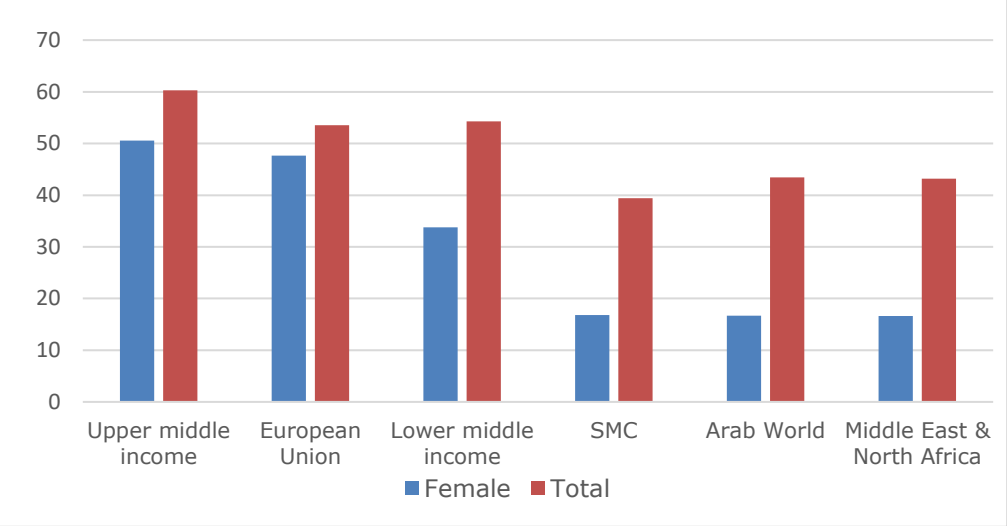
Total and Female Employment

Employment[542] in SMCs is particularly low, on average only 39.5% of the adult population is employed versus 54.3% in LMI countries and 60.2% in UMI countries (Figure 5.7). Employment in SMC reaches the highest share in Lebanon (44.4%), Egypt (42.3%) and Morocco (41.1%) and the lowest in Algeria (36.1%) and Jordan (33.4%) (Figure 5.8). The large difference in employment is reflected in the high unemployment rate, the high share of informal workers[543] and the high share of individuals out of work[544] that characterise the region. Labour markets in the region still have a wide range of structural rigidities that limit private sector hiring incentives (World Bank, 2019). When implementing structural reforms in the 1990s, MENA region governments made few attempts to deregulate labour markets or to encourage employment creation. This limited reform of labour markets led to the growth of informal employment in the private sector (Wahba and Mokhtar, 2002; World Bank, 2012). World Bank (2019a) reports that Algeria has the highest firing cost: the severance pays for redundancy dismissal for a worker with one year of tenure is 13 weeks of salary, versus zero weeks in the USA and 1.1 weeks in France (Doing Business, 2019)[545]. The World Bank (2019a) also suggests that Jordan and

[542] Since the World Development Indicators dataset includes only employment data at sectoral level, for consistency we use total employment (employees and unemployed) and not total labour force (i.e. employees, employers and unemployed).
[543] "Informality" is a term used to describe the collection of firms, workers, and activities that operate outside the legal and regulatory systems. The Informal sector (or Underground production as per OECD definition) consists of activities that are productive in an economic sense and quite legal (provided certain standards or regulations are complied with), but which are deliberately concealed from public authorities for the following reasons: a) to avoid the payment of income, value added or other taxes; b) to avoid payment of social security contributions; c) to avoid meeting certain legal standards such as minimum wages, maximum hours, safety or health standards, etc.; d) to avoid complying with certain administrative procedures, such as completing statistical questionnaires or other administrative forms.
[544] Out of work includes the share of working age population which is not seeking work, i.e. had not taken specific steps in a specified recent period to seek paid employment or self-employment.
[545] In Morocco it's two weeks; in Egypt and Tunisia it's five weeks.

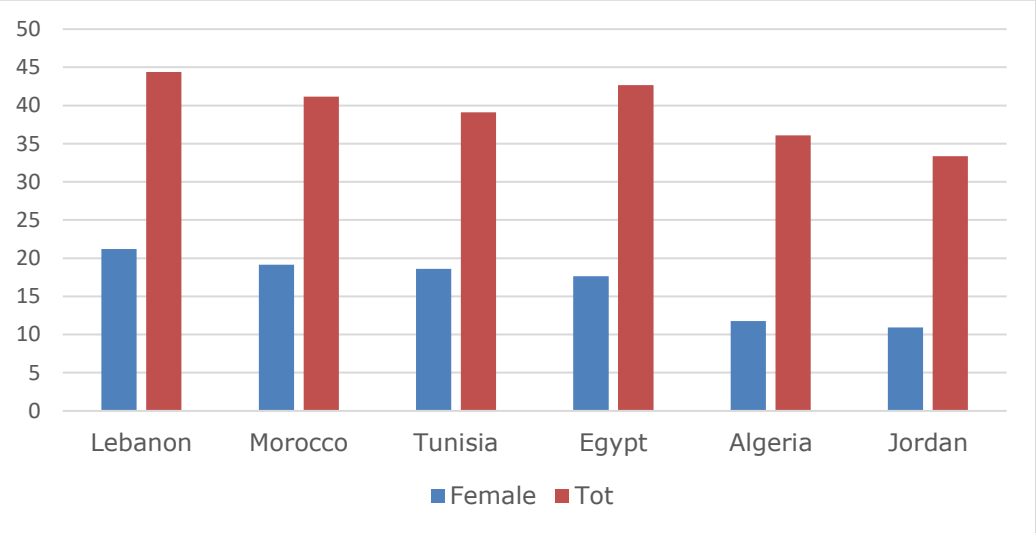
Lebanon should reduce their payroll taxes, which ranges from 7% to 20% in Jordan and between 2% and 20% in Lebanon (PwC, 2018).

Figure 5.7 Employment to population ratio, 15+, (%) (modelled ILO estimate) – International Comparison



Source: World Development Indicators, 2020.

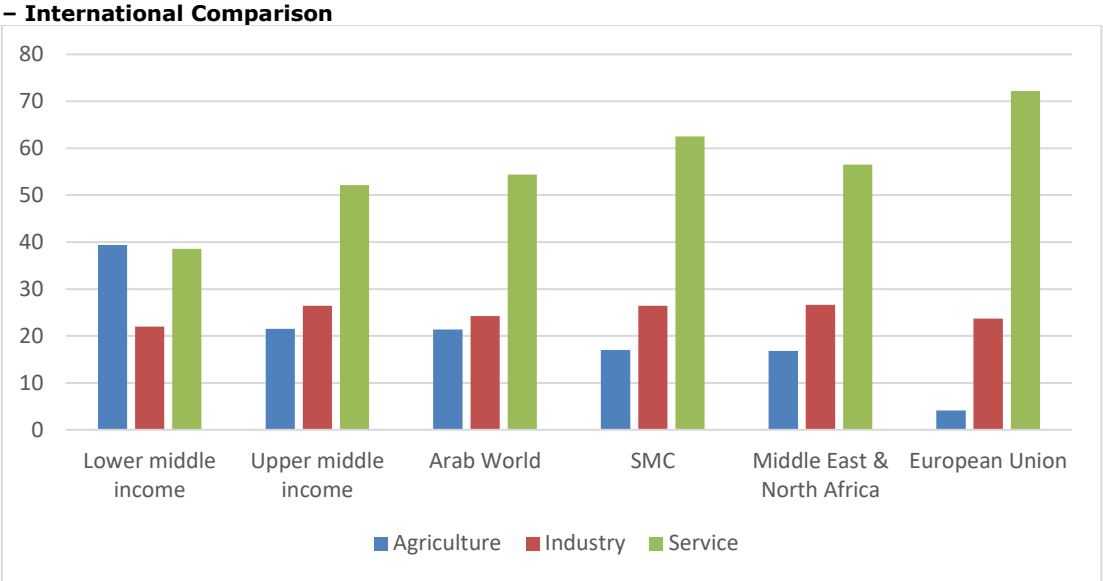
Figure 5.8 Employment to population ratio, 15+, (%) (modelled ILO estimate) – SMC countries



Source: World Development Indicators, 2020.

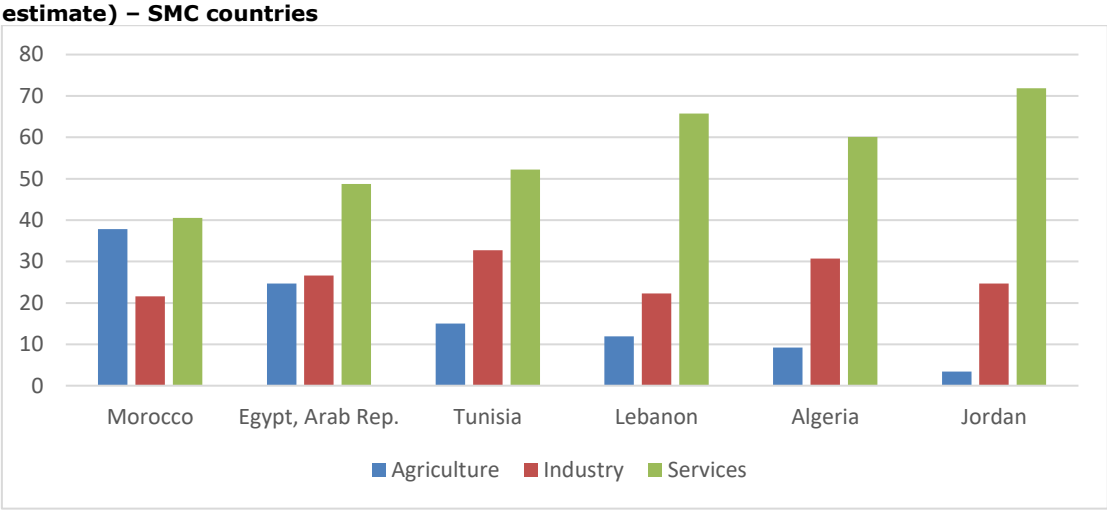
The share of agriculture in total employment in SMCs (Figure 5.10) is in line with the expected stylized facts of development, i.e. higher shares among LMI countries (25.9% on average for Egypt, Morocco and Tunisia) and lower shares in UMI countries (8.2 % on average for Algeria, Jordan and Lebanon). However, the shares are lower than in LMI and UMI countries worldwide, where agriculture accounts for 39.4 and 21.5% of total employment, respectively (Figure 5.9). Agriculture accounts for a large share of employment in Morocco (37.9%) and Egypt (24.7%) and to a lesser extent in Tunisia (15%). Jordan reports the lowest share of employment in agriculture (3.4%) (Figure 5.10). In line with the average LMI country, Morocco is the only SMC country where employment in agriculture is larger than in industry. In all SMCs (and generally worldwide) services is the primary source of employment (56.5% on average) (Figure 5.10).

Figure 5.9 Structure of Employment by Sector (% of total employment) (modelled ILO estimate) – International Comparison



Source: World Development Indicators, 2020.

Figure 5.10 Structure of Employment by Sector (% of total employment) (modelled ILO estimate) – SMC countries



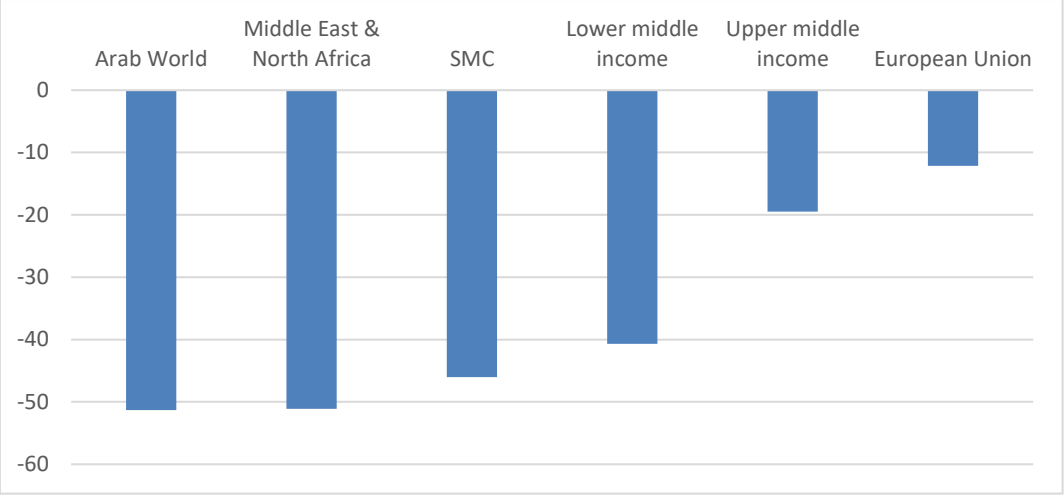
Source: World Development Indicators, 2020.

The difference between SMC and other countries with a similar income level is more evident with regards to the share of female workers. Among female adults, only 16.8% is employed on average. The share is much higher in UMI countries (50.6%), LMI countries (33.7%) and in EU (47.6%) but similar to that in the MENA[546] and Arab World[547] (Figure 5.7). As a result, a wide gender gap seems to be a common feature of the Arab countries (Arab World, MENA) although SMCs perform slightly better (Figure 5.11).

[546] MENA includes Algeria, Bahrain, Djibouti, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Malta, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates, West Bank and Gaza, and Yemen.

[547] Arab World Arab World is a term used by WB for The Arab League. It includes Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, United Arab Emirates, West Bank and Gaza, and Yemen.

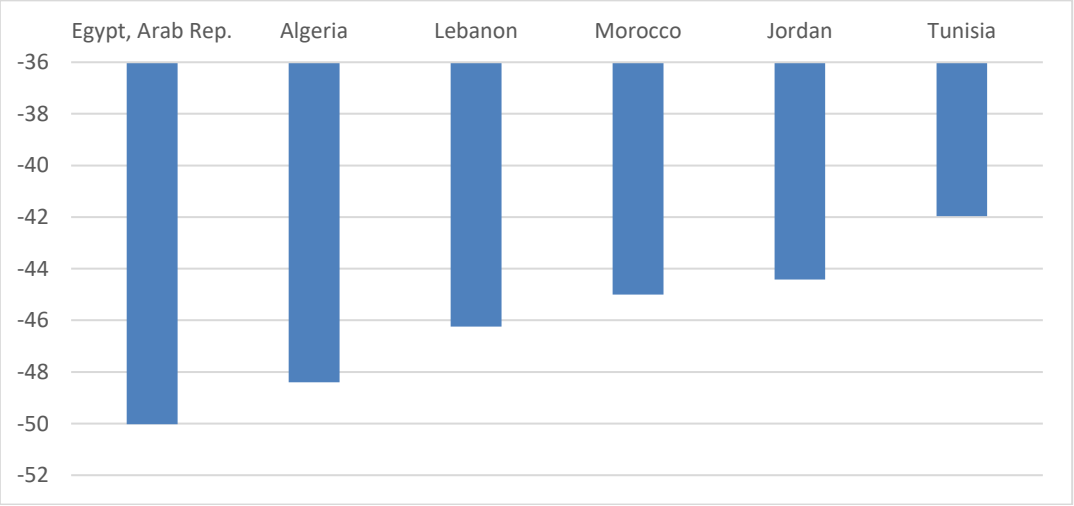
Figure 5.11 Gender Gap: Employment to population ratio, 15+, female VS male (%female minus %male) (modelled ILO estimate), International Comparison



Source: World Development Indicators, 2020.

Algeria and Jordan report the lowest share of female employment in the region (12% and 11%). The low rate of employment in Jordan is a common feature for men[548] and women as reflected in the low share of total employment (Figure 5.8) but it affects women more severely as evidenced by the gender gap (Figure 5.12). In Algeria, the low rate of female participation is reflected in the large gender gap (Figure 5.12). This suggests that the low employment in Algeria is mainly caused by a scarce female participation[549]. Lebanon and Morocco report the highest female employment share (21% and 19%) but a consistent gender gap. Indeed, Lebanon and Morocco report high total employment levels and female employment, although higher than in other SMCs, represents only a small share of it. The gender gap is the highest in Egypt where employment rate is one of the highest and female participation one of the lowest in the region.

Figure 5.12 Gender Gap: Employment to population ratio, 15+, female VS male (%female minus %male) (modelled ILO estimate), SMCs



Source: World Development Indicators, 2020.

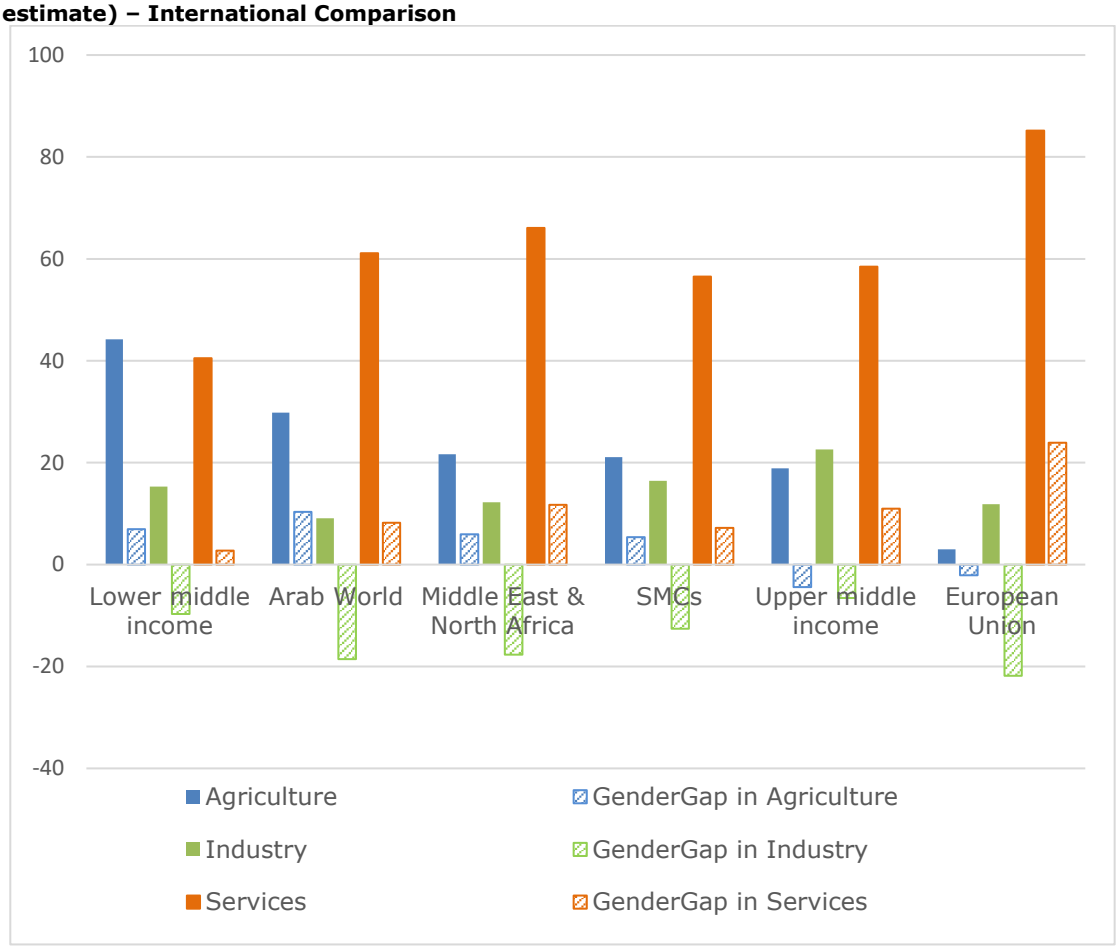
In the SMCs, as in the LMIs, Arab World and MENA, women have a larger probability of being employed in the agricultural sector (21%) than in the industry sector (16%) and the gender gap is positive, i.e. the share of female employment in agriculture is higher than the share of male

[548] Only 55% of male Jordanian are employed, the lowest share among SMCs where the average is 62%.
[549] 60% of Algerian men are employed. In Egypt and Lebanon, the countries with the largest male participation in employment, the share is 67%.

employment[550] (Figure 5.13). The positive gender gap is in part explained by the low wages in agriculture that are drawing men out of the sector and attracting more women into it, mainly because women have less flexibility than men for moving far from their households (Martini, 2011). Abdelali-Martini (2011) affirms that "women are mainly concentrated in the production of high intensive labour crops such as legumes and vegetables where most activities are manual except ploughing and sometimes planting, and men are performing mechanized activities (ploughing, combine harvesting, planting, etc.) that require limited number of men during specific times, allowing flexibility to work outside the agricultural sector" and, according to the same author, in the MENA region, little or no effort is made to develop tools adapted to women, or to train women in the use of agricultural tools and their maintenance.

For comparison, looking at the distribution of women across the other two main economic sectors, in SMCs and generally worldwide (but in LMI), services are the major source of female employment (62.5% in SMCs) and attracts more women than men. The opposite is true for industry: in SMC and generally worldwide, industry is a male dominated sector that employs the lowest share of women and report the largest negative gender gap (Figure 5.13).

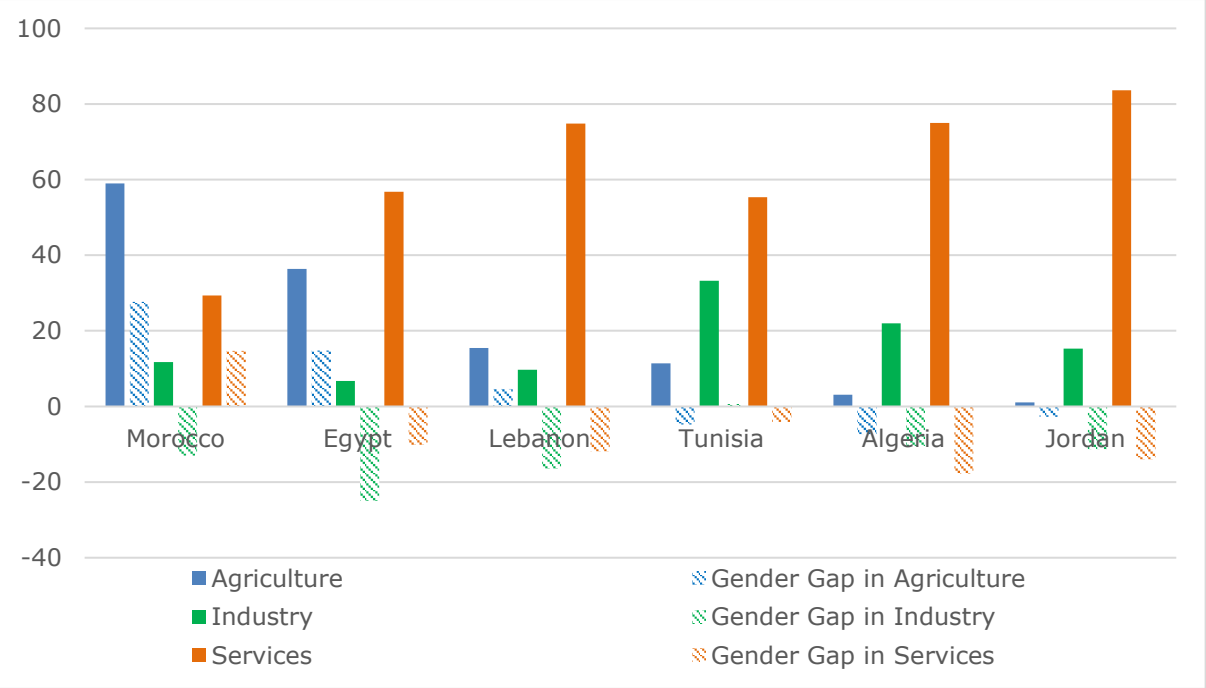
Figure 5.13 Structure of Employment by Sector (% of female employment) (modelled ILO estimate) – International Comparison



Source: World Development Indicators, 2020.

[550] We should be careful in interpreting this result, as it does not necessarily mean that there are more female than male workers in agriculture; it could suggest that women have a higher probability than men of working in the agricultural sector.

Figure 5.14 Structure of Employment by Sector (% of female employment) (modelled ILO estimate) – SMC countries



Source: World Development Indicators, 2020.

The average value masks large differences across SMCs that are in line with the results discussed above (Figure 5.14). In Egypt and Morocco, the distribution of women across sectors is similar to LMIs: i.e. the share of female workers is higher in agriculture than in industry. The opposite is true in Algeria and Jordan, where the share of women is higher in industry than in agriculture as it happens in UMI countries worldwide. Lebanon and Tunisia are outsiders since they diverge from their income group, indeed Lebanon has a structure more similar to LMICs and Tunisia to UMICs. The largest share of female employment and the largest positive gender gap in agriculture are reported by Morocco, the country where agriculture accounts for the largest share of GDP and employment among SMCs. The gender gaps in the agricultural sector are also positive in Egypt and Lebanon, whereas it is negative in Tunisia, Algeria and Jordan. It is interesting to note that in two of the three countries that have signed a Protocol on Agriculture the gender gap is positive (Morocco and Egypt) and the share of female employment is large, so the implementation of the EU-FTA may be more relevant for female workers in these countries. Although agriculture in Lebanon accounts for the lowest share of GDP, it employs a larger share of employment, including female employment, than in Jordan and Algeria. This result suggests a much lower labour productivity in agriculture in Lebanon than in Jordan and Algeria (IFPRI, 2018).

Informality

Informal work is widespread throughout the world due to lack of other means of subsistence or opportunity in the formal sector. It has been empirically demonstrated that workers in the informal sector are in much more vulnerable and precarious situations than workers in the formal sector.

Informal employment includes four categories: informal employees, employers operating an informal enterprise, own-account workers and contributing family workers (ILO, 2018). This analysis focuses on employment[551] and measures informality using the percentage of vulnerable workers, which includes contributing family workers and own-account workers[552].

[551] A large share of employers in SMCs are informal (88.8% according to Angel-Urdinola and Tanabe (2012)) but employers account for a small share of total employment (8.3%).
[552] According to the World Bank, a contributing family worker is a person who holds a self-employment job in a market-oriented establishment operated by a related person living in the same household, and who cannot be regarded as a partner and is not at a level comparable with that of the head of the establishment.

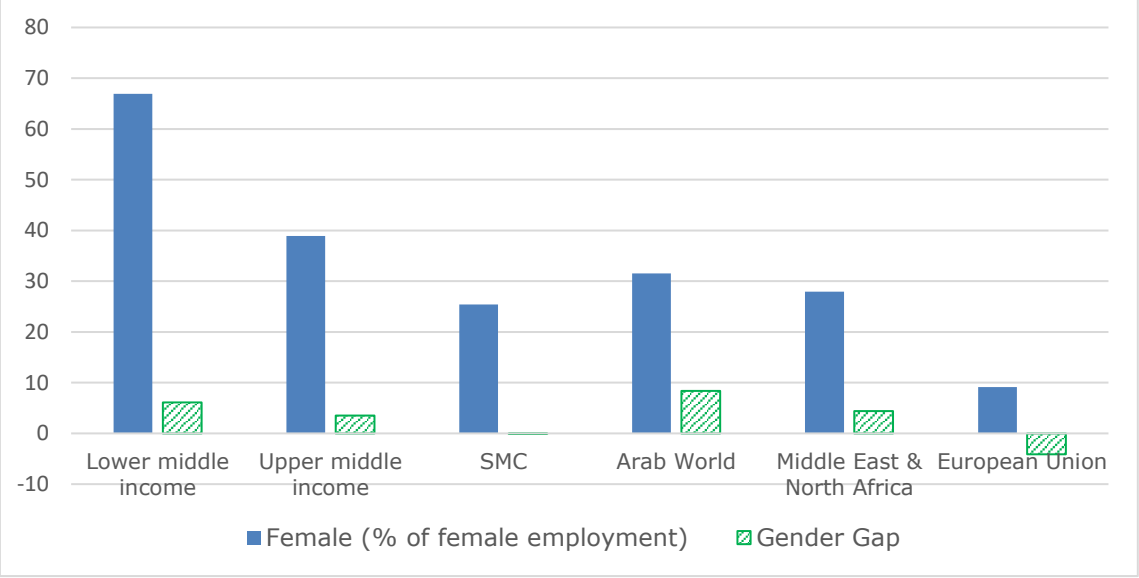
To complement our analysis, we also look at two other indicators (World Bank, 2014):

1. wage and salaried workers. Wage and salaried workers (employees) are those workers who hold the type of jobs defined as "paid employment jobs"[553]. The smaller the share of employees, the higher is the probability of informality (even accounting for the share of self-employed);
2. the share of population covered by social security schemes. The share of population covered by social security schemes is computed as the percentage of population participating in programs that provide old age contributory pensions (including survivors and disability) and social security and health insurance benefits (including occupational injury benefits, paid sick leave, maternity and other social insurance). Informal workers are generally not covered by such social security's scheme and hence a lower value in this variable indicates a larger informal sector.

The informal sector is unevenly distributed across the globe. Developed countries have a smaller share of the informal sector than emerging and developing countries. There is therefore a negative correlation between the level of socio-economic development and the level of informal employment in the economy. Own-account workers and contributing family workers account for the largest share of informal actors (ILO, 2018). Most of the employment in Africa (85.8 per cent) is informal, followed by Asia and the Pacific (68.2 per cent) and the Arab States (68.6 per cent) (ILO, 2018).

Data for vulnerable employment, wage and salaried workers and the social security coverage pass a similar message (Figure 5.15 and Tables F.13 and F.14 in Annex F.4): informality is more widespread in SMCs, LMI and UMI countries than in the European Union. However, SMCs present a lower share of informality than LMICs, UMICs and neighbouring countries (MENA and Arab world). In LMI about 67% of female employment is in vulnerable employment and the gender gap is about 6% as nearly 61% of male employment is vulnerable employment. In SMCs only 25% of employment is in vulnerable occupations and the share is similar among women and men. Empirical evidence shows that, among other factors, informality decreases when the rural populations decline (World Bank, 2014). In line with this result, SMCs countries report a lower share of informality and rural population than countries with similar income levels and neighbouring countries (Table F.13 in Annex F.4).

Figure 5.15 Vulnerable Employment (% of female employment and gender gap) (modelled ILO estimate) – International Comparison



Source: World Development Indicators, 2020.

Angel-Urdinola and Tanabe (2012) comparative analysis across the three indicators of informality shows that vulnerable employment mainly captures informality in the agricultural sector.

[553] Formal employees hold explicit (written or oral) or implicit employment contracts that give them a basic remuneration that is not directly dependent upon the revenue of the unit for which they work. The sum of the share of vulnerable workers and wage and salaried workers on total employment is close to 100.

Note: Countries are ranked on basis of the percentage of vulnerable employment of total employment.

Indeed, in contrast with LMI, UMI, MENA and Arab world where a higher proportion of women are in informal employment, in SMCs the gap between female and male workers is negative, suggesting that informality is more widespread among men than women (ILO, 2018) but not by much because as the gap is close to zero. The gender gap in vulnerable employment is negative (as in European countries), suggesting that men have a higher probability than women to be in vulnerable employment (Figure 5.15). With regards to wage and salaried workers, the distribution of male and female wage and salaried workers is more similar to European countries than LMI and UMI: women have a higher probability than man to be formally employed (ILO, 2018) (Figure AF.1 in Annex F4). This result may reflect the higher propensity of men to be self-employed. Data on social security are not available by gender. The presence of women in statistics on informality is also a reflection of their lower participation rate in the labour market (ILO, 2018) and their engagement in domestic and home-based work.

Looking at SMCs countries (Figure 5.16, F.13 and F.14 in Annex F.4) we notice that informality is more widespread in Morocco, Egypt and Lebanon. In Morocco and Egypt, the higher share of informality seems to be linked to the presence of a large agricultural sector (Table F.14 in Annex F4). In these countries 94.1% of agricultural workers are informal. Worldwide, agriculture is the sector with the highest level of informal employment (93.6 per cent) and if we exclude agriculture, the global level of informal employment falls to 50.5 per cent (ILO, 2018). The prevalence of informality in the agricultural sector is linked to the sector's characteristics such as the seasonal nature of agricultural work, atypical and irregular working hours, unskilled labour force with low levels of education, the prevalence of smallholders and rural self-employed. The inverse relation between development and informality can also explain the larger share of informality in agriculture: developing countries are characterised by a larger agricultural sector, higher share of rural population, poor governance and widespread poverty and ultimately large share of informality (ILO, 2018).

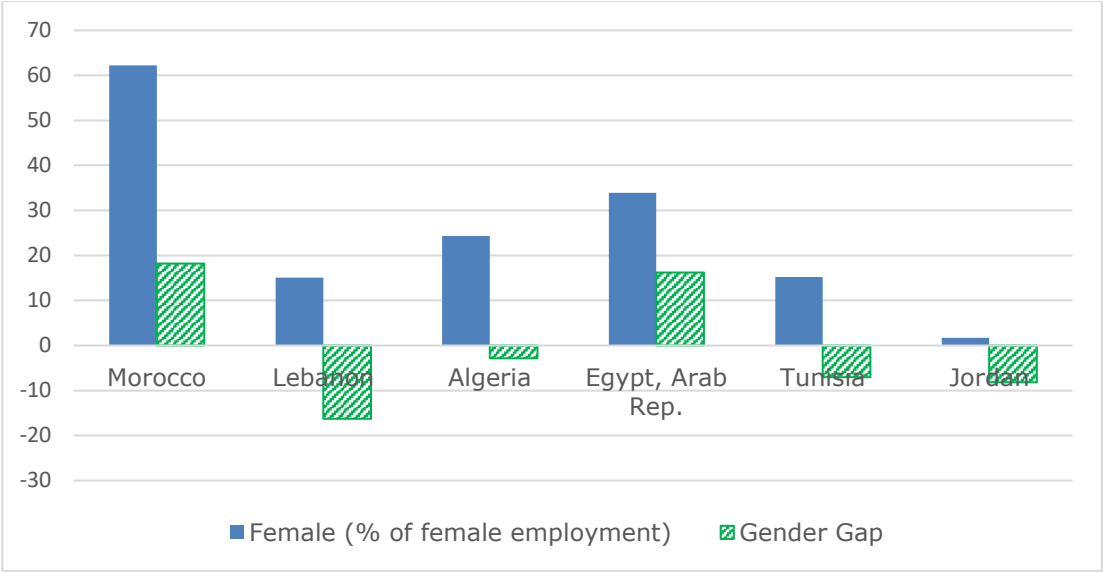
In contrast with other SMCs, Morocco and Egypt report a larger share of women than man in informality (i.e. higher share of vulnerable workers among women, a lower share of salaried workers). In these countries being a woman—other things being equal—is associated with a higher probability of working in the informal sector. Once again, this result may be linked to the large agricultural sector that characterise these countries: women are often employed in unpaid or subsistence agriculture[554].

In Lebanon, where agriculture accounts for a small share of GDP, the high share of informality may be associated with high levels of labour taxes and with high severance pay schemes (World Bank, 2014) and unskilled immigration (ILO, 2015)[555]. Given the small share of people employed in agriculture, the bulk of informality comes from the secondary and tertiary sector (Table F.14). This result is supported by an ILO (2015) case study on decent work in Lebanon: about three-quarters of those informally employed (about 30.6% of all employed persons) were self-employed in 2010. More than 40% of these were concentrated in commerce (i.e. wholesale and retail trade, motor vehicle repair), with 14.5% in construction, another 14.1% in transport and 12.4% in private services. This is an unusually high rate of self-employment for an UMI country but, given the shortage of well-paying formal jobs, self-employment has become an option for large numbers of Lebanese of all educational levels (ILO, 2015). Given that in Lebanon men have a higher propensity of being self-employed than women, this may explain the larger share of men in informality.

[554] Aldirola- and Tenabe (2012)'s data on informality are not disaggregated by gender since they use data on the coverage of social protection.

[555] "About half of employed Palestinians refugees work in construction and commerce activities (wholesale and retail trade, repair of motor vehicles, repair of household goods), where there are very high levels of informality, longer than average working hours and where the bulk earn less than the Lebanese minimum wage. In fact, commerce, construction and agriculture, activities that collectively occupy more than half of Palestinian employment all have disproportionately high informality rates "p31 (ILO,2015). The ILO points out that the vast bulk of Syrian refugee employment, regardless of the level of education attained, was informal in character. About 92 per cent had no work contract and only 23 per cent were paid a monthly salary. The remainder was paid on an hourly, daily, weekly or seasonal basis. Some 86 per cent received no job-related benefits and 9 per cent were entitled to sick day and weekend benefits (ILO, 2015).

Figure 5.16 Vulnerable Employment (% of female and gender gap) (modelled ILO estimate) – SMCs



Source: World Development Indicators, 2020.
Note: Countries are ranked on basis of percentage of vulnerable employment of total employment.

Wage gap

The gender wage gaps in SMCs partly reflect the concomitance of various determinants strongly related to culture in MENA countries. This also gives rise to the discriminations that literature has identified as an important factor in explaining gender wage gaps in MENA countries (Alfarhan, 2015; Biltagy, 2014; Razavi and Habibi, 2014). On the other hand, wage gap data does not capture the full dimension of the gender gap in economic status since women may be completely kept out of the labour market by the role that society confers on them. These determinants are analysed in more detail in the "constraints faced by women" section of this study.

Wage gaps in the SMCs are particularly high. It is in Algeria that the discrepancies are the strongest. Men's annual salary is thus on average 6 times the salary of women. For SMCs as a whole, this gap ranges from 3.7 (Tunisia) to 6.

This can be put into perspective with selected European countries. The highest performers in the world on the gender issue[556] (respectively Iceland, Norway, Finland) have a wage gap of between 1.3 and 1.4. On the other hand, lowest performers in Europe in terms of the pay gap have a pay gap of 1.8 to 1.9 (Italy and Malta respectively). This is still half as much as for the most virtuous SMCs (Egypt and Tunisia).

Table 5.14 Estimated Annual Earning Income, Intl US$1,000, PPP

	Estimated Annual Income (Intl US$1,000, PPP)		
	Male	Female	Gender Wage Gap (men earn x times women Earning income)
South Mediterranean Countries			
Algeria	23.4	3.9	6.0
Jordan	13.8	2.7	5.1
Morocco	12.6	3	4.2
Lebanon	18.5	4.6	4.0
Egypt	18.4	4.8	3.8

[556] This ranking is based on the global gender gap index ranking 2020 published by the World Economic Forum.

Tunisia	17.6	4.7	3.7
Selected European Countries			
Malta	43.3	22.5	1.9
Italy	43.2	24.4	1.8
Greece	31.3	20.7	1.5
Finland	48.2	34.7	1.4
Iceland	56.4	41.4	1.4
Moldova	7.5	5.6	1.3
Lithuania	35.4	27.1	1.3
Norway	73.8	58.4	1.3
Slovenia	34.7	28.1	1.2

Source: World Economic Forum (2020), author's calculations.

Although the gender wage gap is important to understand the position of women in agriculture, the lack of long series on this topic makes it not possible to further analyse the impact of EuroMed FTAs on this dimension.

Girls in the labour market

According to the ILO, "child labour in the narrower sense is defined as work that deprives children of their childhood, their potential and their dignity, and that is harmful to physical and mental development. It refers to work that deprives them of the opportunity to attend school, obliges them to leave school prematurely, or requires them to attempt to combine school attendance with excessively long and heavy work ". The SDGs and the decent work agenda reflect the will of the international community to combat child labour and eliminate it in all its forms by 2025.

As far as the SMCs are concerned, 1% of girls aged six to 17 work in Jordan and Tunisia, while the corresponding number is 4% in Algeria and Egypt. The latter two countries are in the average for the MENA region but well below the group of least developed countries (of which they are not part).

Table 5.15 Child labour (% of child population 6-17-year-old) most recent data over the 2010-2018 period

Countries and areas	Total	Male	Female
Algeria	4	5	4
Egypt	5	6	4
Jordan	2	2	1
Lebanon	–	–	–
Morocco	–	–	–
Tunisia	2	3	1
Middle East and North Africa	5	5	4

Source: UNICEF global databases, 2019, based on DHS, MICS and other national surveys.

These figures differ when looking at the share of working girls in the population aged seven to 14 with the survey data published by the World Bank. The hiring rate for girls ranges from 0.4% in Jordan to 6.5% in Algeria. Based on these data, child employment is more prevalent for boys than girls. It should be noted that data are available here for the employment of girls in Morocco, i.e. 3% (it was not the case in the UNICEF global databases shown above). The majority of children work and study at the same time in Algeria, Jordan and Tunisia, while in Egypt and Morocco the majority of employed children only work.

Table 5.16 Children in Employment

	Children in employment				
	Total	Male	Female	Work only	Study and work

Countries	Survey Year	% of children ages 7-14	% of children ages 7-14	% of children ages 7-14	% of children ages 7-14 in employment	% of children ages 7-14 in employment
Algeria	2013	7.5	8.5	6.5	4.5	95.5
Egypt	2009	2.9	4.8	0.9	55	45
Jordan	2016	1.2	2	0.4	20	80
Lebanon	..	..	..	..	..	..
Morocco	2004	4.5	6	3	84.5	15.5
Tunisia	2012	3.4	3.9	2.7	15.4	84.6

Source: World Bank (2020).

For the countries for which sectoral data are available, i.e. Egypt, Jordan and Morocco, it appears that agriculture is the sector that has most child labour. In Algeria, Tunisia and Jordan, child labour consists mainly of unpaid family work, while in Egypt, paid work is more common.

Table 5.17 Children in Employment by sector

		Employment by sector			Status in employment		
		Agriculture	Manufacturing	Services	Self-employed	Wage	Unpaid family
Countries	**Survey Year**	% of children ages 7-14 in employment	% of children ages 7-14 in employment	% of children ages 7-14 in employment	% of children ages 7-14 in employment	% of children ages 7-14 in employment	% of children ages 7-14 in employment
Algeria	2013	..	..	..	..	14.4	85.6
Egypt	2009	53.2	9.6	30.4	..	59	40.2
Jordan	2016	42.7	14.7	42.6	5.2	25.7	75
Lebanon	..	..	..	..	..	..	..
Morocco	2004	55.5	17.9	21.9	..	..	..
Tunisia	2012	..	..	..	..	13.8	78.1

Source: World Bank (2020).

The content of the work carried out varies from country to country. The US Department of Labour publishes details of sectoral activities in which children are involved (Table F.15 in annex F.4).

Although girls in the labour market is an interesting aspect of women's labour in agriculture, the lack of data over time on this topic makes it not possible to further analyse the impact of EuroMed FTAs on this dimension. We can, however, mention one more point. Although the sector data from the US Department of Labour does not allow us to specify the gender of children exploited, it is still possible to specify that in some of the SMCs, child labour takes place in export-oriented sub-sectors: olives, fruits and vegetables in Algeria and Morocco, tomatoes and olives in Jordan, potatoes, cucumbers, almonds, plums, olives, beans, figs, grapes in Lebanon.

Dynamics of trade in agriculture and employment: CGE results and observed trends

FTA changes

As shown in the previous chapters, the tariff reduction implemented in the framework of the EuroMed FTAs have increased trade between the EU and SMCs. The question is to what extent these changes affect the situation of women. We identify two main channels for change: the extent to which female intensive sectors are affected by trade and the gender wage gaps shift through competition.

Results of the modelling simulations

Section 3.4 of this report presents the results of impact estimates of the implementation of EuroMed FTAs in the partner countries, obtained using general equilibrium models (Egypt, Jordan, Morocco, Tunisia) and partial equilibrium models (Algeria and Lebanon). These results are presented according to the sectoral breakdown derived from GTAP data. Re-aggregation at

the level of the broader Agriculture, Fisheries and Forestry sector (table 5.19 to 5.21) allows trends to be identified for this case study. According to these results, the Agriculture, Forestry & Fishing sector would absorb between 0.13% (Algeria) and 2.44% (Jordan) of the additional import flows in the situation of FTA implementation compared to the absence of FTA implementation. In the case of exports, additional trade flows in the national economy would be absorbed by agriculture in proportions ranging from 3.19% (Algeria) to 15.56% (Jordan).

Table 5.18 Share of Agriculture, Forestry and Fisheries sector in additional total bilateral trade flows of the SMC resulting from the Euro-Med FTAs

%total Share of the change in	Agriculture, Forestry and Fisheries	
	Imports	Exports
Algeria *	0.13%	3.19%
Egypt	2.17%	10.13%
Jordan	2.44%	15.56%
Lebanon*	1.98%	3.37%
Morocco	2.20%	11.32%
Tunisia	0.43%	4.89%

Source: European Commission (EC, 2019), authors calculations. The star indicates countries for which the impacts are calculated with partial equilibrium models.

The conversion of these variations into currency units, i.e. in million euros, makes it possible to assess the order of magnitude of these FTA-induced trade flows with the European Union. Thus, for Jordan and Lebanon, additional imports in the Agriculture, Forestry & Fishing sector are estimated to exceed additional exports while the opposite is true- for Algeria and for the much larger trade flows in absolute terms- for Egypt, Morocco and Tunisia. Thus, the bilateral trade balance (with the EU) in four out of the six SMCs was expected to improve in the presence of EuroMed FTAs for this sector (including the three SMCs with the largest trade flows with the EU in agriculture).

Table 5.19 Additional trade flows resulting from the Euro-Med FTAs for the Agriculture, Forestry and Fisheries sector (€m)

€m Share of the change in	Agriculture, Forestry and Fisheries	
	Imports	Exports
Algeria *	4	8
Egypt	97	152
Jordan	22	7
Lebanon*	18	3
Morocco	123	353
Tunisia	18	129

Source: European Commission (EC, 2019), authors calculations. The star indicates countries for which the impacts are calculated with partial equilibrium models.

The latter figures make it possible to consider the potential implications in terms of structural adjustment, including that faced by women, but in order to better put them into perspective, it is interesting to present them in relation to the value added of the sector in each of these economies. However, it should be kept in mind that we are comparing imports and exports, which are gross concepts (including intermediate inputs), with value added, which is a margin. Based on the modelling results, additional import flows would only reach a maximum of 1.89% of the added value of the Agriculture, Forestry & Fishing sector (Jordan). In terms of exports, additional exports from Tunisia could reach 3.16% of the sector's added value.

Table 5.20 Estimated trade flow increase in the Agriculture, Forestry and Fisheries compared with sectoral VA

% of sect. VA	Agriculture, Forestry, and Fishing

Share of the change in	Imports	Exports
Algeria *	0.02%	0.04%
Egypt	0.29%	0.45%
Jordan	1.89%	0.60%
Lebanon*	1.10%	0.18%
Morocco	0.87%	2.51%
Tunisia	0.44%	3.16%

Source: EC (2019) & World Bank WDI (2020), VA base year: 2018, authors calculations. The star indicates countries for which the impacts are calculated with partial equilibrium models.

The above estimations of effects on trade flow focus on bilateral trade of the SMCs with the EU. It should be kept in mind that bilateral trade is only part of the story. FTAs are also likely to lead to changes in trade flows with third countries. For example, while certain goods from the agriculture, forestry & fishing sector may have been imported from a third country without the FTA in place, the FTAs might make it more attractive to import these products from the EU. In that case, the imports from the EU would not affect domestic competition, but only change the origin of imports. In addition, at product level, part of the imports could be complementary with domestic production, not competing with it. Also, for exports, third country effects are relevant, as exports to the EU may (partially) be at the expense of exports to other countries, rather than be fully additional.

Finally, there are value chain effects. Imports of certain inputs (e.g. seeds) or equipment from the EU could make the end product more competitive and help to increase exports to third countries.[557]

The advantage of the of CGE model is that these value chain and third country effects are largely included in the modelling as reflected in output changes at sectoral level. These results are only available for countries for which CGE modelling was possible, namely Egypt, Jordan, Morocco and Tunisia.

Table 5.21 Estimated impacts of Euro-Med FTAs on sectoral output in Agriculture, Forestry and Fisheries sector in four SMCs

Output change	Agriculture, Forestry, and Fishing	
	Relative change	Million Euros
Egypt	-0.36%	-80
Jordan	0.40%	7
Morocco	0.70%	92
Tunisia	-0.28%	-11

Source: European Commission (EC, 2019), authors calculations.

The results of these simulations suggest a weak but positive effect of the EuroMed FTAs on output in the agriculture, forestry & fishing sector in Jordan and Morocco, and a small negative effect in Egypt and Tunisia. This translates to similar changes in employment, to the extent that the labour intensity of the sector does not change. For Algeria and Lebanon, we can only base the effects on employment on developments in the trade balance, as there are no CGE results available, and the net effect on output is therefore less clear. The effects on the trade balance would suggest a very small positive effect on employment in Algeria and a small negative effect on employment in Lebanon.

[557] Although it should be noted that if the imported intermediate products replace domestic inputs, employment in these sectors could still decrease.

Actual observations over the evaluation period: trade flows in Agriculture and impact on employment

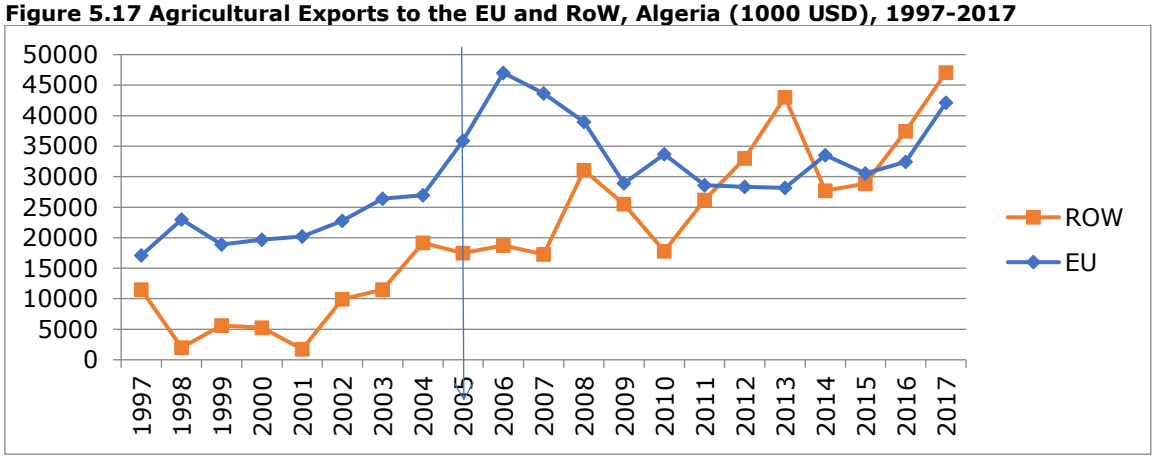
To better understand how the EU-FTA has influenced employment in SMCs, we compare the trend in agricultural trade flows and employment in the agricultural sector in each single country before and after the AA implementation. To get a sense of the possible impact of women and informality, we will analyse the trend in total, female and vulnerable employment[558]. Trends for the service and industry sectors are presented only for comparison. The following analysis is based on a statistical description hence will not provide any indication of causality link between the AA implementation and employment. It is worth noting that the 1990s have been a turbulent period in the region, so in analysing the increase in trade values observed in the 2000s we should account also for the change in the political situation. At the same time, we need to account for the negative impact that the financial crisis, the Arab Spring and the conflict in Syria had on the region and may have reduced the potential gain of trade liberalisation. We account for the latter aspects by presenting the changes in the variables for the whole period after the AA implementation and for the period between the AA implementation and 2008, the year when the economic, political and social turmoil started.

a. Algeria

Agriculture accounts for only 0.25% of total exports in Algeria. The EU is Algeria's main export partner and in 2017 accounted for 47% of total agricultural export. However, the importance of export to the RoW has increased in the last decade and recently has surpassed the EU share (Figure 5.17). Indeed, after 2005, despite an uneven growing trend, exports to the RoW gained more in terms of value expansion than exports to EU. Exports to the EU were higher after the AA implementation but their growth rate was lower in comparison to the late 90s and the RoW (Table 5.23), owing to a decline started in 2006 that set the EU exports on a flat growing path between 2009 and 2016. Both exports to the EU and RoW have started to increase at a steady rate since 2015.

FAO (2020) reports that in 2017 only three European countries (France, 3rd; Spain, 5th and Italy, 9th) were among the top 10 Algeria's export partners and accounted for 29% of exports, versus four EU countries in 1997 (France 1st; Italy 4th; Spain 6th; UK 9th and Netherlands, 9th) that accounted for 58% of exports. The decrease in the EU's weight in the Algeria's trade balance was mainly due a diversification in the export's destinations and not a contraction in the trade values with the EU main trade partners. Indeed, since the peak in 2006 France, Spain, Italy and Netherlands all reported an increase in their trade values with Algeria.

Figure 5.17 Agricultural Exports to the EU and RoW, Algeria (1000 USD), 1997-2017



Source: Comtrade Data and authors' calculation.

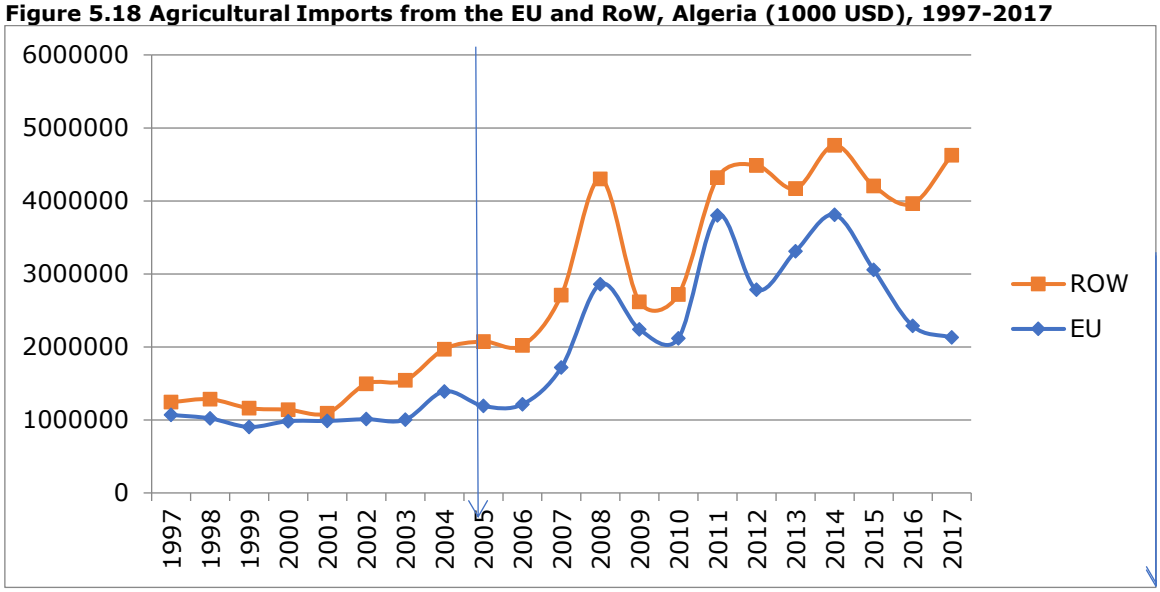
The arrow indicates the entry into force of the FTAs with EU.

In Algeria agriculture accounted for 14.7% of total imports in 2017. Algeria imports more from the RoW than from Europe (31% in 2017). Despite being characterized by an uneven growth since 2008, imports from both the EU and RoW have expanded. agricultural imports from the EU

[558] We decided to use «vulnerable employment » and not « salaried workers » because the ILO figure reported above shows that vulnerable employment is the largest share in developing and, hence, in SMCs.

were higher after the AA implementation and they grew at a faster rate, however they have declined since 2014 and diverted from RoW's imports (Figure 5.18). Imports from the RoW has continued to grow at a faster rate than EU imports also after the AA implementation. As a result, imports from RoW gained more in terms of value expansion after 2005. It is interesting to note that, in the immediate aftermath of the AA, imports from the EU grew at the same rate as imports from the RoW. (Table 5.23). The recent decline in the import flows from the EU emerges also from the analysis of the main import partners. FAO (2020) reports that, in 2017, only two European countries (France, 3rd and Spain, 8th) were among the top 10 Algeria's import partners and accounted for 29% of imports, while in 1997 there were four EU countries (France, 1st, Spain, 4th; Italy 6th; Netherlands, 7th) that accounted for 49% of imports. The decrease in the EU's weight in the Algeria's trade balance is explained by the fact that imports from the EU countries increased at a lower rate than imports from RoW, mainly from Argentina, Brazil and New Zealand; and by the diversification of imports sources, such as Russia and India.

Figure 5.18 Agricultural Imports from the EU and RoW, Algeria (1000 USD), 1997-2017



Source: Comtrade Data and authors' calculation.
The arrow indicates the entry into force of the FTAs with EU.

Table 5.22 Algerian Exports and Imports flows before and after the AA implementation (level and growth rate)

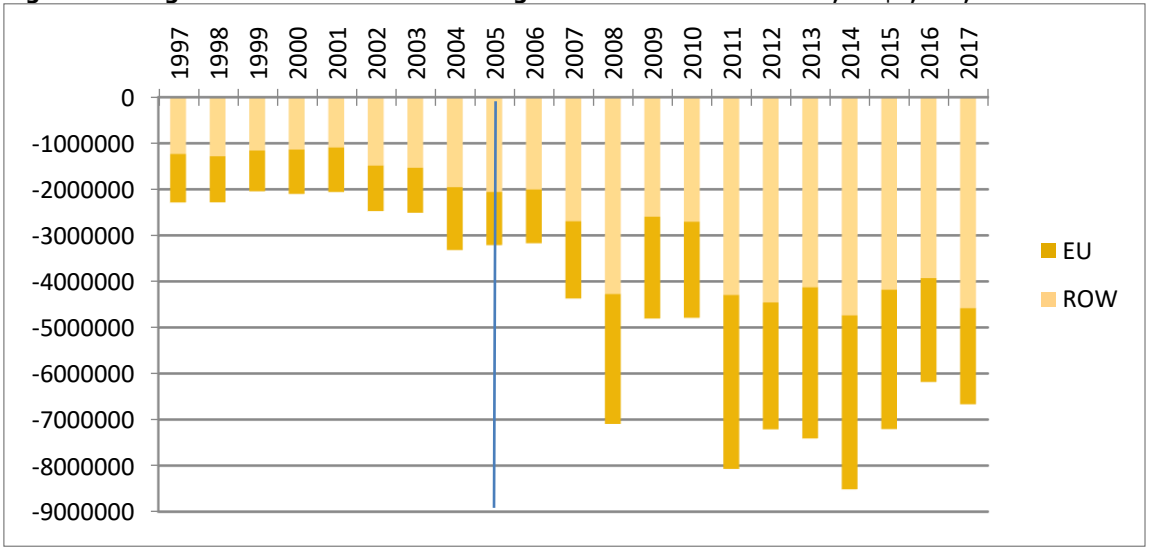
in 1,000 US$	Before AAϕ	After AAυ	Difference in %	AA-2008ɣ	DIFF AA-FC
Export_EU	21,873	34,750	59	41,380	89
Export_RoW	8,336	28,542	242	21,131	153
Import_EU	1,046,028	2,501,980	139	1,745,922	67
Import_RoW	1,365,648	3,613,744	165	2,776,780	103
%	**Before AAϕ**	**After AAυ**	**Difference in pp**	**AA-2008ɣ**	**Difference in pp**
Export_EU	7.76	5.12	-2.64	11.57	3.81
Export_RoW	17.69	11.56	-6.13	17.66	-0.02
Import_EU	4.79	7.94	3.14	23.88	19.09
Import_RoW	8.05	9.96	1.90	23.90	15.85

Source: Comtrade Data and authors' calculation.
ϕ: 1997 – 2004; υ: 2005 – 2017; ɣ= 2005 – 2008.

Algerian imports from the EU are higher than its exports and imports have gained more both in terms of value expansion and growth rates' acceleration after the AA implementation (Table 5.23). Also imports from the RoW have grown faster than exports after 2005. This is reflected in the negative trade balance that has strongly deteriorated in the last decade (Figure 5.19). Algeria's economy is dominated by the export of petroleum and natural gas (19.7% of GDP in 2017) which make the country's trade balance subject to the hydrocarbon price volatility. Moreover, given that agriculture accounts for a small share of GDP (Figure 5.5) the country

heavily relies on agricultural products' imports to satisfy the domestic demand for food and is more subject to the increase in the food price (World Bank, 2019). Algeria ranks 70th (among 113 countries) in the Food Security Index.

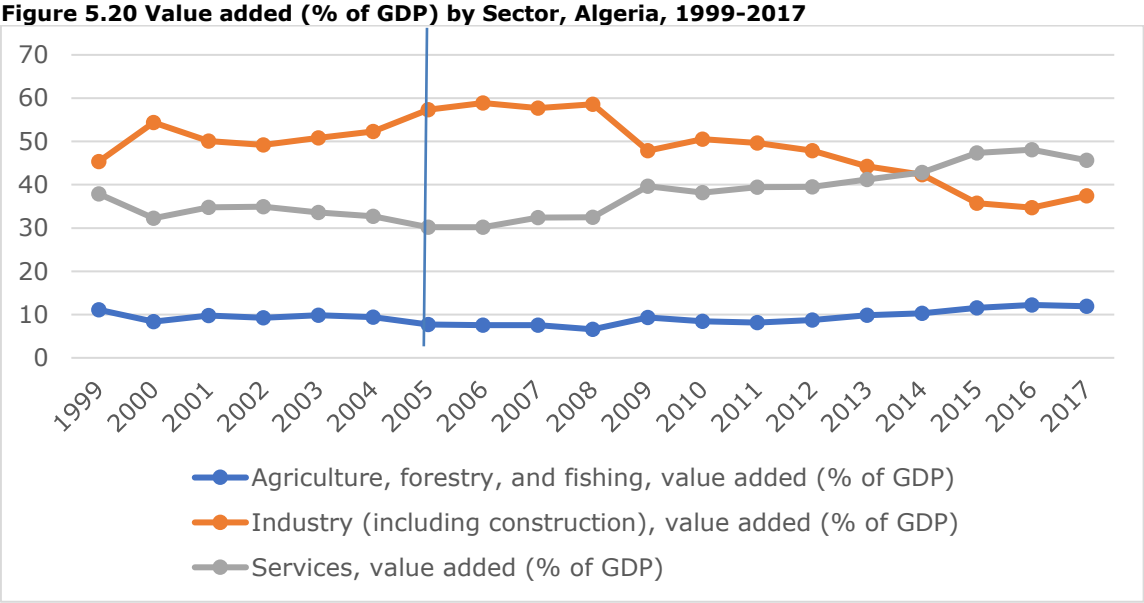
Figure 5.19 Agriculture Trade Balance – Algeria towards RoW and EU, US$1,000, 1997-2017



Source: Comtrade Data and authors 'calculations.
The arrow indicates the entry into force of the FTAs with EU.

The impact on output is in line with the partial equilibrium results, i.e. we notice a small increase in the share of agricultural value added over GDP after the AA implementation (Figure 5.20), that has accelerated since 2014.

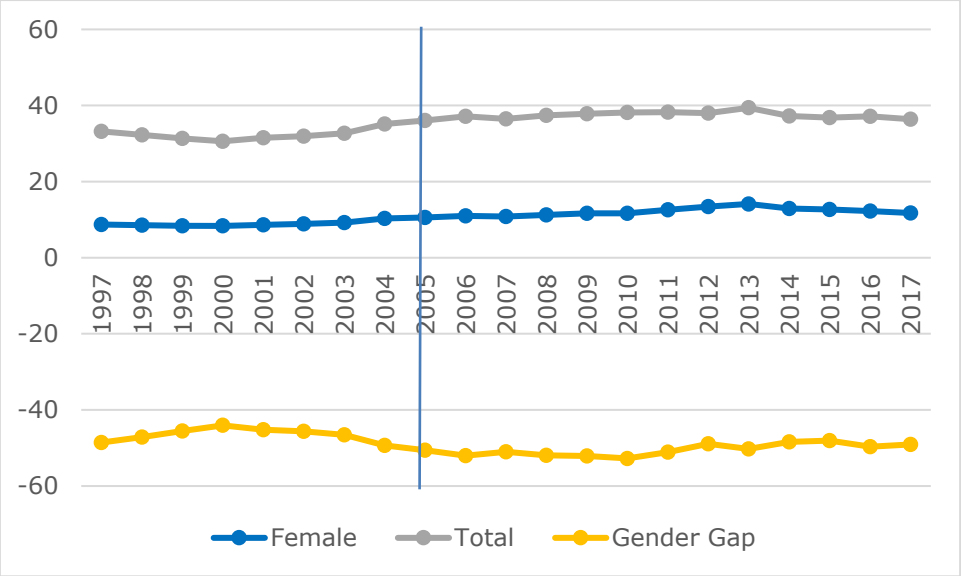
Figure 5.20 Value added (% of GDP) by Sector, Algeria, 1999-2017



Source: World Development Indicators
The arrow indicates the entry into force of the FTAs with EU.

Looking at the trend in employment we can see an increase in total employment and female employment (Figure 5.21; Table F.16 and F.17 In Annex F4) after the AA implementation. The positive trend ended in 2013 when both declined. However, the gender gap remains large and there are no signs of improvements over time. Indeed, female employment grew at a lower rate after the AA implementation and it slowed down more than total employment after 2013 (Table F.17).

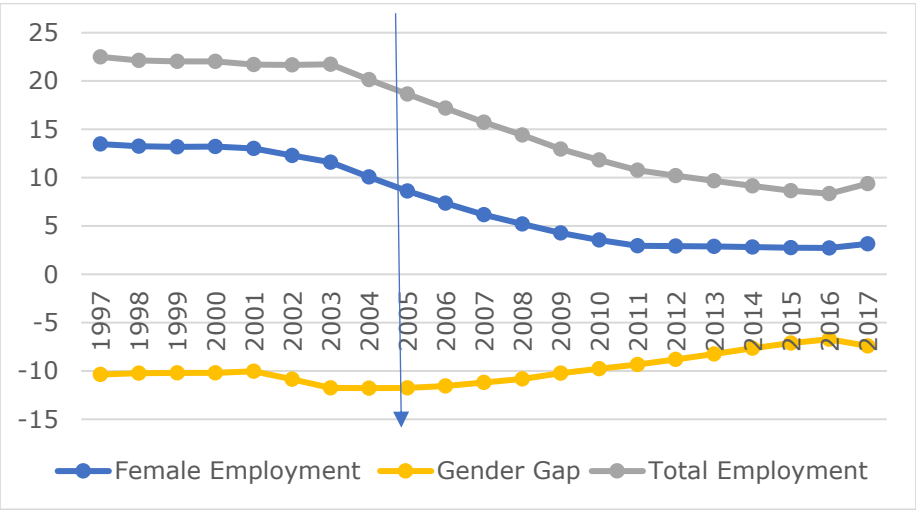
Figure 5.21 Employment to population ratio, 15+, total and female (%) – Algeria, 1997-2017



Source: World Development Indicators.
The arrow indicates the entry into force of the FTAs with EU.

The increase in total employment was mainly driven by an increase in employment in the industry and service sector (Table F.16), while the agricultural sector has recorded a sharp decrease in the employment share (both total and for women) that accelerated just before the AA implementation (Table F.17) and flattened in 2011. The improvement in the gender gap[559] in the agricultural sector suggests that men were more affected than women by dismissal (Figure 5.22). Services is the only sector to report an increase in the share of employed women, which has driven the increase in total female employment in Algeria, and an even faster improvement in the gender gap in the service sector after the AA implementation.

Figure 5.22 Employment in agriculture, total and female (% of employment) – Algeria,1997-2017



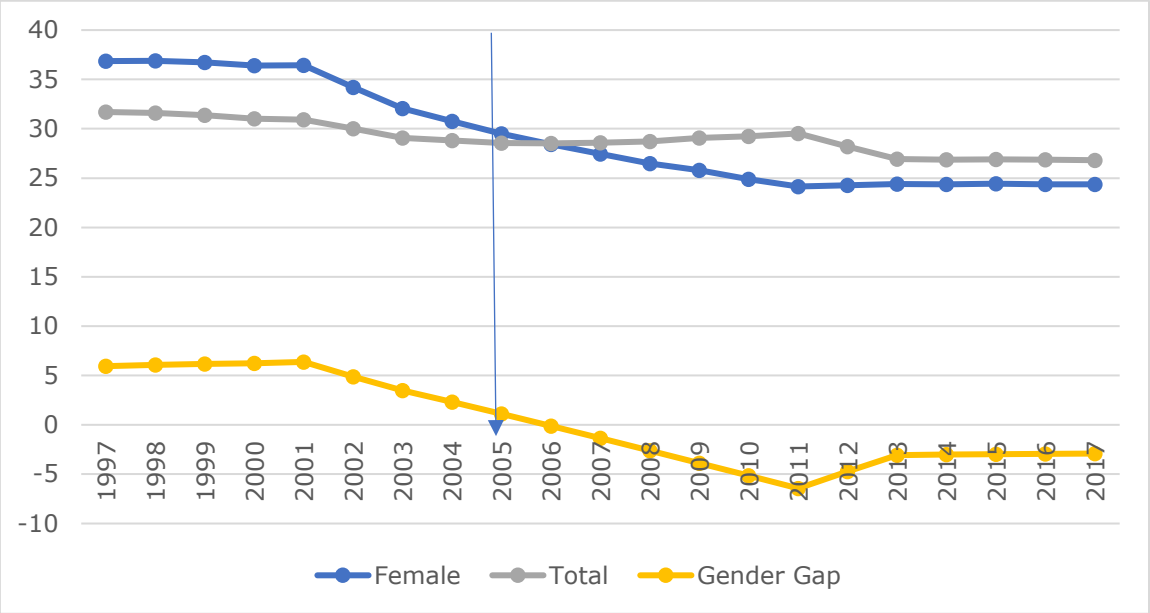
Source: World Development Indicators.
The arrow indicates the entry into force of the FTAs with EU.

With regards to informality, we notice a decrease in the share of the vulnerable employment that started in 2002 and was not affected by the AA implementation. The improvement was more pronounced for women than men as suggested by the gender gap that turned negative. (Figure 5.23). The decrease in vulnerable employment was greater in the period straddling the AA implementation (Table F.16 and AF.17). The economic and political turmoil in the region

[559] Algeria presents a negative gender gap in agriculture, i.e. women have a lower probability than men to work in the agricultural sector.

seems to have stopped this positive trend and worsen the gender gap. If we compare Figure 5.22 and 23, it seems that the decrease in employment in the agricultural sector happened at the expense of female vulnerable employment who were more subject to firing.

Figure 5.23 Vulnerable employment, total and female (% of total and female employment) – Algeria, 1997-2017



Source: World Development Indicators.
The arrow indicates the entry into force of the FTAs with EU.

As discussed above, the AA seems to have had a more positive impact on agricultural imports from the European countries than exports. Also imports from RoW have grown faster than exports after 2005. As a result, it may have contributed to a displacement of workers from the agricultural sector and a relocation towards the service and industry sector. Female workers seem to be less impacted than men by job dismissal in agriculture and the data may suggest a repositioning of displaced female workers in the service sector. These changes in employment seems to have reduced the share of vulnerable female workers. The increase in agricultural import could help alleviate the food security problem in the country, with additional gains for society.

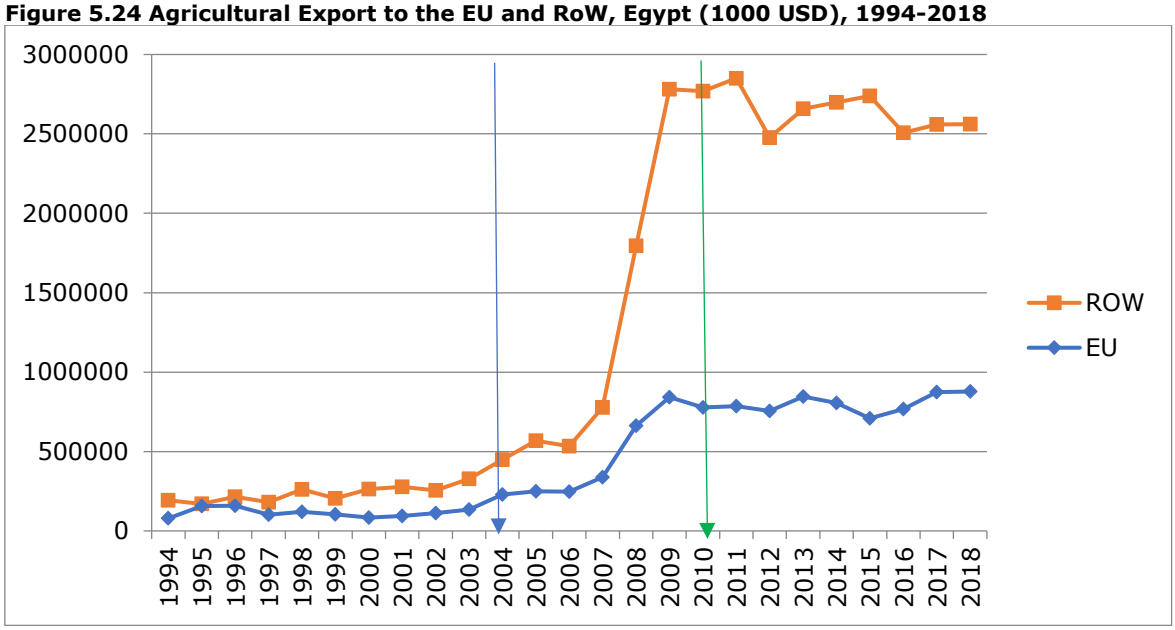
a. Egypt

Agriculture accounts for 13.24% of total exports in Egypt. The EU is an important destination for agricultural export: in 2018, 25% of Egyptian agricultural exports went to the EU. However, most exports are directed towards the RoW and in particular to MENA countries (42% in 2018). During the 90s, before the AA implementation, exports to the EU and RoW were very close and quite stable, although in value terms the value of exports were low (Figure 5.24). Egyptian exports registered an increase in 2007, two years after the AA implementation but did not record a rise after the Protocol on Agriculture was signed in 2010. Exports to the EU were higher after the AA implementation and they grew at a faster rate. However, the increase in Egyptian exports towards the EU was more modest that the increase to the RoW. Exports towards the EU were already lower than export to the RoW before the FTAs and after implementation. The difference has widened. As a result, exports to the RoW gained more both in terms of value expansion and growth rate after 2004. The financial crisis and the Arab spring have ended the exponential growth trend: the export growth rates towards the EU and the RoW were much higher in the period between the AA implementation and the FC (Table 5.24) and have stabilised after 2008.

The FAO (2020) reports that in 2017 only four European countries (Netherlands, 5th; UK, 7th, Italy, 8th and Germany, 8th) were among the top 10 Egyptian export partners and accounted for 20% of the top 10 exports. In 1994 they were three (Germany 5th; UK 6th; Italy 7th) and they accounted for 22% of the top 10 exports. However, all countries have reported a large increase in their export value since 1994. Among EU countries, Netherlands experienced the largest growth in export from the AA implementation since it was not even listed among the top

export destination in 1994. The boom towards the RoW is mainly due to an increase in export towards the MENA countries. In addition, Russia became a key export destination following the introduction of the embargo on European exports to that market in 2014 (ICTSD, 2017). In 2017, Russia was the second largest country in term of export value, up from the 13th position in 1994.

Figure 5.24 Agricultural Export to the EU and RoW, Egypt (1000 USD), 1994-2018

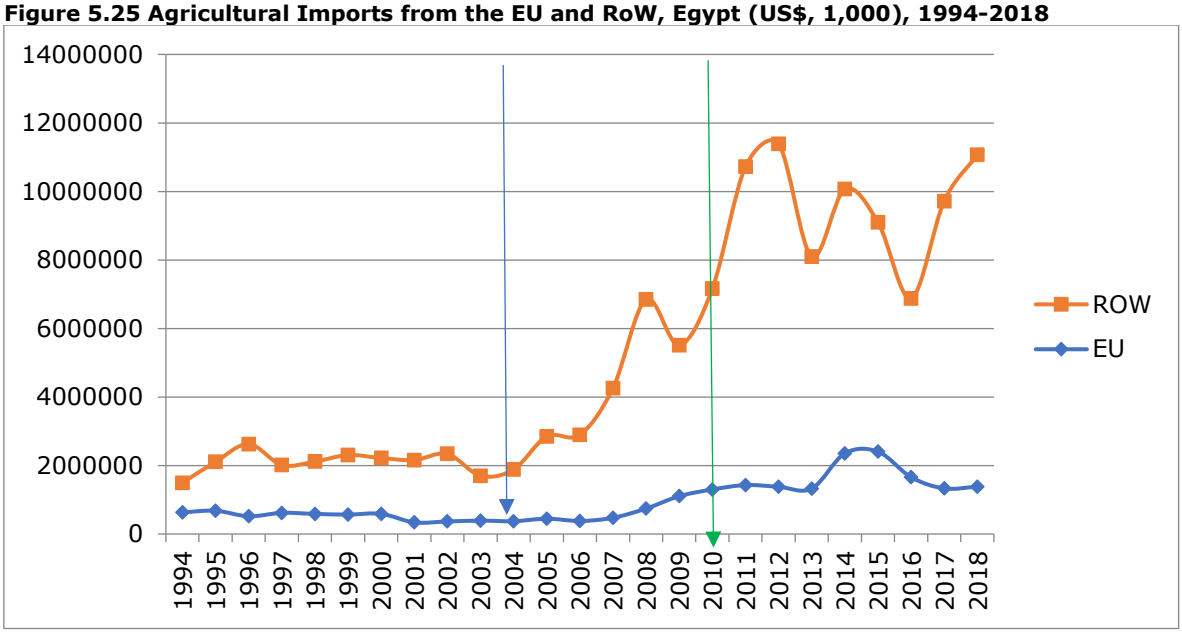


Source: Comtrade Data and authors' calculation.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

Egyptian agricultural imports accounted for 15.4% of total imports in 2018. During the 1990s, before the implementation of the AA, imports from the EU and RoW were characterized by a small and stable gap, although they were quite low in value terms. Egyptian agricultural imports from the RoW where higher that from the EU (Figure 6.25) and they both grew faster after the AA implementation (Table 5.24). Import growth rates from the EU turned positive after 2004. However, imports from RoW outperformed those from the EU both in terms of growth and value: they recorded very high growth rates during the period 2007-2009 that created a huge gap with EU imports. If we consider the impact of the worldwide and regional turbulence, we notice that imports growth rates were higher in the period between the AA implementation and 2008, however imports from the RoW were affected more than imports from the EU from the economic and political turmoil.

FAO (2020) reports that in 2017 only two European countries (Romania, 8th and UK, 10th) were among the top 10 Egypt's import partners and accounted for 5% of imports. In 1994 they were three (France 4th; Netherlands; 5th; and Germany 8th) and they accounted for 17% of imports. However, all the main European import partners have reported an increase in their value since 1994. UK is the country that benefited most of the FTA: it increased its trade value with Egypt by 698%. Since 1994, Egypt has widely diversified its import sources: Russia, Indonesia and India are now among the top 10 import partners.

Figure 5.25 Agricultural Imports from the EU and RoW, Egypt (US$, 1,000), 1994-2018



Source: Comtrade Data and authors' calculation.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

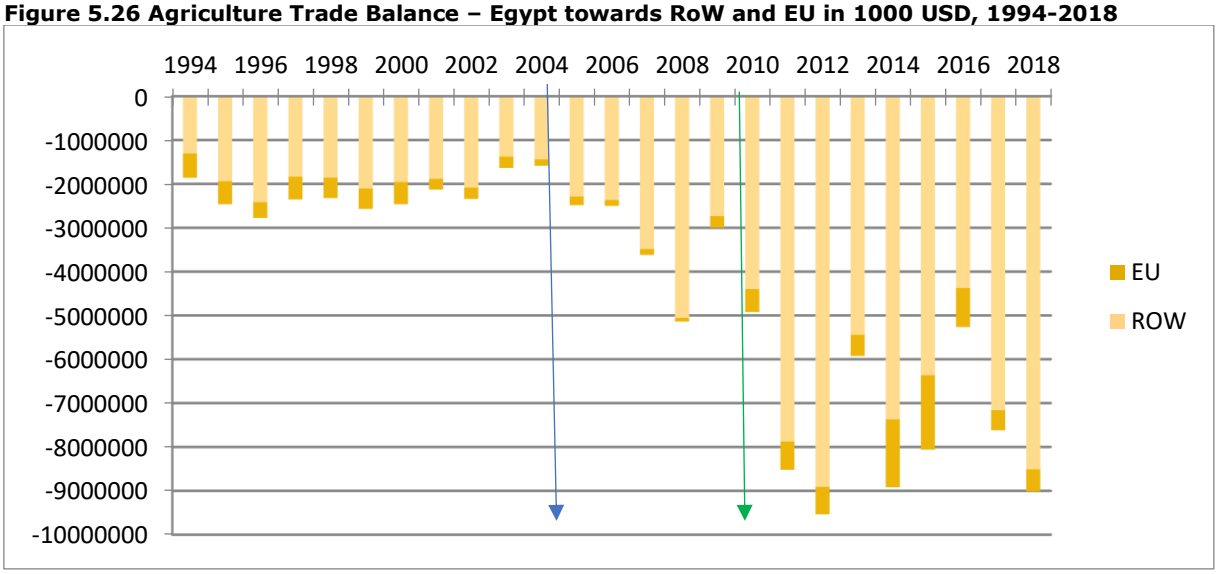
Table 5.23 Exports and Imports flows before and after the AA implementation (level and growth rate)

US$, 1,000	Before AAϕ	After AAυ	Difference in %	AA-2008ɣ	DIFF AA-FC %
Export_EU	114,319	650,942	469	344,916	202
Export_RoW	234,825	2,048,339	772	824,650	251
Import_EU	529,159	1,206,403	128	484,685	-8
Import_RoW	2,108,226	7,230,770	243	3,748,562	78
%	**Before AAϕ**	**After AAυ**	**Difference in pp**	**AA-2008ɣ**	**Difference in pp**
Export_EU	11.07	16.43	5.36	42.41	31.34
Export_RoW	8.40	18.85	10.45	46.90	38.50
Import_EU	-3.24	12.20	15.44	16.32	19.55
Import_RoW	3.42	16.96	13.54	34.31	30.89

Source: Comtrade Data and authors' calculation.
ϕ: 1994 – 2003; υ: 2004 – 2018; ɣ= 2004 – 2008.

Egyptian import flows are higher than its exports and the negative trade balance has deteriorated since 2006 (Figure 5.26). Imports from the EU accounts for a small share of imports from the RoW and the average growth rate turned positive after 2004. Export flows from the EU grew at a faster rate than imports and gained more in terms of value expansion in the aftermath of the AA implementation (Table 5.26). Trade expansion towards the RoW largely outpace that with the EU both in terms of imports and exports and has followed a similar trend, with exports gaining more in terms of value expansion and imports in terms of growth rate acceleration. Gains in export expansion towards the EU are even larger in the period between the AA implementation and 2008. The EU-FTA seems to have contributed to expand the Egyptian trade relationship with Europe in agricultural products, with Egyptian exports relatively more affected than imports.

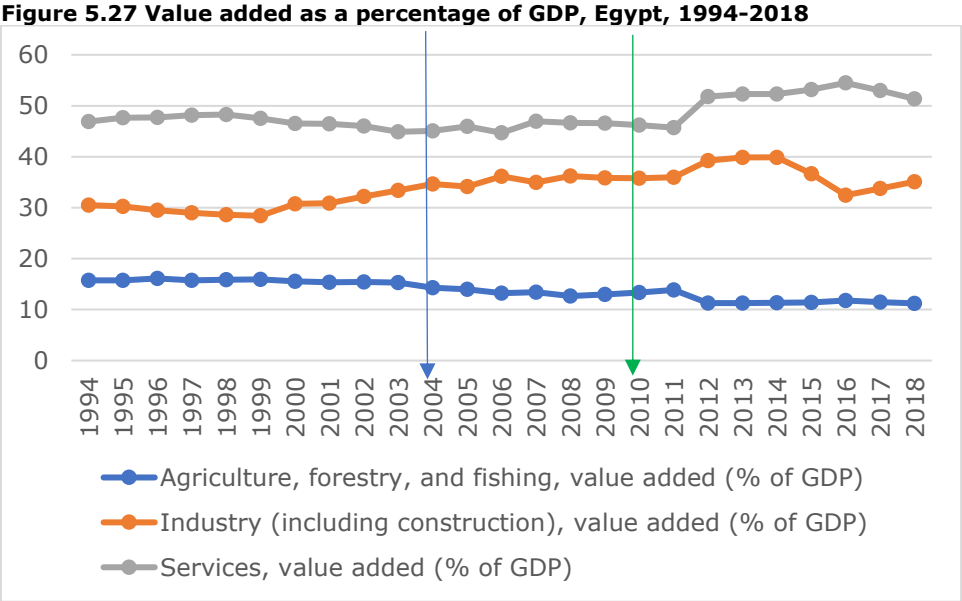
Figure 5.26 Agriculture Trade Balance – Egypt towards RoW and EU in 1000 USD, 1994-2018



Source: Comtrade Data and authors' calculation.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

Despite the expansion in exports, the share of agricultural value added has decreased over time and it is lower in the aftermath of the AA implementation, as predicted by CGE analysis (Figure 5.27).

Figure 5.27 Value added as a percentage of GDP, Egypt, 1994-2018



Source: Comtrade Data, 2020.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

Looking at the trend in employment we can see that total employment and female employment have slightly increased after the AA (Figure 5.28; Table F.18 and F.19 in Annex F4). The female employment growth rate turned positive after the AA implementation and grew at a faster rate than total employment (Table F.18). The gender gap is large, owing to women's low participation to the labour market, but there are signs of improvement, indeed the gap has started to shrink since 2010.

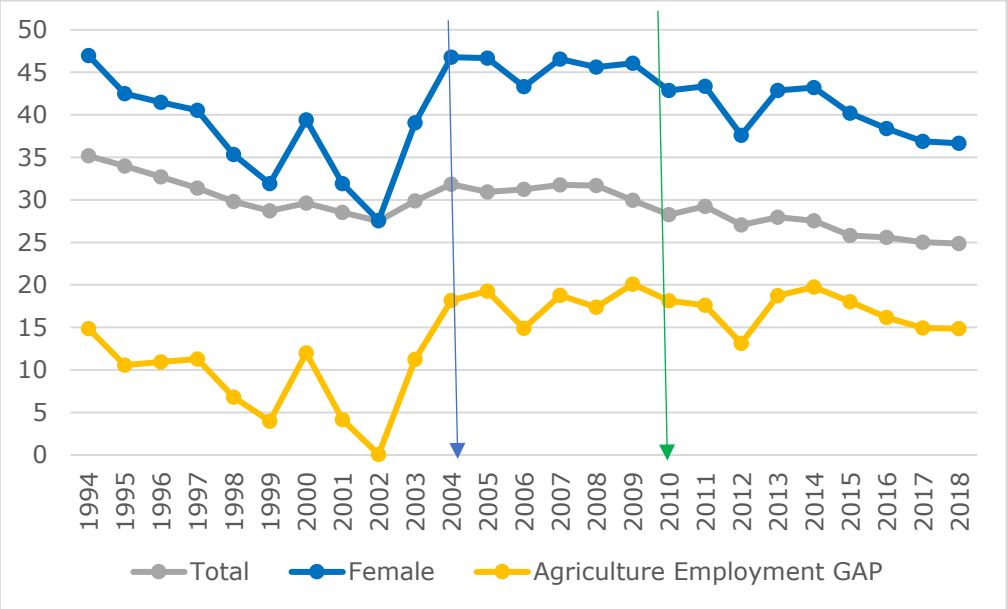
Figure 5.28 Employment to population ratio, 15+, total and female (%) – Egypt, 1994-2018

Source: World Development Indicators.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

The increase in total employment was mainly driven by an increase in employment in the industry sector (Table F.18), while the agricultural sector, in line with the trend in the value added, has recorded a decrease in total employment share that temporary reversed between the AA implementation and 2008 (Table F.19). Female employees have a higher probability to work in the agricultural sector than man (Figure 5.29) and their employment opportunities have increased aftermath of the AA implementation after a downward trend during the 90s. As a result, the gender gap in the agricultural sector improved after 2004. Since 2014, the female employment growth rate turned negative again and the gender gap deteriorated. Only agriculture and services present a positive gender gap, but it has improved only in agriculture.

The gains in terms of employment in the agricultural sector were even higher in the period between the AA implementation and 2008 and the positive trend lasted until 2011. Indeed, during this period employment in agricultural increased, female employment grew at an even faster rate and the gender gap recorded a larger improvement (Table F.18 and F.19).

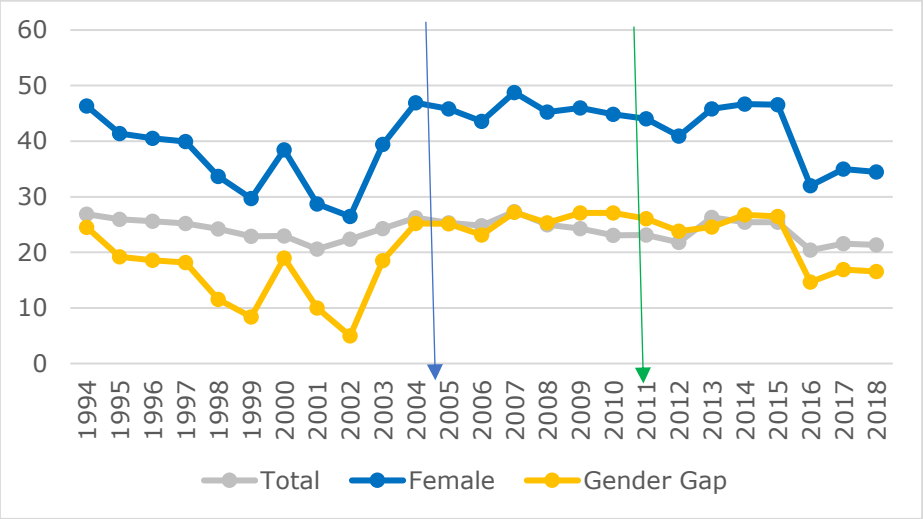
Figure 5.29 Employment in agriculture, total and female (% of employment) – Egypt, 1994-2018



Source: World Development Indicators.

The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols. With regards to informality, female workers have a higher probability than men to be in a vulnerable occupation (Figure 5.30). However, the gender gap has decreased in the late '90 since the contraction in the share of vulnerable female employment was larger than in total employment. But the situation has reversed since 2003, when the share of vulnerable female workers has started to increase, driving a worsening of the gender gap. Only recently (since 2014) we see an improvement in female vulnerability and in the gender gap. As a result, the share of female vulnerable employees is higher and the gender gap worse in the aftermath of the AA implementation, although the deterioration in the job condition started in 2002 (Figure 5.30). The financial crisis and the Arab Spring have not contributed to further weaken women's vulnerability. If we compare Figure 5.29 and 30, it seems that the expansion of female employment in agriculture has been in terms of vulnerable employment. With the employment shrinking since 2014, these vulnerable employees seem to be the ones who had lost their jobs.

Figure 5.30 Vulnerable employment, total and female (% of total and female employment) – Egypt, 1994-2018



Source: World Development Indicators.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

Workers in the agricultural sector experienced a temporary improvement in their employment opportunities in the immediate aftermath of the AA implementation, but saw a deterioration after the global financial crisis in 2008[560]. As a result, in 2018 total employment in agriculture accounted for a lower share than in 2004. The worsening in the employment opportunities was less severe for women, which, despite a decline in their employment opportunities after the financial crisis, have experienced an increase in their employment share and an improvement in the gender gap after the EU-FTA implementation (Table F.18 and F.19). This trend may suggest that women could have replaced men in the agricultural activity. In line with this pattern, Abdelali-Martini (2011) shows that "female wage labour in agriculture is rapidly growing in MENA as a result of rapid population growth, a limited natural base, and low wages in agriculture that are drawing men out of the sector and drawing more women into it, mainly because women have less flexibility than men for moving far from their households". These changes in employment may have caused a worsening of women's employment condition given the increase in the share of vulnerable female workers. The increase in female employment opportunities in the agricultural sector was driven by the creation of poor-quality jobs.

a. Jordan

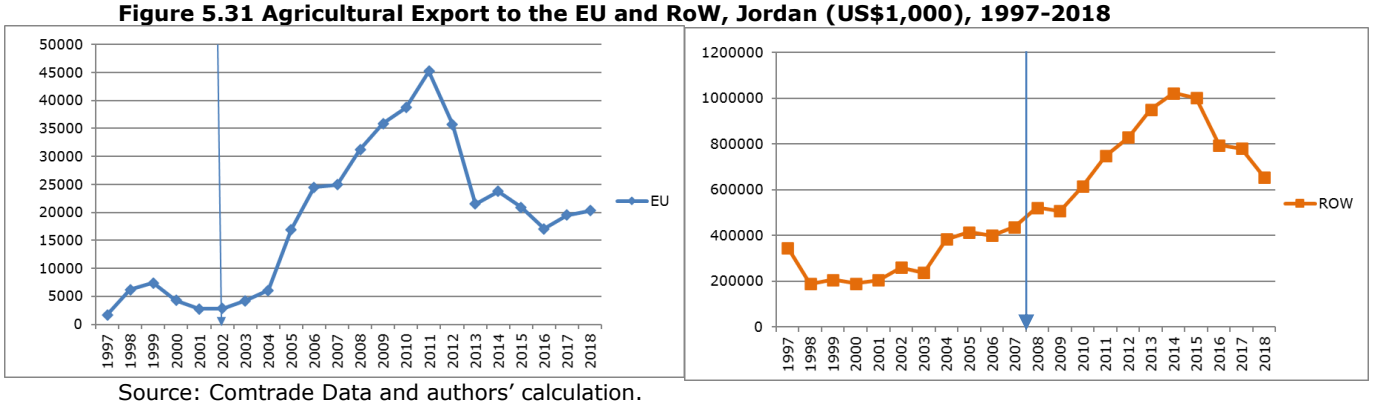
Agriculture accounts for 12.70% of total exports. Most of Jordanian exports are directed towards the MENA countries (94% in 2018) and small share went to Europe (3% in 2018). Export to the EU recorded a sharp increase after the AA implementation in 2002 (it was 0.4% in 1997) and it

[560] Total employment in agriculture decreased by 2.15 pp in the period 2004-2018 while it expanded by 0.76 in the period 2004-2008, respect to the level in 1994-2003.

grew at a higher rate than export to the RoW. Average exports growth rates to EU and RoW turned positive after the AA implementation and they were even higher in the period between the AA implementation and 2008 (Table 5.25)[561]. The implementation of the Protocols on Agriculture in 2007 seems to have boosted even more exports towards the EU (Figure 5.31). The expansion in EU trade stopped in 2011 when, in concomitance when the Arab Spring and the Syria civil war, exports to the EU collapsed and since then have been stable at a low level.

Exports to the RoW have followed a similar pattern although the trade value was much higher and the rise in early 2000s and the decline in 2015 were smoother. As a result, exports to the EU grew more both in terms of value expansion and growth rate after the AA implementation. The FAO (2020) reports that in 2017 there were no European countries among the top 10 Egyptian export partners, as they were all MENA countries. In 1997, Italy ranked 10th and accounted for 2% of top 10 exports. Italy's export value has sharply increased since 1997 and in 2018 Italy ranked 14th and accounted for 3.5% of exports, after Netherlands (12th) and France (13th).

Figure 5.31 Agricultural Export to the EU and RoW, Jordan (US$1,000), 1997-2018



Source: Comtrade Data and authors' calculation.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

Figure with both export to EU and RoW

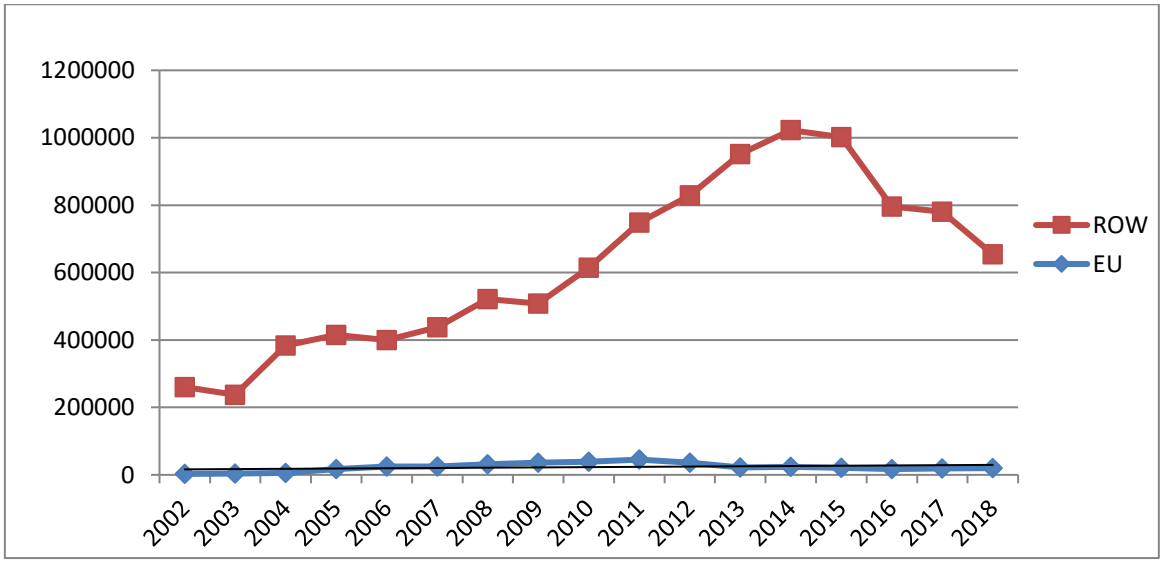


Table 5.24 Exports and Imports flows before and after the AA implementation (level and growth rate)

US$1,000	Before AA$^{\phi}$	After AA$^{\upsilon}$	Difference in %	AA-2008$^{\chi}$	DIFF AA-FC
Export_EU	4 468	22 906	413	15 817	254

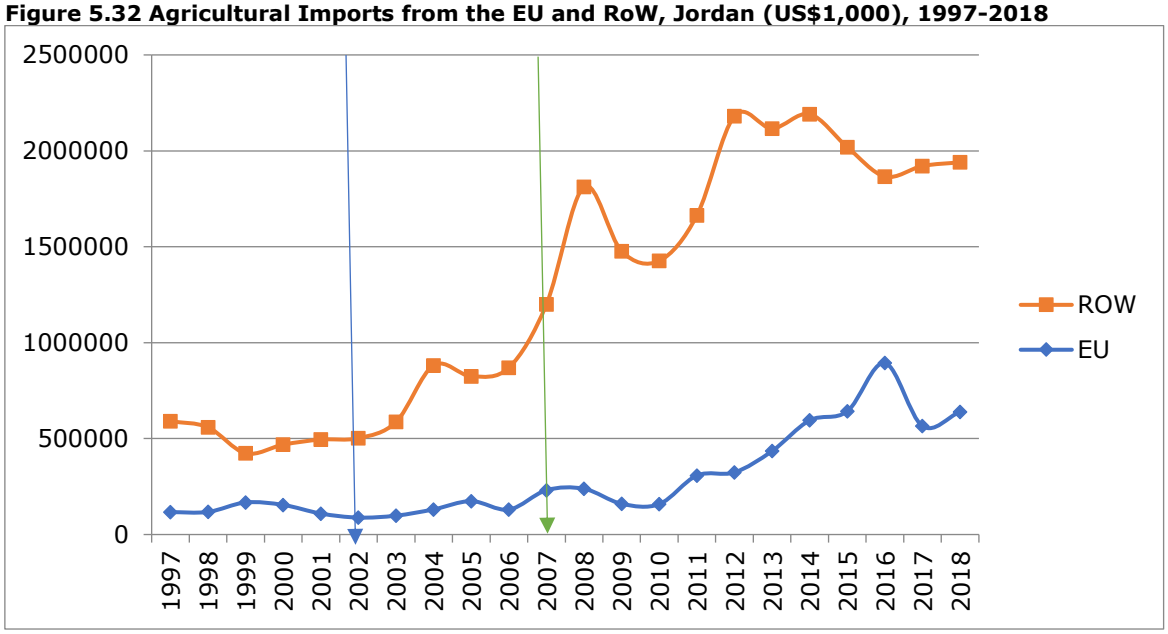
[561] In the period 1999-2009, Jordan experienced an impressive acceleration in its GDP growth that increased income per capita by 38% (Hausmann et all, 2019).

Export_RoW	227 875	621 362	173	379 599	67
Import_EU	133 137	342 023	157	155 935	17
Import_RoW	507 371	1 498 945	195	954 157	88
%			**Difference in pp**		**Difference in pp**
Export_EU	-19.17	19.01	38.18	49.40	68.58
Export_RoW	-9.12	8.57	17.68	16.16	25.28
Import_EU	1.48	16.10	14.63	16.24	14.76
Import_RoW	0.01	10.08	10.07	22.36	22.35

Source: Comtrade Data and authors' calculation.
ϕ: 1997 – 2001; ʊ: 2002 – 2018; ɣ= 2002 – 2008.

Imports account for 14.3% of total Jordanian imports in 2018. The volume of agricultural goods that Jordan imports from Europe is much smaller than the share it imports from the RoW: in 2018 EU imports accounted for 25% of total imports. Imports from the EU were higher in the aftermath of the AA (Figure 5.32) and they have grown at a higher rate (Table 5.25). They also recorded higher growth rates than imports from the RoW because imports from the EU were less subject to the fluctuations that characterized import from RoW after the 2008[562]. As a result, imports from the EU gained more than imports from the RoW both in terms of value expansion and growth rate after 2002. FAO lists only Romania among the top 10 Jordanian import partners (10% of top 10 imports; 4th). The top importers are USA (17%), Saudi Arabia (15%), Argentina (13%), India (9%), Brazil (9%) and Egypt (8%).

Figure 5.32 Agricultural Imports from the EU and RoW, Jordan (US$1,000), 1997-2018

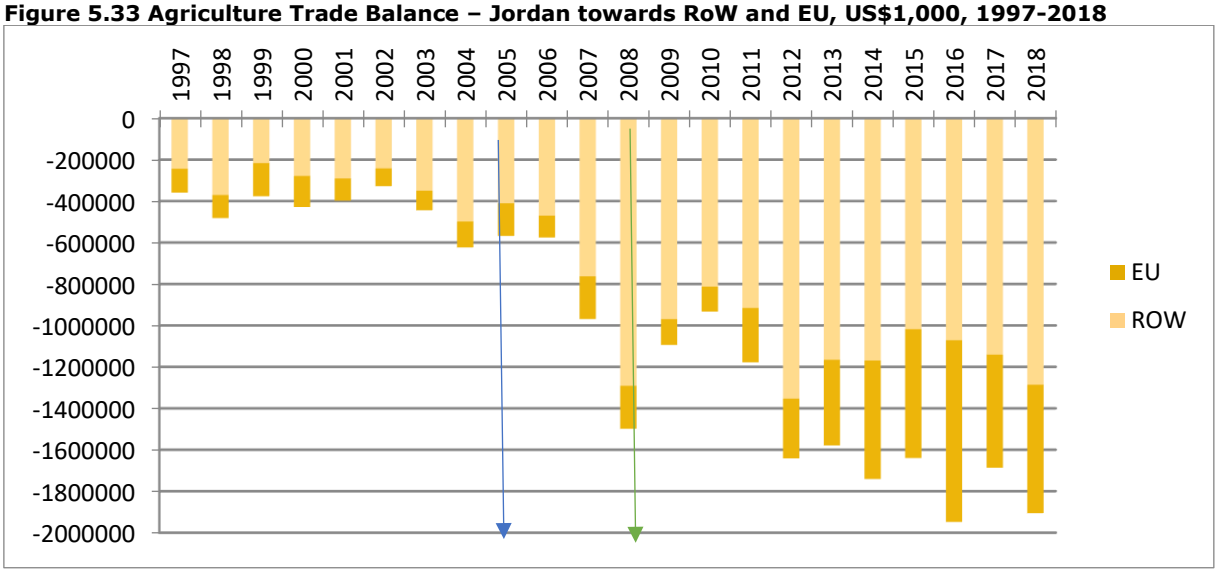


Source: Comtrade Data and authors' calculation.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

Jordanian exports to the EU are smaller in value than imports to the EU. However, it seems that exports to the EU have benefited more than imports from trade liberalisation, in relative terms. Indeed, after the AA implementation, exports gained more in terms of value expansion, the average export growth rate turned positive and it increased at a faster rate (Table 5.25). The gains in terms of export expansion were even larger in the period 2002-2008. The opposite is true for export to the RoW, which gained less in term of value expansion and grew at a lower rate than imports. Jordan presents a negative trade balance in agriculture that has strongly deteriorated in the last decade, mainly towards the RoW, although EU account for a larger share since 2014 (Figure 5.33).

[562] If we consider the period between the AA implementation and the FC, imports growth rates from the RoW were much higher than those from the EU.

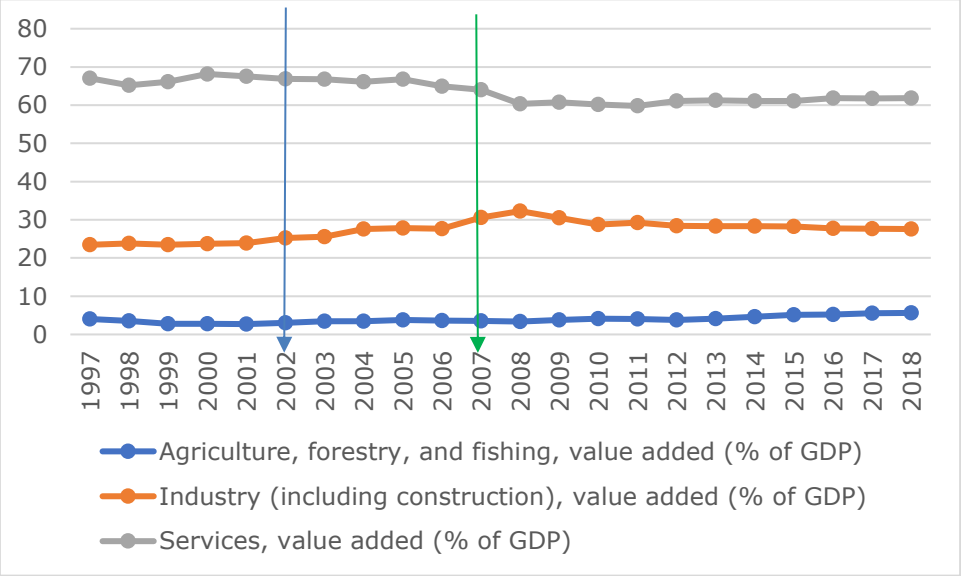
Figure 5.33 Agriculture Trade Balance – Jordan towards RoW and EU, US$1,000, 1997-2018



Source: Comtrade Data and authors' calculation.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

The trend in the share of agriculture value added shows a small improvement in the aftermath of the AA implementation (in line with the CGE result) that has accelerated since 2013. Given the decrease in exports to the RoW since 2016, the EU export expansion seems to be the main driver of this acceleration (Figure 5.34).

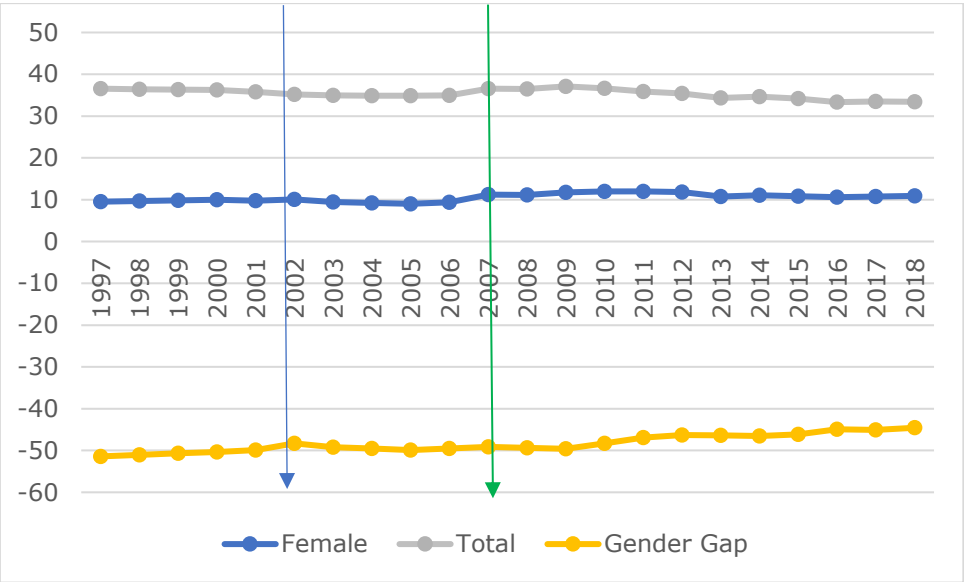
Figure 5.34 Value added as a percentage of GDP by Sector, Jordan, 1997-2018



Source: World Development Indicators.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

Looking at the trend in employment we can see that, on average, while total employment marginally contracted, female employment has slightly increased after the AA (Figure 5.35; Table F.19 and F.20 in Annex F4). Female employment seems to have improved their working opportunities after the AA implementation and the gender gap improved, despite remaining very large. Both total and female employment experienced a period of expansion after 2006. While total employment started to contract in 2010, the increase in female employment lasted until 2013 when the growth rate flattened.

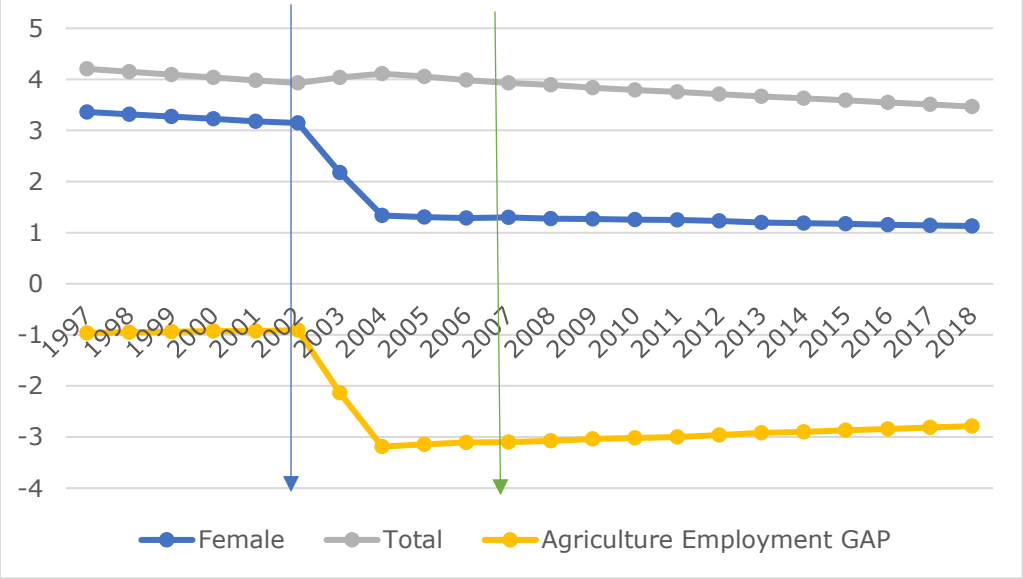
Figure 5.35 Employment to population ratio, 15+, total and female (%) – Jordan, 1997-2018



Source: World Development Indicators.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

The decrease in total employment was mainly caused by a decrease in employment in the agricultural[563] and service sector (Table F.19), while the industrial sector has expanded and has driven also the general increase in female employment (although female employment in this sector grew less than male employment). Female employees have a lower probability to work in the agricultural sector[564] than man (i.e. the gender gap is negative, Figure 5.36) and their employment opportunities have deteriorated after the AA implementation: the contraction in employment was higher for female than total employment and the trend accelerated after 2002 (Table F.20). As a result, the gender gap in the agricultural sector sharply worsened in 2002. Since 2004 it started to recover but remains well below the pre-AA level. The service sector is the only sector to report an improvement in the gender gap since the decrease in female employment was lower than in total employment.

Figure 5.36 Employment in agriculture, total and female (% of employment) – Jordan, 1997-2018



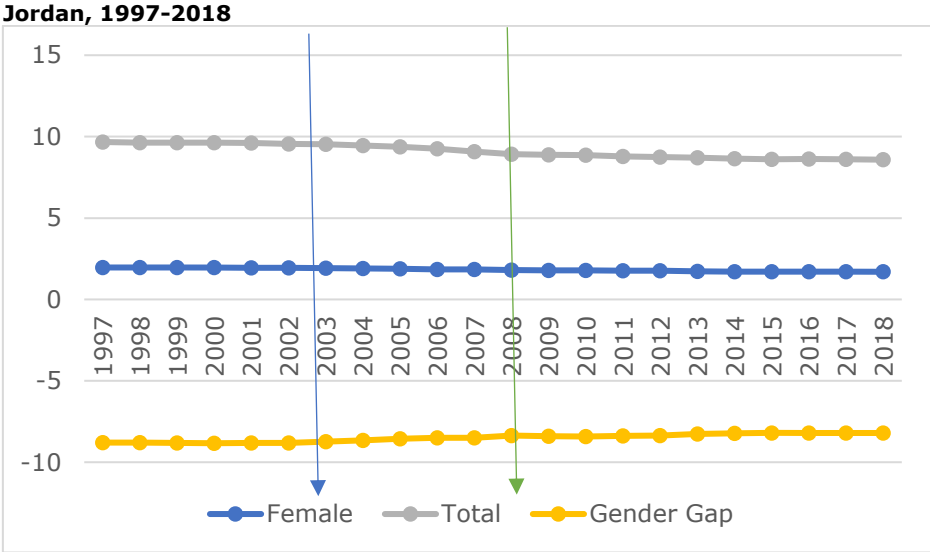
Source: World Development Indicators.

[563] The increase in the share of agriculture value added did not create new jobs but seems driven by an improvement in labour productivity.
[564] As shown in Figure 6.3, the agricultural sector in Algeria accounts for the lowest share of female employment.

The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

With regards to informality, female workers have a lower probability than men to be in a vulnerable occupation (Figure 5.37). Vulnerable employment has decreased after the AA implementation, but female workers were in part excluded from this improvement and the gender gap slightly get worse. Given that female employment sharp decreased in 2002 and the level of female vulnerable workers remained quite stable, vulnerable female employment seems to be less affected by the wave of jobs dismissals.

Figure 5.37 Vulnerable employment, total and female (% of total and female employment) – Jordan, 1997-2018



Source: World Development Indicators and authors' calculations.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

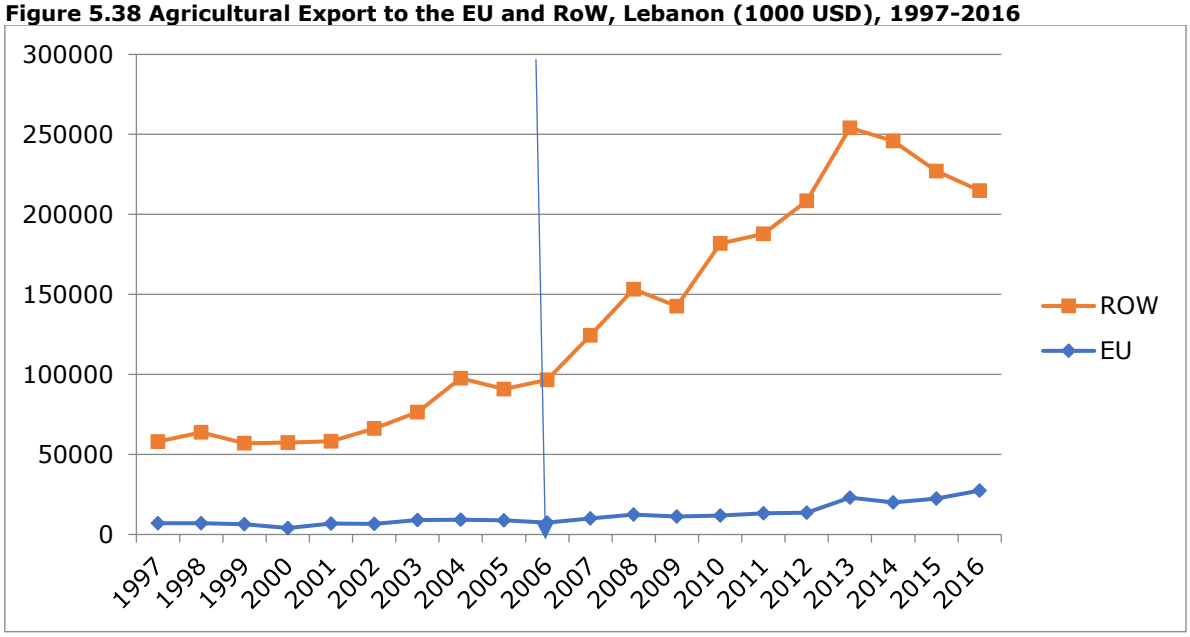
Employment opportunities for women working in the agricultural sector seems to have deteriorated after the AA implementation and the gender gap recorded the largest contraction. Women working in the industry sector were the only to improve their employability although the worsening of the gender gap shows that in this sector men have gained more than women. Also, in terms of vulnerability, female worker conditions have worsened relative to men after the AA implementation.

a. Lebanon

Agriculture accounts for only 2.67% of total exports in Lebanon. In 2018 most of Lebanese exports went to the MENA countries (70%) and only 11% was directed towards the EU. Both exports to the EU and exports to the RoW were higher after the AA implementation in 2006 (Figure 5.38) but the gap has widened. Exports to the EU report higher growth rate in the period after the AA implementation thanks to an acceleration in 2012. In 2013, exports to the RoW started to decline. This opposite trend may explain the lower growth rate of exports to the RoW in comparison to exports to the EU in the aftermath of the AA implementation (Table 5.26). As a result, after 2006 exports to the RoW grew more than exports to the EU in terms of value expansion but the opposite is true for export growth.

The FAO (2020) reports that in 2017 there were no European countries among the top 10 Lebanon's export partners, they were all MENA countries except for China and USA. In 1997, Germany and France were listed among the top 10 export destinations. Their exclusion from the top performers is not due to a contraction in their trade flows with Lebanon, but to a lower growth rate than other MENA countries and the diversification of the export destination (China and Iraq were new entries in the top 10 ranking in 2017) that has sharply widened the gap between exports to RoW and EU.

Figure 5.38 Agricultural Export to the EU and RoW, Lebanon (1000 USD), 1997-2016



Source: Comtrade Data and authors' calculation.
The arrow indicates the entry into force of the FTAs with EU.

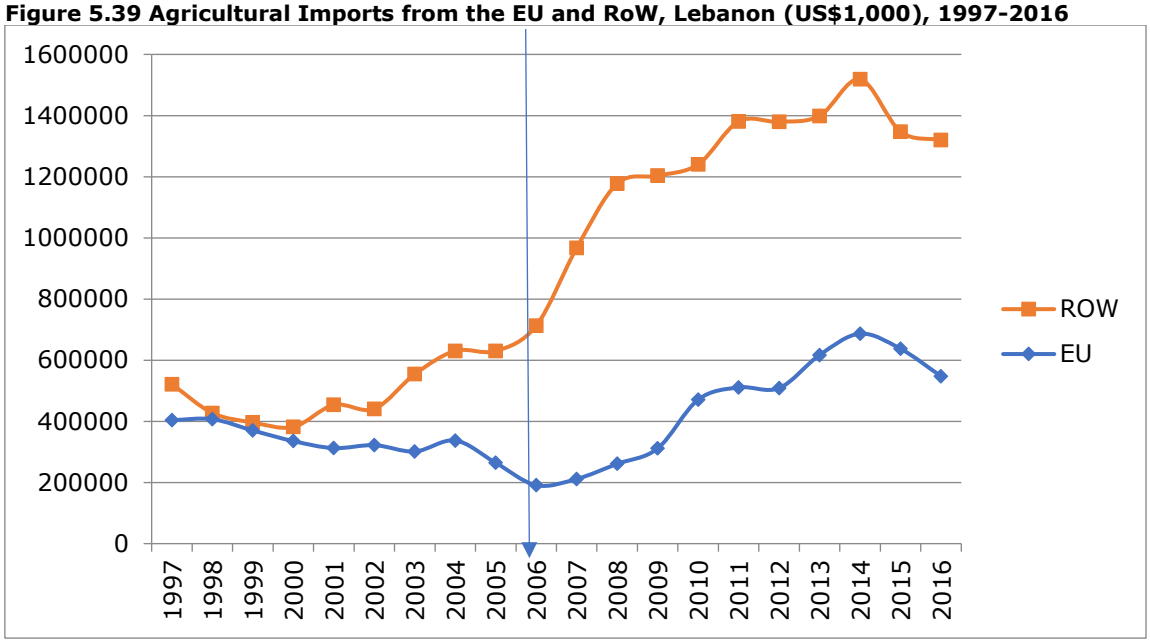
Table 5.25 Exports and Imports flows before and after the AA implementation (level and growth rate)

US$1,000	Before AAϕ	After AAυ	Difference in %	AA-2008ɣ	DIFF AA-FC
Export_EU	7 231	17 741	145	9 986	38
Export_RoW	69 507	190 327	174	124 759	79
Import_EU	339 292	470 763	39	221 263	-35
Import_RoW	492 880	4 466 816	806	952 319	93
%			**Difference in pp**		**Difference in pp**
Export_EU	6.99	13.27	6.28	14.84	7.85
Export_RoW	6.44	8.98	2.54	19.43	12.99
Import_EU	-4.70	8.69	13.38	2.13	6.83
Import_RoW	3.30	241.36	238.05	23.52	20.22

Source: Comtrade Data and authors' calculation.
ϕ: 1997 – 2005; υ: 2006 – 2016; ɣ= 2006 – 2008.

Agriculture accounts for 10.8% of total imports. In the late 90s the value of agricultural goods that Lebanon imports from Europe was very close to that from the RoW although both were very low in value. In 2016 the picture was very different. The share of EU imports was much smaller than the share of imports from the RoW: it accounted for 29% of total imports (Figure 5.39). In 2006 exports to the EU started to increase after a period of decline: the imports growth rate turned positive but it was lower than the imports growth rate from the RoW. Imports from the RoW kept increasing, and even accelerated, after 2006 and the gap has widened. As a result, imports from the RoW grew more than imports from EU both in terms of value expansion and growth rate (Table 6.15). Since 2014, we notice a contraction in imports flows from both the EU and the RoW. FAO lists three European countries among the top 10 imports partners in 2016: France (4th), Netherlands (8th), Spain (9th) and Germany (10th) that accounted for 33% of imports. The share of imports from the EU in 1997 was larger (42%) and the list of top 10 import partners also included Italy and UK. The change in the import pattern was due to a reduction in the EU's imports growth rates and a diversification of the import partners (Ukraine, Russia and Saudi Arabia are new entries in the top 10 ranking).

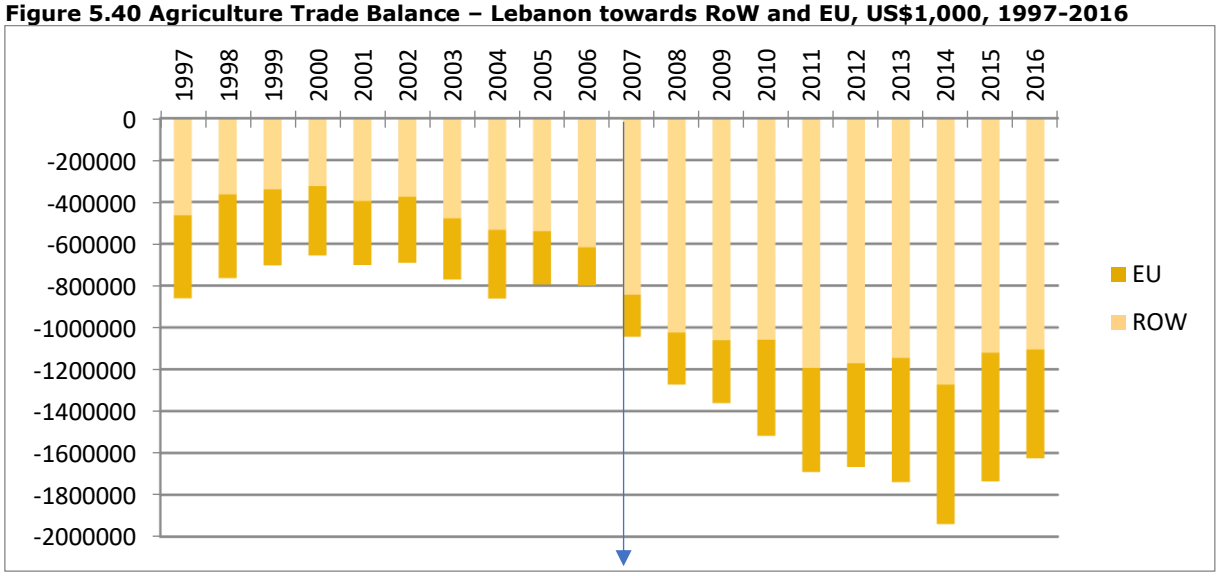
Figure 5.39 Agricultural Imports from the EU and RoW, Lebanon (US$1,000), 1997-2016



Source: Comtrade Data and authors' calculation.
The arrow indicates the entry into force of the FTAs with EU.

Lebanese exports to the EU are smaller in value than imports to the EU but they grew faster and gained more than imports in terms of value expansion. At the same time, the AA implementation seems to have contributed to boost the imports from the EU given that its average growth rate turned positive after 2006 (Table 5.26). Looking at the trade relation with the RoW, imports have expanded more than exports both in terms of level and growth rate since 2006.
These patterns are reflected in the trade balance. Lebanon presents a negative trade balance in agriculture that has strongly deteriorated since 2006, mainly towards the RoW, although EU share has increased since 2010 (Figure 5.40).

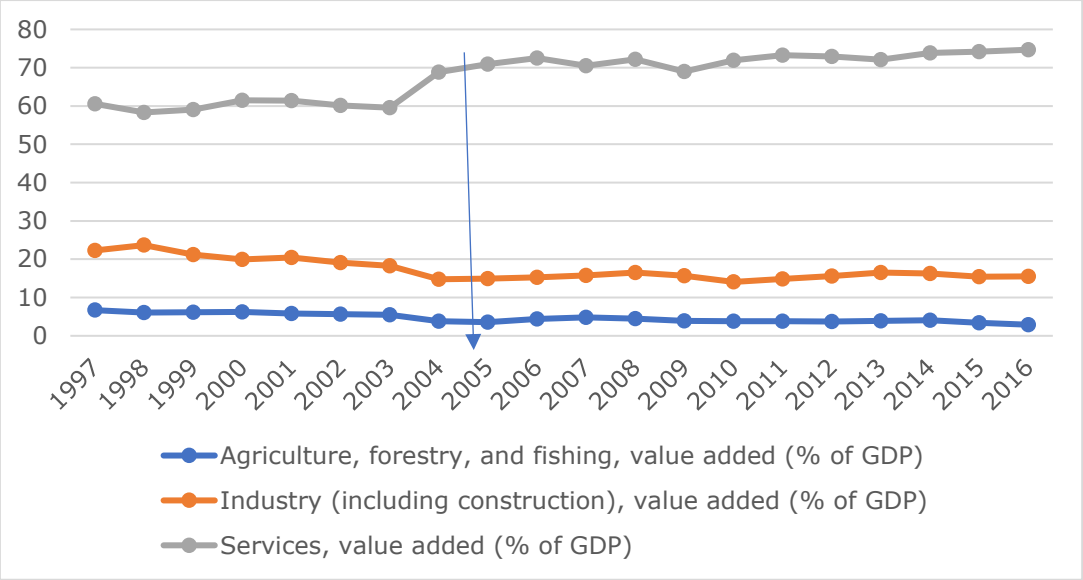
Figure 5.40 Agriculture Trade Balance – Lebanon towards RoW and EU, US$1,000, 1997-2016



Source: Comtrade Data and authors' calculation.
The arrow indicates the entry into force of the FTAs with EU.

The large increase in imports from the EU and the RoW seems to have had a negative impact on the agricultural sector that, in line with the partial equilibrium model prediction, has slightly reduced its value-added share on GDP (Figure 5.41).

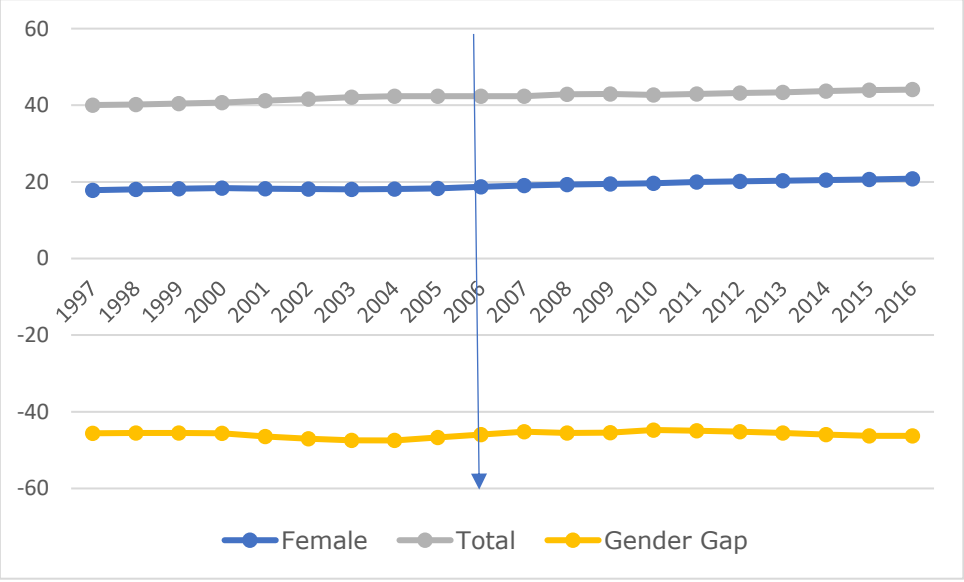
Figure 5.41 Value added as a percentage % of GDP by Sector, Lebanon, 1997-2016



Source: World Development Indicators.
The arrow indicates the entry into force of the FTAs with EU.

Looking at the trend in employment we can see that total employment and female employment have slightly increased after the AA (Figure 5.42; Table F.21 and F.22 in Annex F4). However, female employment recorded a larger expansion and larger growth rates than total employment after 2006.The gender gap remains considerable but there are signs of improvement. (Table AF.10 and AF.11).

Figure 5.42 Employment to population ratio, 15+, total and female (%) – Lebanon, 1997-2016



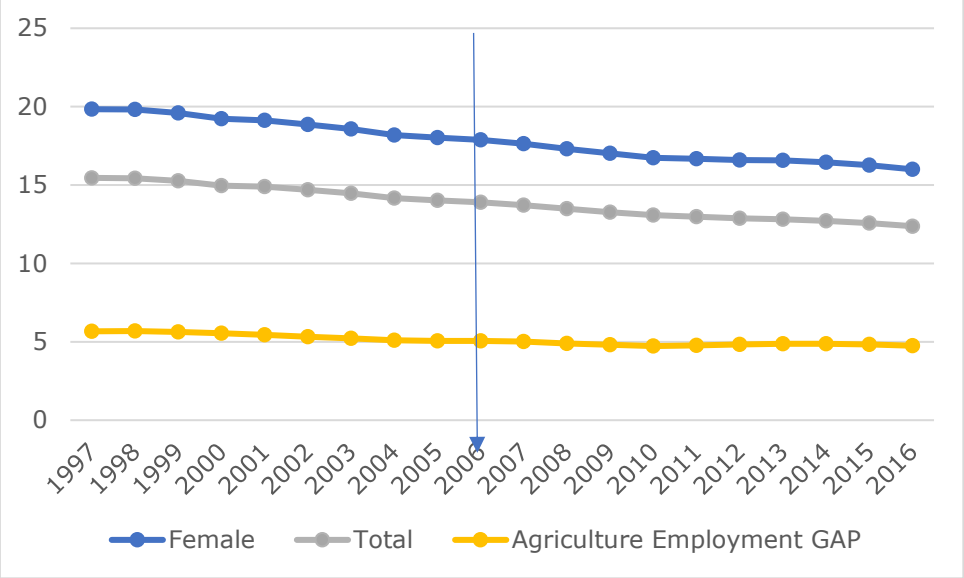
Source: World Development Indicators.
The arrow indicates the entry into force of the FTAs with EU.

The increase in total employment was mainly driven by an expansion in employment in the service sector (Table F.21), while the agricultural[565] and industrial sectors have contracted.

[565] The contraction in employment in the agriculture is in line with the contraction in the share of value added reported in Figure 5.41.

Female employees have a higher probability of working in the agricultural sector than males (Figure 5.43) but their employment opportunities have deteriorated: the contraction in female employment was higher than in total employment although it decelerated after the AA implementation. As a result, the gender gap in the agricultural sector worsened.

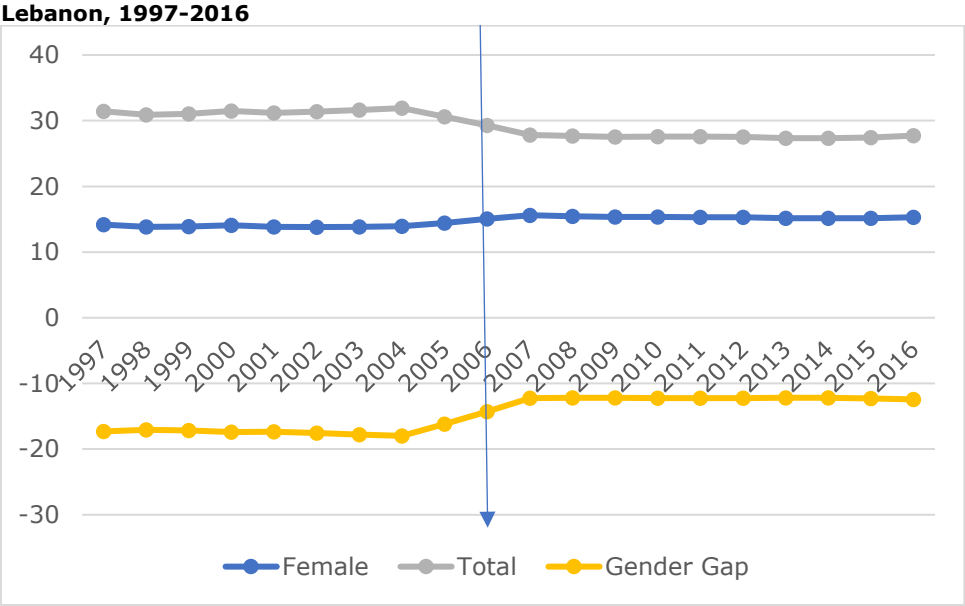
Figure 5.43 Employment in agriculture, total and female (% of employment) – Lebanon, 1997-2016



Source: World Development Indicators and authors' calculations.
The arrow indicates the entry into force of the FTAs with EU.

With regards to informality, female workers have a lower probability than men to be in a vulnerable occupation. However, while vulnerable employment has decreased after the AA implementation (and the deceleration was faster) the share of vulnerable female workers has increased, and it grew at a faster rate. As a result, the gender gap has deteriorated. (Figure 5.44).

Figure 5.44 Vulnerable employment, total and female (% of total and female employment) – Lebanon, 1997-2016



Source: World Development Indicators and authors' calculations.
The arrow indicates the entry into force of the FTAs with EU.

Employment opportunities for women working in the agricultural sector seems to have deteriorated after the AA implementation, although the gender gap in this sector recorded a lower contraction than in industry. Women working in the service sector were the only to improve their employability both in general and in in comparison to men. Also, in terms of

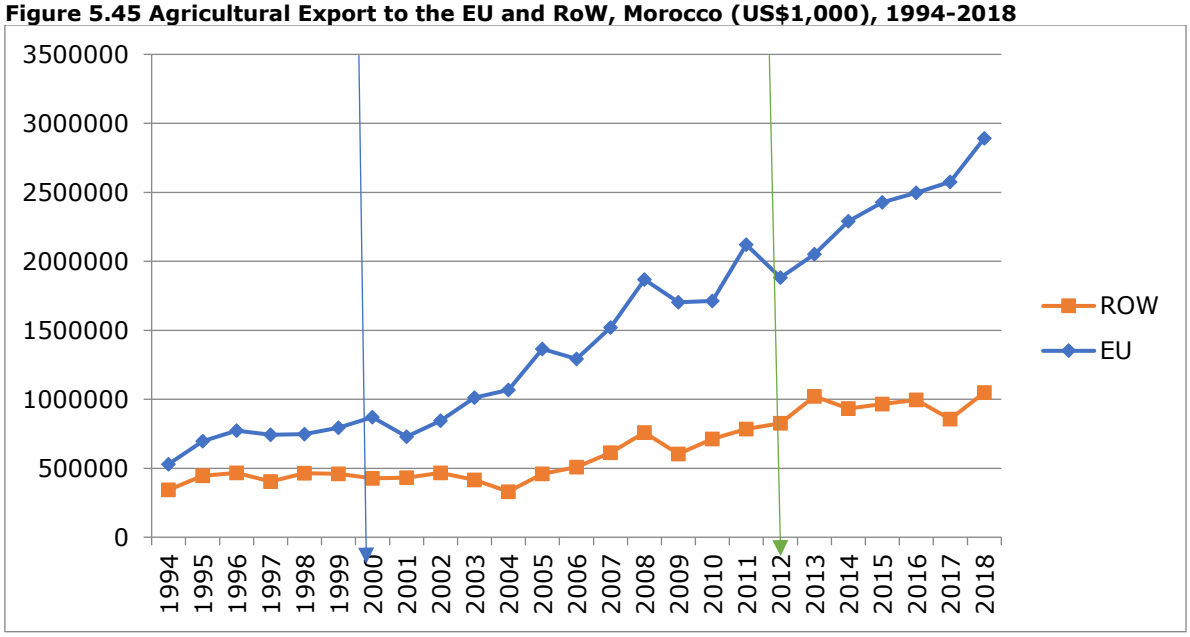
vulnerability, female workers have experienced a worsening of their condition after the AA implementation.

a. Morocco

Agriculture accounts for 13.40% of total export. The EU was Morocco's main export partner and in 2017 accounted for 73% of total agricultural export, up from 60% in 1994. During the 90s exports to the EU and RoW follow a similar stable path but they were low in value (Figure 5.45). After 2000 exports to the EU sharply accelerated and recorded a faster growth than exports to the RoW, widening the existing positive gap. As a result, exports to the EU gained more than export to the RoW both in terms of value expansion and growth rate after the AA implementation. (Table 5.27)

FAO (2020) reports that, in 2017, six European countries were among the top 10 exporters and they accounted for 84% exports (France 44%; Spain 24%; Netherlands 8%; UK 3%; Germany 3% and Belgium 2%). The ranking was like the one in 1997, with the exception of Russia that has sharply increased its trade flows with Morocco and it is now the 4th most important export destination (up from 12th in 1997).

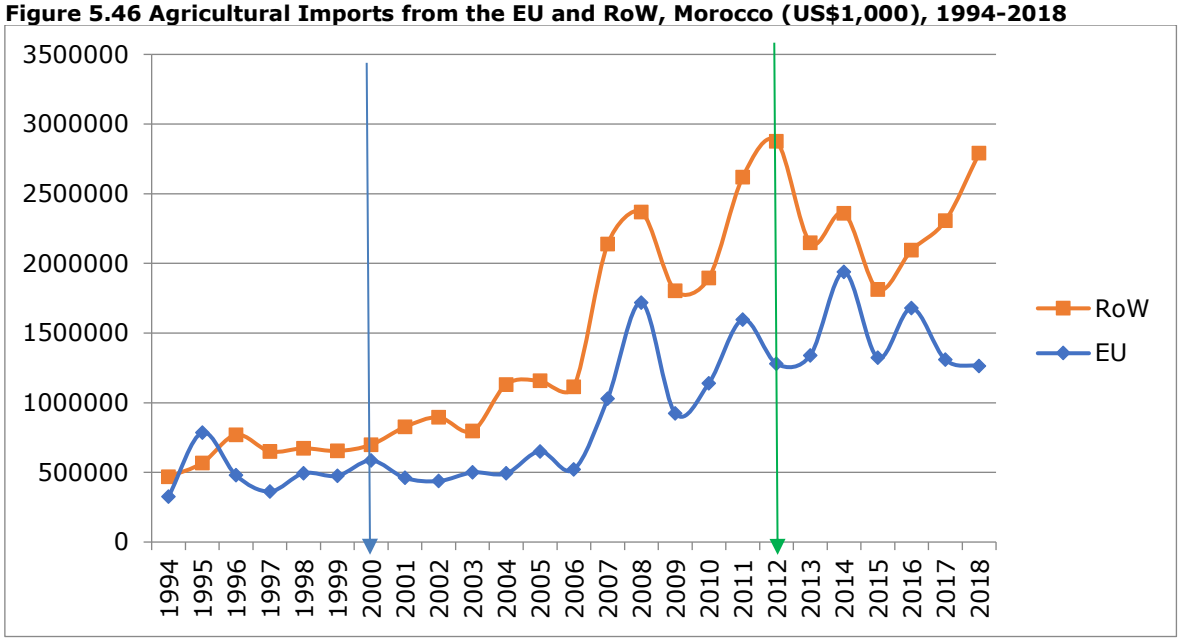
Figure 5.45 Agricultural Export to the EU and RoW, Morocco (US$1,000), 1994-2018



Source: Comtrade Data and authors' calculation.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

Agriculture accounted for 7.9% of total Moroccan imports in 2018. The value of agricultural goods that Morocco imports from Europe is smaller than imports from the RoW: it accounted for 31% of total imports in 2018, down from 41% in 1997. Imports from the EU were higher in the aftermath of the AA, but the average growth rate was lower (Figure 5.46). Imports from the EU and the RoW followed a similar unstable path, but they have diverged since 2016, when imports from the EU started to decline. As a result, imports from the RoW gained more both in terms of value expansion and growth rate after the AA implementation (Table 5.27). FAO lists four European countries among the top 10 import partners in 2017: France (13%), Spain (11%), Germany (5%) and Netherlands (4%) that accounted for 34% of imports. The situation was very similar as the one in 1994 but since then non-European countries have expanded much more their trade values (with the exception of Spain that went from 9th to 4th) and new countries have become major import partners (such as Canada and Ukraine).

Figure 5.46 Agricultural Imports from the EU and RoW, Morocco (US$1,000), 1994-2018



Source: Comtrade Data and authors' calculation.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

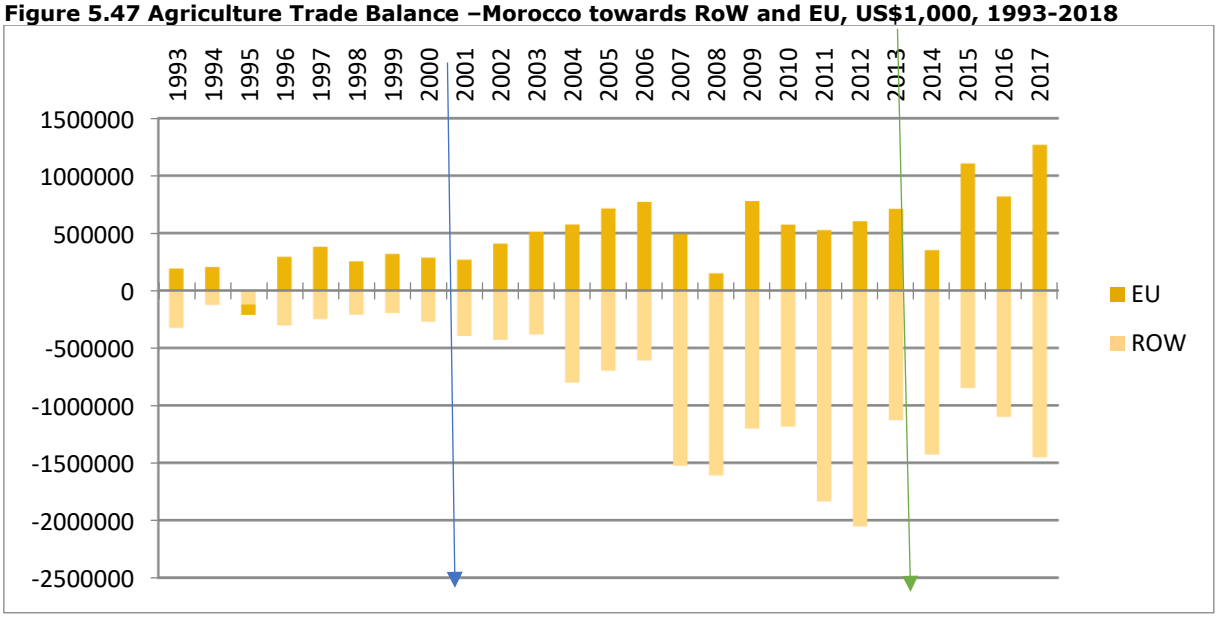
Table 5.26 Exports and Imports flows before and after the AA implementation (level and growt rate)

US$1,000	Before AAϕ	After AAυ	Difference in %	AA-2008ɣ	DIFF AA-FC
Export_EU	713 839	1 722 305	141	1 174 373	65
Export_RoW	430 412	692 321	61	490 072	14
Import_EU	486 968	1 062 344	118	710 404	46
Import_RoW	630 428	1 780 723	182	1 236 064	96
%			**Difference in pp**		**Difference in pp**
Export_EU	9.05	7.74	-1.32	10.86	1.81
Export_RoW	7.01	5.68	-1.33	7.22	0.21
Import_EU	22.05	10.66	-11.39	20.70	-1.35
Import_RoW	3.41	10.68	7.27	18.41	15.00

Source: Comtrade Data and authors' calculation.
ϕ: 1994 – 1999; υ: 2000 – 2018; ɣ= 2000 – 2008.

Exports to the EU are larger in value than imports from the EU and after the AA implementation they gained more than imports in terms of value expansion and growth rate. The opposite is true for exports from the RoW, which are lower than imports and have expanded less both in terms of value and growth rate (Table 5.27). These patterns are reflected in the trade balance: Morocco presents a positive trade balance in agriculture with the EU but a negative one with the RoW, that has sharply deteriorated since 2004. (Figure 5.47). Overall, the trade balance is negative and has fluctuated over time.

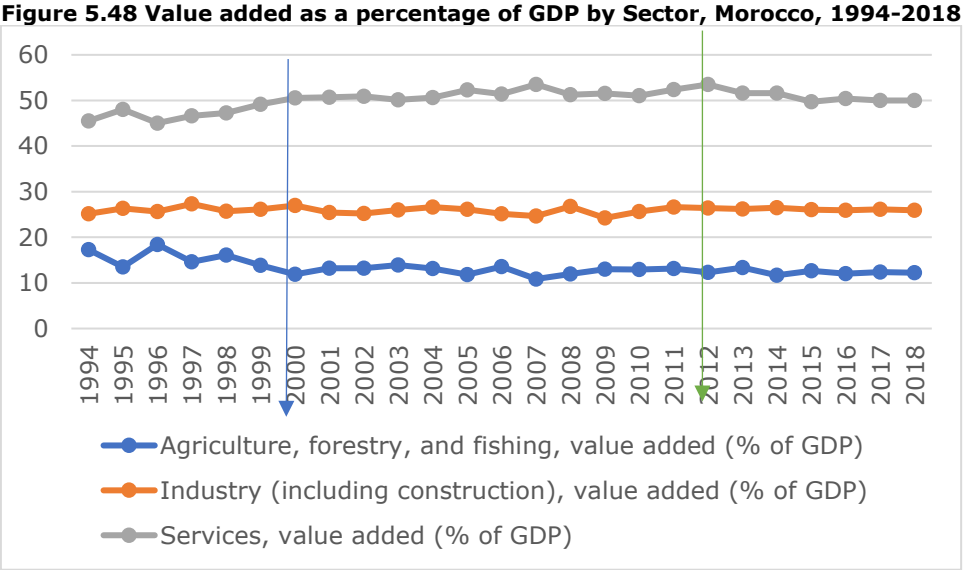
Figure 5.47 Agriculture Trade Balance –Morocco towards RoW and EU, US$1,000, 1993-2018



Source: Comtrade Data and authors' calculation.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

Looking at the trend in the share of value added over GDP we notice a slight contraction over time (Figure 5.48).

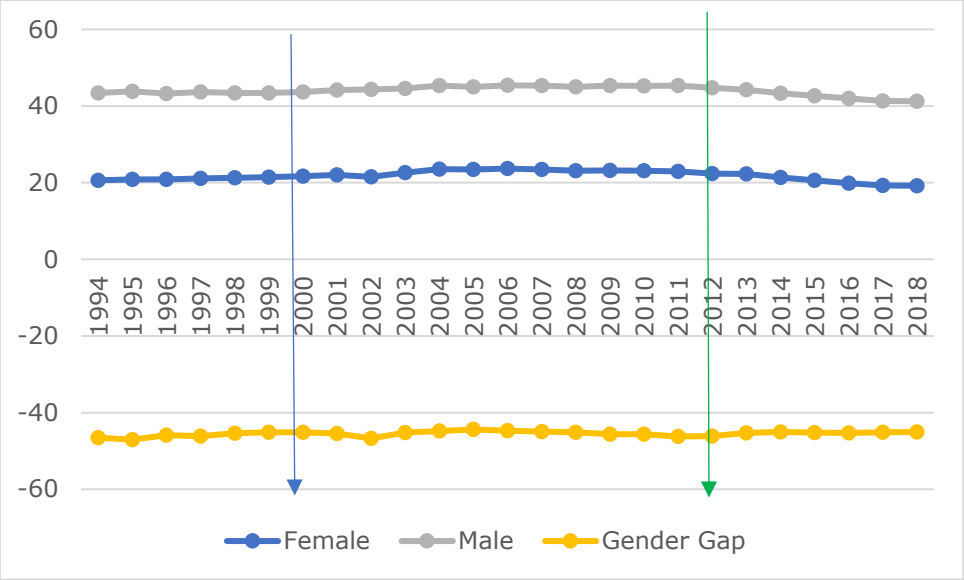
Figure 5.48 Value added as a percentage of GDP by Sector, Morocco, 1994-2018



Source: World Development Indicators.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

Looking at the trend in employment we can see that total employment and female employment slightly increased in the aftermath of the AA implementation (Figure 5.49; Table F.23 and F.24 in Annex F4) but, since 2008, both have decreased (with female employment contracting substantially). The gender gap is large and, apart from the period 2000-2008, there are no signs of improvements over time.

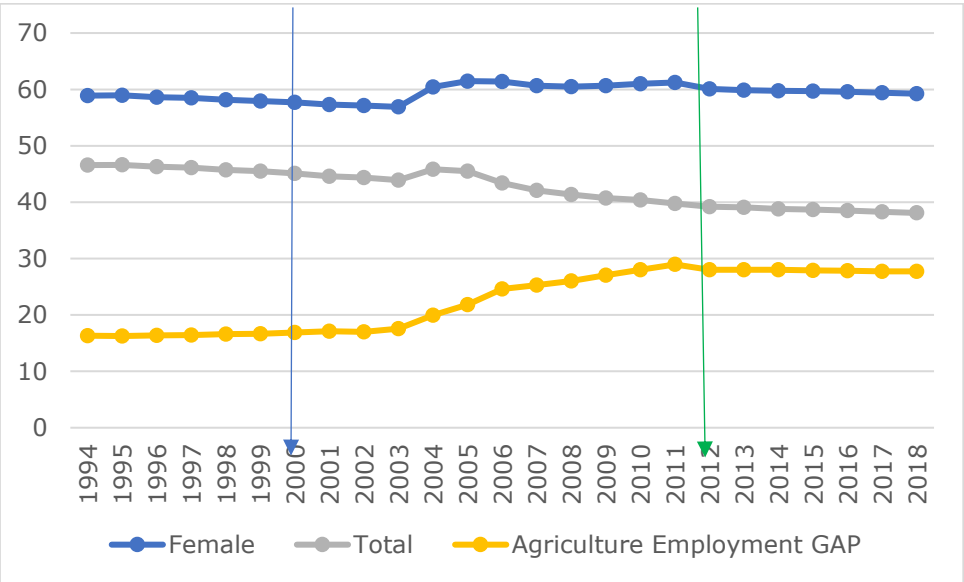
Figure 5.49 Employment to population ratio, 15+, total and female (%) – Morocco, 1994-2018



Source: World Development Indicators and authors' calculations.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

The trend in total employment masks some job reallocation across sectors. Indeed, while after the AA implementation total employment has increased in the industry and service sector, it has shrunk in the agricultural sector (in line with the trend in the value-added share) (Table F.23). In contrast to the trend in total employment, women in the agricultural sector seems to have improved their employment opportunities after the AA implementation both in general and in comparison, to men. Indeed, female employment was higher (Figure 5.50), it grew at a faster rate and the gender gap improved after 2003.

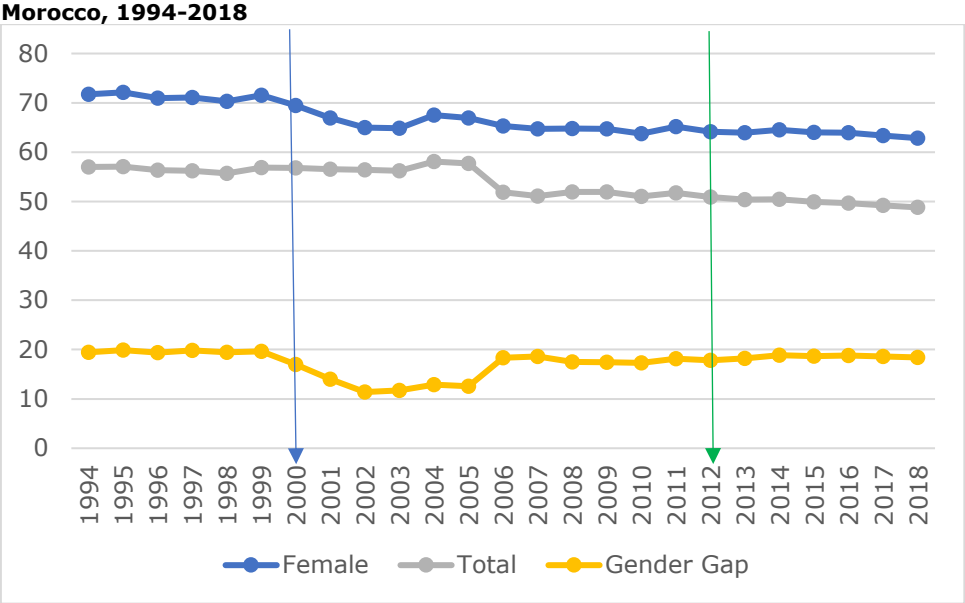
Figure 5.50 Employment in agriculture, total and female (% of employment) – Morocco, 1994-2018



Source: World Development Indicators and authors' calculations.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

With regards to informality, we notice a decrease in the share of female vulnerable employment immediately after the AA implementation (from 1999 to 2008) that was not matched by a decrease in total vulnerable employment and hence drove an improvement in the gender gap (Figure 5.51). Since 2008, the decrease in female and total vulnerable employment has followed a similar decreasing path and the gender gap has worsened again. The new jobs created in the agricultural sector seems to not have increased the share of vulnerable workers in agriculture, as it happened in Egypt.

Figure 5.51 Vulnerable employment, total and female (% of total and female employment) – Morocco, 1994-2018



Source: World Development Indicators and authors' calculations.
The first arrow indicates the entry into force of the FTAs with EU, the second arrow is for additional protocols.

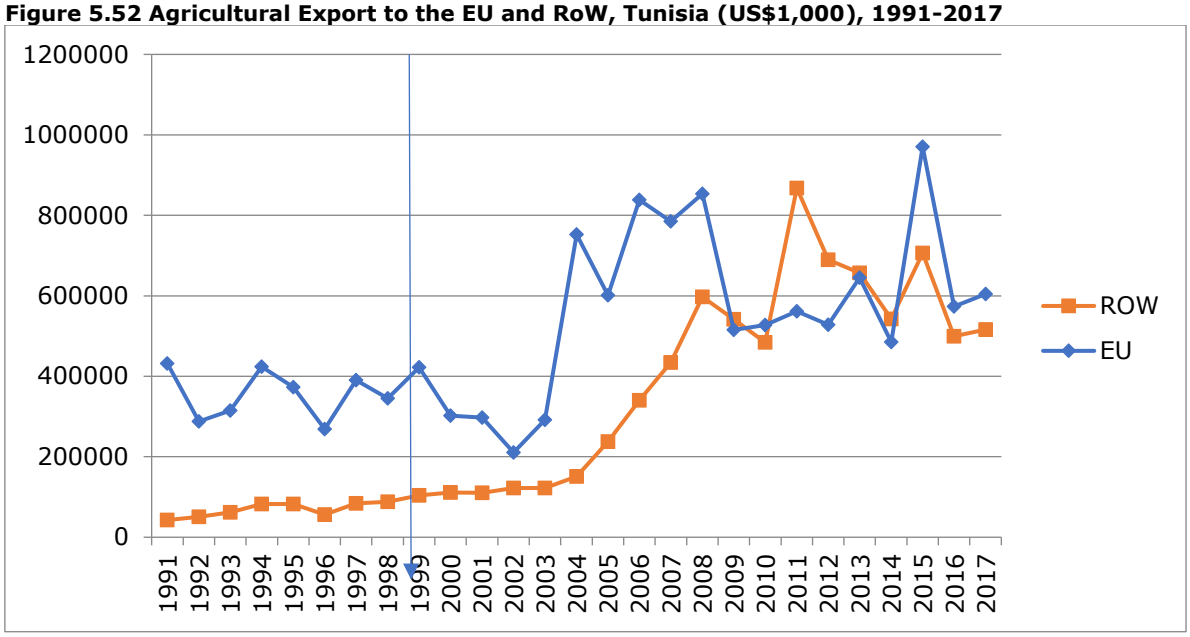
As discussed above, the AA seems to have impacted more on agricultural exports to the European countries than imports. However, imports from RoW continued to expand and the share of agriculture-value added contracted. The result was a decrease in total employment in agriculture and a relocation towards other sectors. Women working in agriculture seems to have improved their employment opportunities since the EU-FTA came into force. Indeed, their employment share in agriculture increased and their vulnerability rate declined. This pattern may suggest that women replaced men in the vacant positions in agriculture. This may indicate a trend towards "the feminisation of agricultural labour" as suggested by Abdelali-Martini (2011).

a. Tunisia

Agriculture accounted for 7.89% of total export in Tunisia in 2017. The EU is Tunisia's main export partner and in 2017 accounted for 54% of total agricultural export, down from 91% in 1991 due to Tunisia's trade expansion towards the MENA countries. The AA implementation did not have an immediate effect on trade flows. Indeed, exports to EU and the RoW accelerated after 2003. Exports to the EU collapsed in 2008 and they grew at a low rate until 2015 when they registered a peak. The impact of the financial crisis was milder on trade with the RoW and for the first time in 2011 exports to RoW surpassed exports to the EU (Figure 5.52). As a result, exports to the RoW gained more in terms of value expansion after 1996 (Table 5.28).

FAO (2020) reports that in 2017 four European countries were among the top 10 exporters and they accounted for 47% of exports (Italy 20%; France 15%; Spain 9%; and Germany 3%). In 1991 the same countries accounted for 80% of exports. The decline in the EU share was due to a contraction in the trade with Italy and a lower increase in exports with the other European countries in comparison to the rest of the world. In particular, MENA countries sharply increased their trade relation with Tunisia.

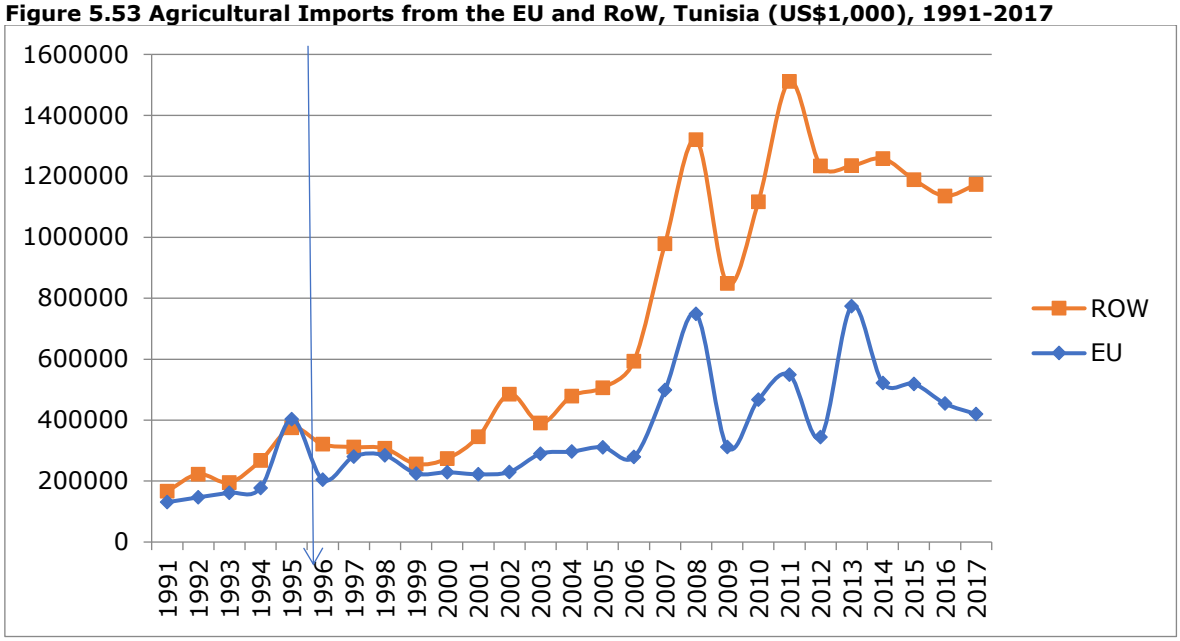
Figure 5.52 Agricultural Export to the EU and RoW, Tunisia (US$1,000), 1991-2017



Source: Comtrade Data and authors' calculation.
The arrow indicates the entry into force of the FTAs with EU.

Agriculture accounted for 7.7% of total imports in Tunisia in 2017. The value of agricultural goods that Tunisia imports from Europe is smaller than imports from the RoW and it grew slower after the AA implementation: in 2017 it accounted for 26% of total imports, down from 44% in 1991. Imports from the EU and RoW were very close and of low value since 2000 when they started to increase. However, imports from the RoW registered a faster growth and they started to diverge (Figure 5.53). Since the financial crisis and Arab Spring bot imports flows have followed at unstable growth path but imports from the EU were more affected and in 2014 started to decline. As a result, imports from the RoW gained more both in terms of value expansion and growth rate after the AA implementation (Table 5.28). FAO lists only two European countries among the top 10 import partners in 2017: France (12%) and Italy (11%) that accounted for 23% of imports. In 1991, there were four European countries among the top 10 import destinations (France 27%; Belgium-Luxembourg 5%; Netherlands 5% and Germany 5%) and they accounted for 42% of imports from the top 10 partners. The reduction of the EU share is not due to a contraction in their trade flows with Tunisia, but to a smaller increase than trade with other countries, mainly in comparison to Russia and Brazil that have recorded exponential growths.

Figure 5.53 Agricultural Imports from the EU and RoW, Tunisia (US$1,000), 1991-2017



Source: Comtrade Data and authors' calculation.
The arrow indicates the entry into force of the FTAs with EU.

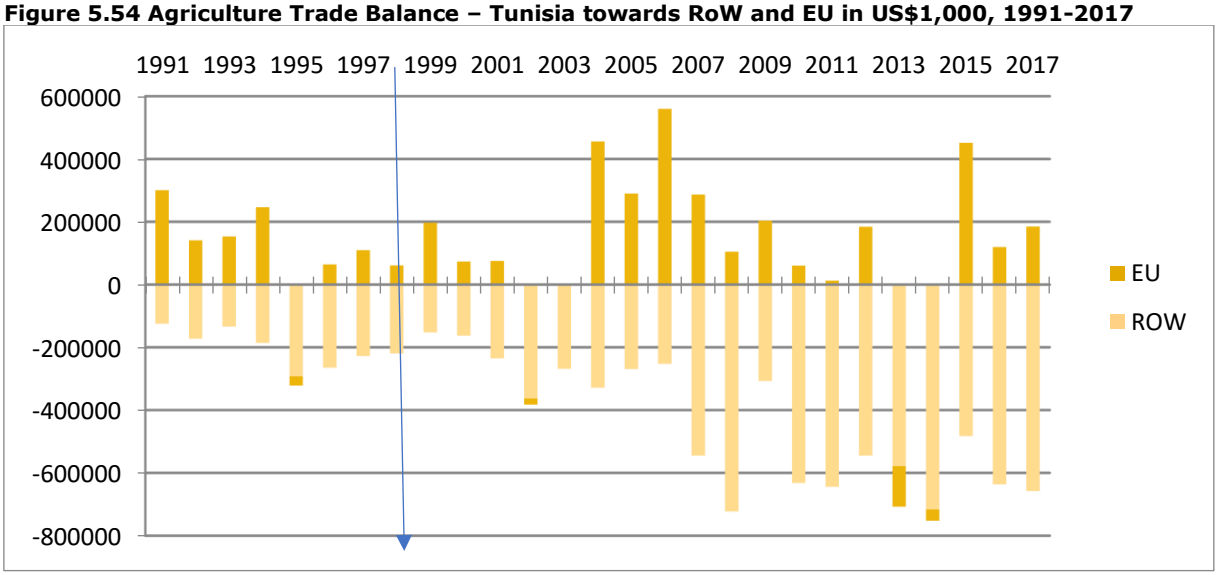
Table 5.27 Exports and Imports flows before and after the AA implementation (level and growth rate)

US$1,000	Before AAϕ	After AAυ	Difference in %	AA-2008ɣ	DIFF AA-FC
Export_EU	366 192	534 912	46	489 029	34
Export_RoW	64 061	366 567	472	196 904	207
Import_EU	203 814	384 450	89	315 227	55
Import_RoW	245 446	784 988	220	505 201	106
%			**Difference in pp**		**Difference in pp**
Export_EU	-0.30	9.64	9.94	14.39	14.69
Export_RoW	18.56	12.18	-6.38	19.01	0.45
Import_EU	10.66	7.55	-3.12	9.43	-1.23
Import_RoW	24.59	7.83	-16.75	12.63	-11.96

Source: Comtrade Data and authors' calculation.
ϕ: 1991 – 1995; υ: 1996 – 2017; ɣ= 1996 – 2008.

Exports to the EU are larger than imports from the EU and after the AA implementation they grew at a faster rate. The gains in terms of greater export's growth were even larger in the period between the AA implementation and 2008. However, imports have gained more in terms of value expansion (Table 5.28). Exports to the RoW are lower than imports from the RoW but they have gained more in terms of value expansion and growth rate. Tunisia presents an overall negative trade balance in agriculture that has deteriorated since 2008. The negative trade balance is determined by the relationship with the RoW, while the trade balance with Europe is positive (Figure 5.54).

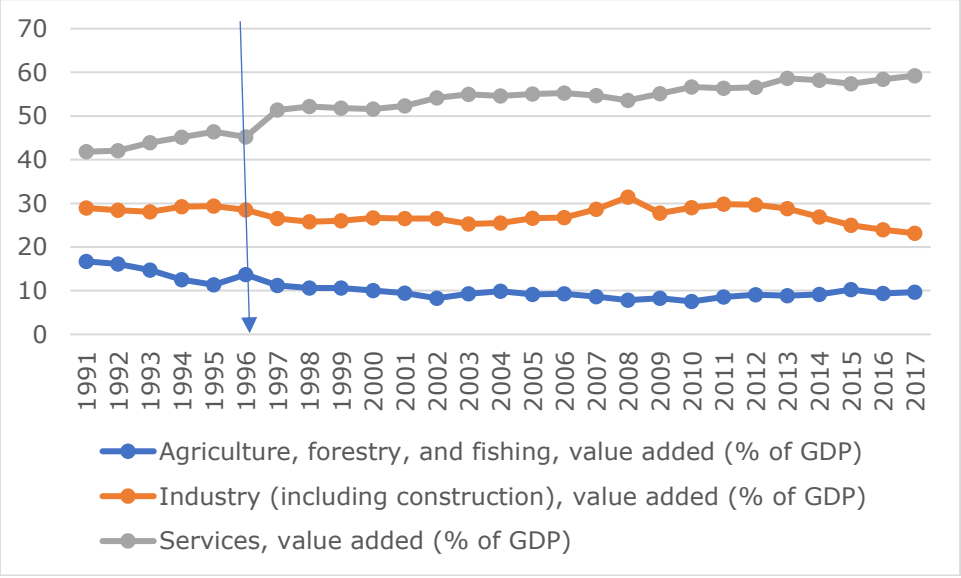
Figure 5.54 Agriculture Trade Balance – Tunisia towards RoW and EU in US$1,000, 1991-2017



Source: Comtrade Data and authors' calculation.
The arrow indicates the entry into force of the FTAs with EU.

The share of agriculture value-added over GDP has decreased over time, as suggested by the CGE results (Figure 5.55).

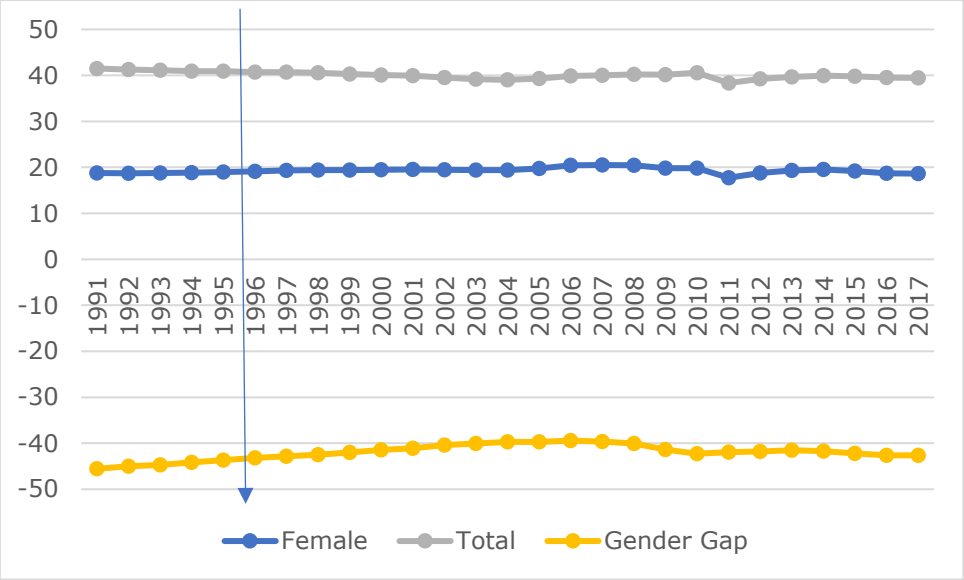
Figure 5.55 Value added as a percentage of GDP by Sector, Tunisia, 1991-2017



Source: World Development Indicators.
The arrow indicates the entry into force of the FTAs with EU.

Looking at the trend in employment we can see that total employment was fairly constant across the entire period despite a decline during the Arab Spring. In the aftermath of the AA implementation, female employment increased faster than in the 1990s and it drove an improvement in the gender gap. However, after the Arab Spring, the growth rate of female employment turned negative and the gender gap deteriorated (Figure 5.66, Table F.25 and F.26 in Annex F4).

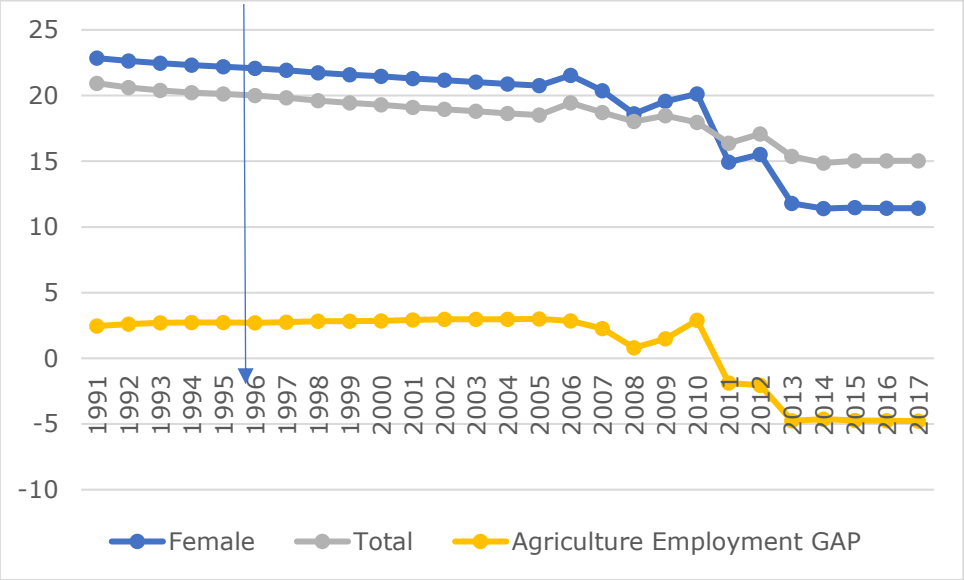
Figure 5.56 Employment to population ratio, 15+, total and female (%) – Tunisia, 1991-2017



Source: World Development Indicators and authors' calculations.
The arrow indicates the entry into force of the FTAs with EU.

The stable trend in total employment masks some job reallocation across sectors. While total and female employment decreased in the agriculture and industry sectors, they increased in the service sector (Table F.25). The decrease in total and female employment in the agricultural sector (that is in line with the declining trend in the value-added share) continued after the AA implementation, but it worsened following the Arab Spring (Table F.25). Women were more affected than men. From 1991 to 2010, female employees had a higher probability to work in the agricultural sector than men, but the pattern has inverted since 2010 when the contraction in female employment exceeded that in total employment (Figure 5.57). As a result, the gender gap in the agricultural sector turned negative.

Figure 5.57 Employment in agriculture, total and female (% of employment) – Tunisia, 1991-2017

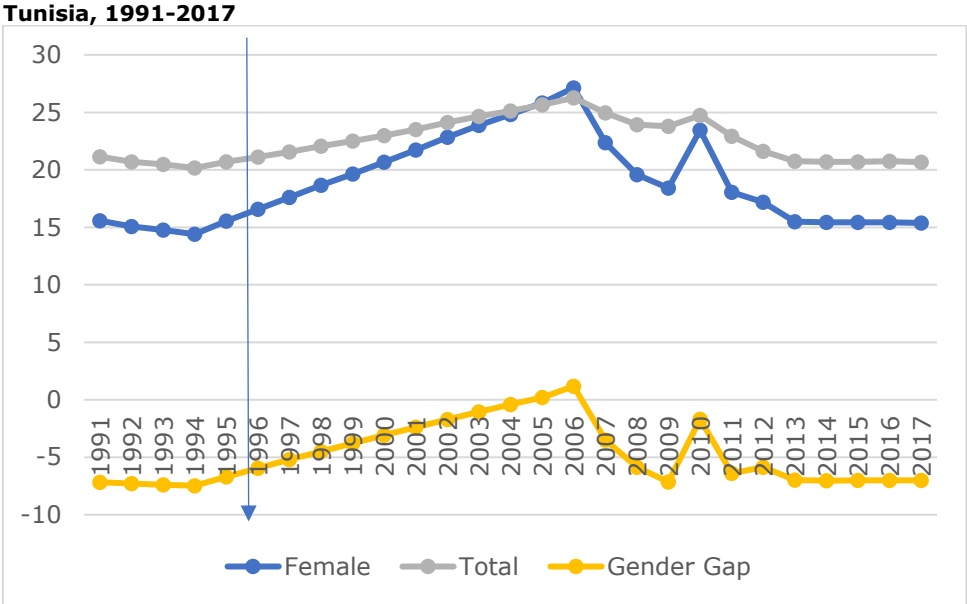


Source: World Development Indicators and authors' calculations.
The arrow indicates the entry into force of the FTAs with EU.

With regards to informality, vulnerability increased at a steady rate from 1994 (two years before the AA implementation) to 2006. The deterioration in female employment was worse, and the gender gap exacerbated. Since 2006 the trend has inverted, and the share of total and female vulnerable workers has decreased. The improvement in female employment's working conditions was more pronounced than for total employment and it has driven an enhancement in the gender gap that went back to the 1991 level (Figure 5.58). Vulnerable female employees

seem to be more affected from the contraction in employment in the agricultural sector (Figure 5.57 and 58).

Figure 5.58 Vulnerable employment, total and female (% of total and female employment) – Tunisia, 1991-2017



Source: World Development Indicators and authors' calculations.
The arrow indicates the entry into force of the FTAs with EU.

Employment opportunities for women working in the agricultural sector have deteriorated after the AA implementation, although the gender gap in this sector recorded a lower contraction than in industry. Women working in the service sector were the only to improve their employability both in general and relative to men. Also, in terms of vulnerability, female workers' situation did not really improve since the level of female vulnerable employment is now back to the same 1991's level. The same is true for total vulnerable employment but the fluctuations in the vulnerability condition were much higher for women.

Channels of Impact and Constraints faced by Women

The analysis presented above shows that only women in Egypt and Morocco have experienced an improvement in their employment opportunities in agriculture in the aftermath of the AA implementation, although their participation in the labour market remains marginal. However, while the increase in female employment in agriculture in Morocco was matched to a decrease in informality, in Egypt the share of female vulnerable workers increased. Egypt and Morocco are different from the other SMCs in several ways. Egypt and Morocco are the most competitive exporters of agricultural products in SMCs and they are two of the three countries to have signed a Protocol on Agriculture. In these two countries agriculture accounts for the largest share of GDP and employs the largest share of population and female workers. In Egypt and Morocco, women have a higher probability than men to be employed in the agricultural sector. In line with economic theory, agricultural workers in these countries have gained from trade liberalisation. In all other countries where agriculture has a lower social and economic weight, women have experienced a deterioration of their employment opportunities in the sector.

Policy makers should find the right instruments to allow more Moroccan and Egyptian women to benefit from trade liberalisation in agriculture and support women in the other SMCs who found themselves in a more awkward configuration following the trade opening. In order to suggest an effective set of reforms, in the following section we will review the main channels of impact and the constraints face by women.

Channels of impact

a. The extent to which female intensive sectors are affected by trade

For the majority of countries, trade liberalisation leads to structural adjustments that are conducive to a redistribution of wealth among different groups within societies. Restructuring can be inclusive pro-poor or, on the contrary, it can increase income inequalities. The same applies to the issue of gender inequality: trade liberalization can be gender inclusive if the

economic activities promoted by trade opening are traditionally female-intensive or become more female-intensive.

Several modalities can be envisaged to be in such a positive configuration. The positive effect can be direct if the opening up of trade allows the development of an export-oriented and labour-intensive sector for women (Juhn, Ujhelyi & Villegas-Sanchez, 2012). In addition, the positive effect can also be indirect. This is the case when trade opening directly favours a sector which, in turn, uses inputs produced by a sector that is intensive in female labour. It should be noted that across sectors there are many direct and indirect effects at work, e.g. while the demand for this intermediary product could increase, at the same time, this product is also affected directly by the FTA, either facing better export opportunities, or increased foreign competition.

On the contrary, the reverse is true if trade opening favours male-labour-intensive activities or if it exposes female-labour-intensive sectors to import competition (Cockburn, Corong, Decaluwé, Fofana & Robichaud, 2010; Viroleau, 2015). The final effect on female employment is related to the extent to which women workers can move from one sector to another.

Several parameters are key in determining whether the trade opening and the resulting structural transformation can be beneficial for women: the female level of education, the access to finance and land, the access to distribution networks, the social norms and the laws (UNCTAD, 2017). For example, these factors can enable women to seize export promotion opportunities allowed by FTAs by financing the adaptation of their production tools to new challenges, by adapting the right attitudes to connect to distribution networks. On the other hand, these factors are also important in resisting the new competition from imports by financing, for example, imported technologies that could allow a leap in competitiveness. After trade opening, the evolution of the sectoral trade balance combined with the sectoral intensity of the sector in terms of female labour can be a means of apprehending the effect of opening on female labour while being aware of the limits that apply. Indeed, trade openness is not the only factor explaining developments, positive effects may be observed in one sector while the situation for all sectors combined has deteriorated.

b. Economic gender gaps decrease through competition or job skills content

The central idea of this impact transmission channel is that the labour market is undergoing a tension as a result of the liberalisation, with overall output expanding, which can push for the inclusion of women in economic activity.

As a result of trade opening, employment with specific qualifications may be required, in line with an international specialisation process, so that men alone would not be sufficient to fill all the new jobs created. The access of women to these positions is then likely to reduce the wage gap between men and women.

Another illustration of this channel is the competitive pressure resulting from trade opening. Firms that discriminate against women then find themselves having to bear additional costs because of the constraints they impose on themselves if excluding women when recruiting. They are then gradually pushed out of the market, which has become increasingly competitive (Bussolo and De Hoyos, 2009; Doumbia and Meurs, 2003; Becker, 1957). The observation of the evolution of the gender wage gap though time after liberalisation could be a good indicator of an effect of trade opening on economic discrimination.[566]

Effects of the latter part of this channel are more difficult to analyse, especially in the context of SMC data availability. In this study, we have therefore mainly focus on the analysis of the effects related to the first channel presented.

Constraints faced by women

There are different factors that hold back women from entering in the labour market or starting a new activity and ultimately impede them to adjust in response to negative shocks (or to seize any opportunities from the liberalisation process). Lower education levels and less training,

[566] Unfortunately, long series data are not available as far as gender wage gap in the SMCs is concerned.

limited access to financial instruments and restrictions on land ownership, exclusion from distribution networks, gender-biased social norms[567] and laws constrain women's participation in economic activity and confine them to slow-growing non-tradable activities (for a more detailed discussion see Annex F4).

Low female literacy rates are one of the factors holding back women from benefitting from trade liberalisation (FES-MENA, 2020): in SMCs only 78% of women can write and read versus 88% of men (Figure F.31 in Annex F4). All SMCs countries except Lebanon and Jordan report lower female literacy rate and larger gender gaps than the Arab World and MENA. The higher level of illiteracy among women is reinforced by the educational attainment at the primary level: only 68% of women have finished the primary school (versus 82% of male) and the gap between women and men widely differ across countries (Table F.27 in Annex F4). Not surprising the education attainment decreases with the level of education but the gender gap shrinks, suggesting that women from disadvantaged backgrounds and limited access to education are more disadvantaged than others).

There is a clear gender gap with regards to access to finance, as women in developing economies are more excluded from the financial sector than men. The difference is even greatest in SMCs, and in particular in Jordan, Algeria, Morocco, Lebanon and Tunisia that report a larger gender gap than MENA, Arab countries, LMI and UMI countries (Figure F.32 in Annex F4).

Women's access to distributional networks is constrained by social and traditional norms, law, physical barriers[568], and poor education. Information and communication technology by overcoming some of these impediments can help women to access markets and improve their networking capabilities. However, internet penetration in SMCs is limited and the gender divide is one of the largest in the World (Table F.28). In Morocco, the population can benefit from a wider and more even access to internet (65% and 7pp) than in Egypt and Algeria. Women living in rural areas in several of these regions face an even larger technological disadvantage.

Social norms and law may strongly affect the process of generating greater economic opportunities with trade liberalisation for women (OECD, 2012[569]). Women in SMCs usually get married at a younger age than in EU and the age gap between spouse and bide at first marriage is much larger (Table F.29). In SMCs women get married at a time in life when professional investment can lead to access to high-level positions. Egypt is the SMC country where women get married at the youngest age (22 years old) and the gender gap is wider (5.5 years). Moreover, women in SMCs spend slightly more time than women in EU on unpaid domestic and care work but the gender gap is four times bigger (Table F.30). Egypt is the country with the largest gender gap in domestic and care work (9.2 hours). The Women, Business and the Law Index (2019) shows that women in SMCs face significantly more legal obstacles relative to men and to women in Europe and Central Asia, but on average the situation is better than in the MENA group. Tunisia and Morocco are two exceptions: here the gender disparities are smaller and even lower than in LMI countries (Table F.30).

Women working in the agricultural sector face additional constraints related to the features of rural areas. In case of work displacement, they have less opportunities to convert to other paid jobs owing to the more limited job offer in rural than urban areas (FES-MENA, 2020). Given that human and physical capital are usually lower than in other areas and often women work as subsistence farmers, it is hard for them to move from non-tradable goods production to the agri-food business. (World Bank, 2015). Finally, women in rural area have lower chances of being able to participate effectively in trading activities as connections to markets are difficult owing to poor infrastructure.

[567] The amount of time women can spend on trade-related activities is limited by social biases towards work in the home and caring for children.
[568] Women's gender role limit not only their time but also their mobility and impede them to move away from home.
[569] OECD (2012). Gender Equality in Education, Employment and Entrepreneurship: Final report to the MCM 2012, C/MIN (2012)5, OECD Publishing.

Conclusion

SMCs have liberalised their trade with the EU within the framework of the EuroMed FTAs since 1996 for the earliest (Tunisia) and since 2006 for the most recent liberalisation (with Lebanon). The reduction of import tariffs was relatively higher on the SMC side than on the EU side, as prior to the FTA, import tariffs in the EU were already relatively low.

The intensification of trade between the southern Mediterranean countries and Europe in the agricultural sector seems to have been to the detriment of the bilateral trade balances for the sector in most SMCs. While the observed increase in exports have been smaller than the observed increase in imports in Algeria, Egypt, Jordan and Lebanon, the agricultural trade balances with the EU has improved in Tunisia and Morocco. At the same time, similar trends have been observed between the SMCs and the rest of the world, where imports have grown much faster than exports, and much faster than imports from the EU.

On the basis of the bilateral trade balance alone, it could be assumed that the free trade agreements would have a negative impact on employment in the agricultural sector except for Morocco and Tunisia.

However, the relationship between trade and employment is complicated: imports will not necessarily be to the detriment of domestic employment, nor will exports automatically lead to an increase in employment. This depends on several factors, such as the extent to which imported products compete with domestic products, or whether exports to the EU replace domestic sales or exports to other markets. Other channels for transmitting the effect of openness are also relevant and are not considered by the trade balance, such as imports and the integration of new technologies (such as fertilizers, cotton harvester or irrigation pumps) or organisational methods motivated by trade openness. More specific data would be needed to examine the importance of these elements. **It is therefore difficult to draw a firm conclusion on the link between FTAs and employment**.

Moreover, we need to account for the distribution of total and female employment across sectors. Agriculture accounts for the largest share of employment in Morocco and Egypt and the lowest in Jordan and Algeria. With regards to female employment, a common feature among SMCs is the low participation of women in the labour force: it is one of the lowest in the world. However, SMCs differ in terms of the distribution of female employment across sectors. In Egypt, Morocco, and Lebanon the share of female workers is higher in agriculture than in industry. The opposite is true in Algeria, Jordan, and Tunisia. Women have a higher probability than men to work in the agricultural sector and the share of female employment in agriculture is larger in Morocco and Egypt, countries that have signed a Protocol on Agriculture and are characterised by the largest share of agriculture to GDP and the strongest comparative advantage in agriculture.

The impact of the Association Agreements on female employment reflects the structural features of SMCs. After the AA implementation, agriculture accounts for a lower percentage of the total female employment in Algeria (-9%), in Tunisia (-5%), in Lebanon (-3%), in Jordan (-2%), while agriculture accounts for a higher percentage of the total female employment in Egypt (+1.5%), in Morocco (+1%). Female workforce seems to be moving away from agriculture and towards services in the case of Algeria, Lebanon and Tunisia and towards industry in Jordan. On the contrary, female labour seems to have shifted out of the industrial and service sectors in Egypt and the industrial sector in Morocco to strengthen the workforce in agriculture. Only in Algeria the decrease in female employment was matched by a decrease in the share of vulnerable workers. In Jordan it remained stable and in Lebanon increased. Tunisia registered a sharp increase in the share of vulnerable workers in the aftermath of the AA implementation and it started to decrease after 2006. In Morocco the increase in female employment was matched by a decrease in informality, suggesting that the new jobs were created in the formal sector. The opposite is true for Egypt where the expansion in female employment in agriculture was linked to an increase in informality.

Thus, what is happening purely at the level of the agricultural sector in the region does not seem to support greater empowerment of women but is an indication of structural adjustments leading women into other sectors.

As far as child labour is concerned, a significant proportion of girls work in agriculture, so liberalization and the resulting structural changes, for instance, the contraction of the

agricultural sector in favour of industry and services with less informal employment, could reduce the number of young female workers. Moreover, trade openness leads to increased transparency and some trade between countries could be banned by the EU and major economic actors if it is known that some work is done by children.

It must be borne in mind that there are many other factors that affect the performance of the sectors and their employment. In particular, during the observed period of liberalization, events outside the agreements may have played a major role in the southern Mediterranean economies in addition to the financial crisis and the Arab Spring (e.g. emergence of competition, technological developments). This certainly affects the extent to which these countries have benefited from the agreements.

5.4. Environmental impact

In this section, we present the results of the FTAs in the area of environmental impacts. Based on our analysis, the overall impacts are mixed, with both positive and negative effects. Negative effects are often associated with increased economic activity, which can have implications for natural resources, as well as waste and air emissions. On the other hand, stricter regulations and requirements in the EU/ of EU importers and investors are also seen to help stimulate a better environmental performance. Impact areas that were identified as particular relevant in relation to the FTAs are air pollution (also in relation to energy use and mix), natural resources (notably water resources and livestock), waste, and the greening of the economy (incl. trade in environmental goods and services). For the other areas that we planned to cover, no evidence has been found on FTA-related effects.

The areas for which we identified impacts from the FTA as discussed in the next sections. Two case studies have been conducted on environmental impact: one on trade in environmental goods; and one on air emissions. These case studies have been selected based on initial literature review and first feedback from the consultations. The purpose of the case studies is to have a more in-depth analysis of the effects of the FTA in these areas.

As a background, the next subsection starts with an overview of developments in environmental performance.

5.4.1. Environmental profile and developments

Before looking to the FTA effects in the next subsections, it is also good to better understand the specific environmental issues facing the FTA partner countries. This section therefore analyses environmental performance and developments in general without making a link to the FTA.

For this analysis, we partly rely on the Environmental Performance Index, developed at Yale University. The Environmental Performance Index (EPI) is a compound index which provides measurements of environmental trends of 180 countries across 24 performance indicators. Thereby, it provides an understanding (at national scale) of how close countries are to aspired environmental policy goals. The index is measured along two indicators, namely environmental health and ecosystem vitality. Both the index and the sub-indicators are measured on a scale from 0 to 100, with 100 measuring the best practices.

Environmental health, which is assumed to rise with economic growth and prosperity, is measured along sub-sectors such as air quality, water & sanitation as well as heavy metals, each with one or more sub-categories. In turn, ecosystem vitality, which is assumed to decrease with urbanization and industrialization, includes sub-sectors such as air pollution, forests, fisheries, agriculture, climate & energy, biodiversity & habitat and water resources. These are also split up into sub-categories, such as by types of harmful emissions (for air pollution and climate and energy) or by types of protectionism (under biodiversity and habitat).[570]Box 5.1 provides more information on the EPI.

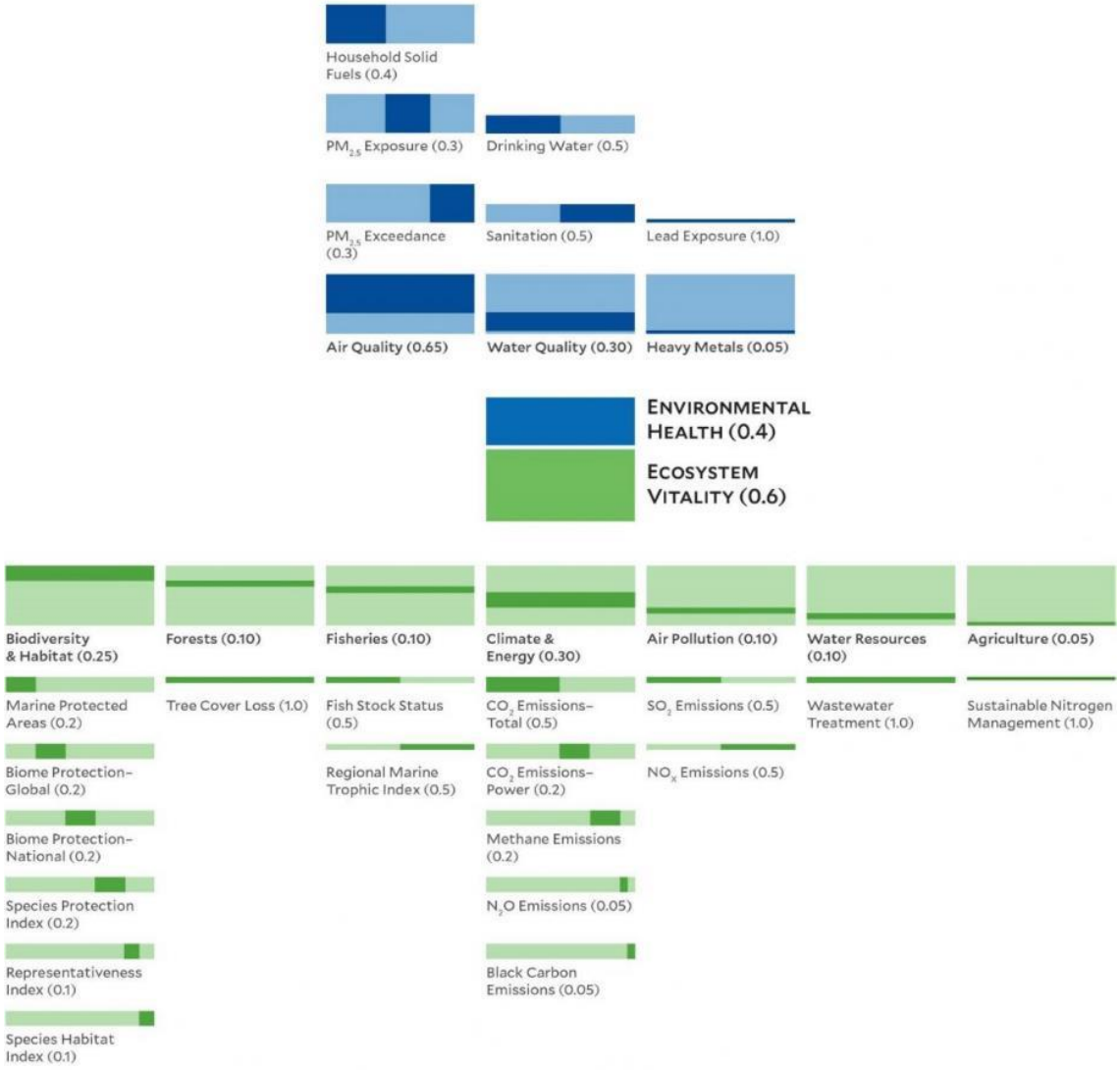
[570] https://epi.envirocenter.yale.edu/about-epi.

Box 5.1 Composition of EPI

In terms of how the index is actually computed, the EPI uses a hierarchical framework, grouping indicators within issue categories, issue categories within policy objectives, and policy objectives within the overall index.[571] These policy objectives are the two main sub-indicators, environmental health and ecosystem vitality. The 24 indicators are further grouped within 10 categories, the sub-sectors mentioned above. The relative importance of the performance indices and subcategories can be found in the figure below.

From this, we can see that ecosystem vitality makes up 60% of the EPI, whilst environmental health only 40%. The most significant indicators for each of these policy objectives are air quality (comprising 65% of the environmental health index) and Climate & Energy, closely followed by Biodiversity & Habitat (comprising, together, 55% of the ecosystem vitality index).

Breakdown of the Environmental Performance Index-sub components and their weight



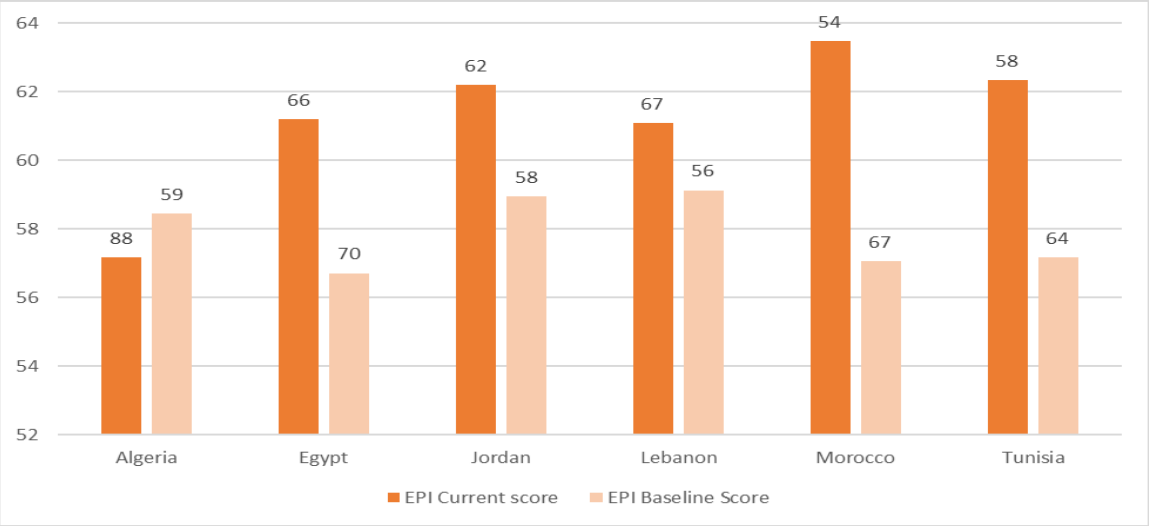
Source: Environmental Performance Index, https://epi.envirocenter.yale.edu/2018-epi-report/methodology.

Environmental performance in SM countries

Figure 5.59 shows the developments of the EPI score in the SMCs over the past decade. A higher score means a better performance. The numbers above the bars refer the international ranking of countries.

[571] https://epi.envirocenter.yale.edu/2018-epi-report/methodology.

Figure 5.59 Development of EPI scores and ranking for SMCs in the past decade



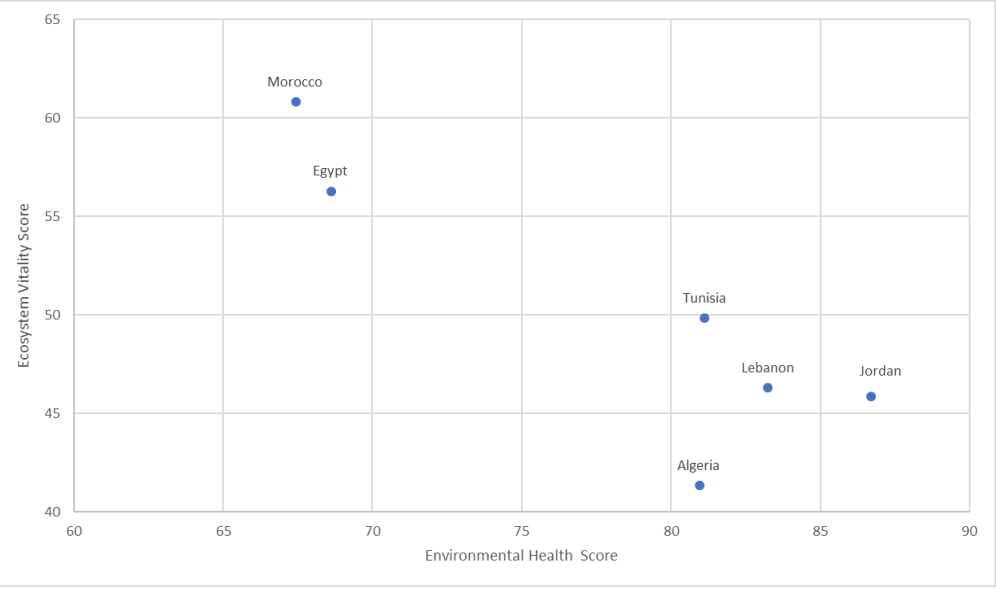
Source: Yale Centre for Environmental Law and Policy.

The overall EPI scores for the SMCs in 2018 have increased compared to their baseline values (one decade before). A noticeable exception to this is Algeria, whose score has decreased over time. In terms of ranking, which measures the relative improvement compared to other countries, we note that especially Morocco has been able to improve its ranking quite significantly, followed by Tunisia and Egypt. Despite improvements in the EPI scores, Lebanon and Jordan experienced a drop in in their ranking, implying that the progress in other countries has been higher. Algeria has the largest decrease in ranking.

Algeria's drop in EPI scores seem to stem from the Ecosystem Vitality score. The Forest score dropped quite sharply, together with Climate & Energy and Air Pollution. While the Biodiversity & Habitat rank also worsened significantly, the scores stayed relatively constant (if not slightly improved), implying that other similar countries simply improved faster. An example of such country is Morocco.

Figure 5.60 shows the current score of the SMCs on the two sub-indicators of ecosystems vitality and environmental health. The scores on all indicators underlying these two indicators are included in Annex F7 (table AF.6 and AF.7).

Figure 5.60 SMC scores on environmental health and ecosystems vitality



Source: Yale Centre for Environmental Law and Policy.

Algeria, Jordan, Lebanon and Tunisia are doing relatively well regarding environmental health, but relatively poorly in ecosystem vitality. Morocco and Egypt score slightly better in vitality, but significantly lower in their health score relative to their neighbouring countries. This shows that despite similarities between countries, there are also clear differences. When looking closer at sub-indicators, Egypt and Morocco score relatively low on sanitation and drinking water and SO2 emissions, while Jordan and Lebanon score relatively low on biodiversity and habitat (protection). Algeria scores low on climate and energy (emissions of different pollutants) and forests.

Other sources point to the similarity of environmental challenges that the 6 SMCs share. Although they differ in magnitude and severity between countries (ERF, 2011), the 6 SMCs are part of the Mediterranean ecoregion, recognised by specialists as one of the richest and most vulnerable in the world, in particular regarding its biodiversity (Blue Plan, 2005).

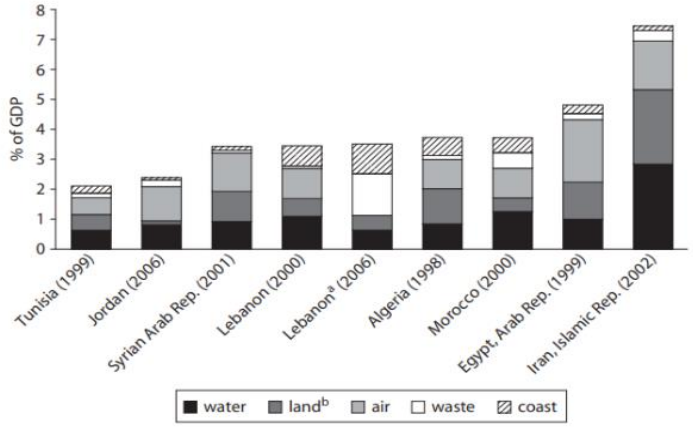
Common environmental challenges in the region as identified, relate in particular to the scarcity of water, the fragility of soils, the various pressures on the biodiversity and the coastal and marine environmental degradations. Emissions of CO2 are increasing in the 6 SMC countries and the energy mix still relies mainly on fossil fuels. In the past ten years, the production of waste and emissions from industry have become priority issues because of the growing pollution. Coastal areas and the marine environment[572] need particular attention, since they cumulate pressures in particular from urbanisation and industrial pollution.

Approximately 63% of the fish and 60% of the mammals listed in the Protocol concerning Specially Protected Areas and Biological Diversity have endangered status, from increasing pressures (construction/disappearance of such ecosystems as lagoons, grass beds), coastal erosion, over-exploited marine resources and expansion of invasive species. Regarding the terrestrial ecosystem, the Maghreb countries are still particularly exposed to pressures from the clearing and cultivation of marginal lands. They also suffer from the overexploitation of firewood and overgrazing.

Most of these environmental challenges are exacerbated by climate change which is now a main concern. Impacts are very visible in the Mediterranean basin (temperature increases and a decrease in precipitation), in particular with regard to water resources, the biodiversity, the state of the soils and of the coasts. Climate change is therefore a key driver of environmental pressures together with the pretty fast population growth (multiplied by 1.7 between 1990 and 2018 in the 6 SMCs), very rapid urbanisation rate, economic growth/development (production and consumption) and the fast development of tourism.

[572] The Mediterranean region, one of the planet's biodiversity hot spot, is home to 7 to 8% of known marine species, while only representing 0.8% of the planet's ocean surface.

Figure 5.61 Cost of environmental degradations in selected Middle Eastern and North African countries



Source: Authors' calculations.
Note: Horizontal axis titles are countries studied and their respective years of reference for valuation, in order of increasing COED as a percentage of GDP. Keys designate environmental damage categories, shown as a proportion of the COED.
a. The 2006 COED study of Lebanon focuses on the July–August 2006 conflict. Damage to the coastal zone refers to oil spill damages. Damage associated with the waste sector refers to demolition, military, and medical waste. Unlike other estimates, which are annual, this estimate reflects the damage to the environment from a 34-day conflict.
b. Costs attributed to "land" include damages to both agricultural land and forests.

Source: World Bank 2010.

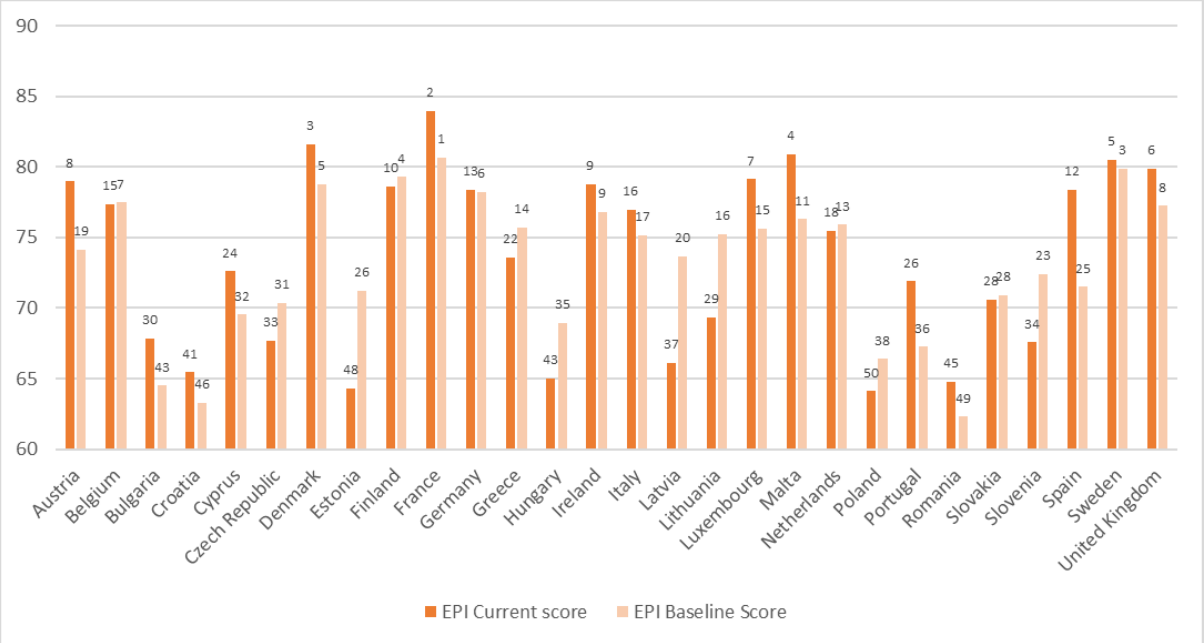
The degree of environmental urgency can be illustrated by the cost of environmental degradation in the SMCs which can reach around 5% of GDP in Egypt. All environmental challenges deserve attention and their degradation brings costs.

More indicators for the SMCs related to green growth are available in Annex F7.

Environmental performance in EU countries

Figure 5.62 shows the developments of the EPI score in EU countries over the past decade. A higher score means a better performance. The numbers above the bars refer the international ranking of countries.

Figure 5.62 Development of EPI scores and ranking for SMCs in the past decade



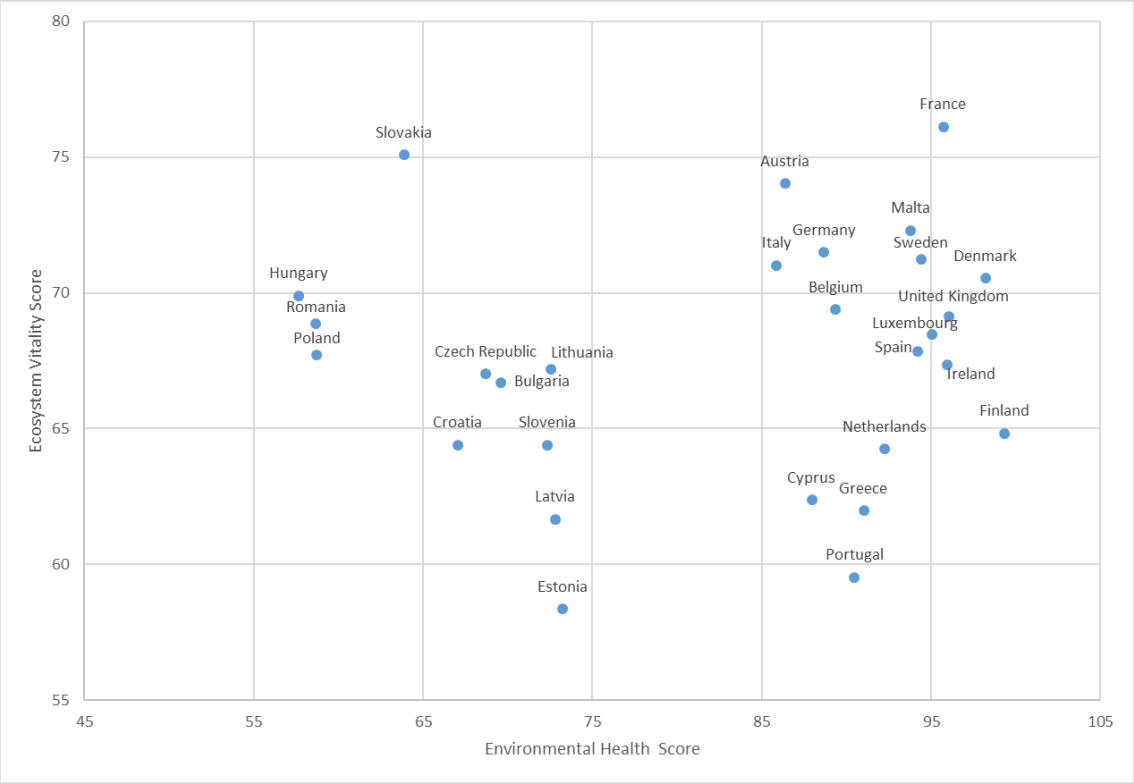
Note: the numbers above the bar charts are the Current and Baseline ranks of the countries, respectively.

Overall, across the European Union, countries tend to vary substantially in both EPI scores and evolution of these scores as compared to the baseline values. The current score is highest for France, who ranks second internationally, while Poland has the lowest EPI score and ranks 50th internationally. It should be noted that the lowest score for an EU country is still higher than that of the best scoring SMC (rank of 50 for Poland versus rank of 54 for Morocco).

In terms of developments, significant improvements in the scores are observed for Spain and Portugal, followed by countries such as Austria, France, or Luxembourg. These increases are attributed to improvements in both indicators and especially in ecosystem vitality. Sharp drops in the EPI can be seen for Lithuania, Latvia, Estonia and, less drastically, Hungary. Hungary's loss can mostly be attributed to a drop in environmental health, whilst the others have seen very large losses in terms of ecosystem vitality.

Figure 5.63 shows the current score of the EU Member States on the two sub-indicators of ecosystem vitality and environmental health. The development of these scores is available in Annex F7 (table AF.8).

Figure 5.63 EU scores on environmental health and ecosystem vitality



Source: Yale Centre for Environmental Law and Policy.

Most European countries are performing very well in terms of environmental health, and relatively well in ecosystem vitality. The best performing countries include France, Denmark, Austria and Malta. The environmental health scores are lowest for Hungary, Romania, Poland and Slovakia, while the ecosystem vitality is lowest in Estonia, Portugal and Latvia. Estonia and Latvia also score quite low (relative to other EU countries) in environmental health, thus explaining their low overall EPI scores.

5.4.1. Air emissions: CO2

With respect to CO2 emissions, the conclusions from the literature are mixed. Baghdadi, Martinez-Zarzoso and Zitouna (2013) find that the "emissions pollution gap is 22% lower for pairs of countries involved in Euro-Mediterranean Agreements than for similar pairs of countries not involved in regional trade agreements." Dogan and Aslan (2017) conclude differently and find that energy consumption resulting from trade increase has a negative impact on the environment given higher CO2 emissions. Also, Hafeez et al. (2019) find that, especially in lower- and middle-income countries, emissions can increase as a result of FTAs, as those countries are reliant on pollution-intensive economic activities. The fact that changes in the

sectoral composition may affect the environmental situation is also confirmed in several ex ante studies.

The CGE model results of the Commission used in this ex-post evaluation provides one specific indicator related to environment, specifically CO2 emissions. The estimated total effect of the FTAs on emissions consists of two types of effects: the scale effect and the composition effect. The scale effect is related to the additional CO2 emissions related to changes in total production and consumption. The composition effect is related to changes in sectoral structure: as sectors have different levels of CO2 emissions, a change in sectoral structure can either lead to an increase or reduction in CO2 emissions, depending on whether the most polluting sectors expand or contract as a result of the FTA. Another prominent effect is the technology effect, which captures changes in technology; however, this factor is not taken into account directly in the modelling results.

CGE modelling results are only available for four SMC countries: Egypt, Jordan, Morocco and Tunisia.

Egypt

Table 5.27 CGE results for CO2 changes in Egypt, total, for households, and sectors with highest changes

Change in CO2 emissions				**%**	**1,000 tonnes**
Household CO2 emissions				0.6%	220.8
Total CO2 emissions (households plus sectors)				-0.5%	-1,073.4
Sectors with highest CO2 increase	**%**	**1,000 tonnes**	**Sectors with highest CO2 decrease**	**%**	**1,000 tonnes**
Transport Services	0.2%	82.6	Other manufactures	-1.2%	-1082.1
Textiles	1.1%	9.1	Chemical, rubber and plastic products	-1.6%	-134.1
Other Machinery and equipment	1.9%	2.4	Minerals	-0.6%	-39.7
Processed food	0.1%	1.6	Metals and metal products	-0.4%	-36.1
Leather products	3.2%	0.4	Fossil fuels	-0.3%	-49.4

The results in the table show that in Egypt, the composition effect outweighs the scale effect. This results in a positive impact of the FTA on CO2 emissions, i.e. the CO2 emissions are estimated to be lower with the FTA as compared to a situation without the FTA. This can largely be attributed to the sector Other manufactures, which contracts as a result of the FTA.

Jordan

Table 5.28 CGE results for CO2 changes in Jordan, total, for households, and sectors with highest changes

Change in CO2 emissions				**%**	**1000 tonnes**
Household CO2 emissions				-0.4%	-19.8
Total CO2 emissions (households plus sectors)				-0.9%	-202.5
Sectors with highest CO2 increase	**%**	**1,000 tonnes**	**Sectors with highest CO2 decrease**	**%**	**1,000 tonnes**
Motor vehicles and parts	0.3%	0.1	Other manufactures	-1.9%	-157.9
			Other services	-0.5%	-7.8
			Fossil fuels	-0.9%	-5.5
			Transport Services	-0.1%	-3.8
			Minerals	-0.8%	-3.4

Despite an increase in GDP, total CO2 emissions and household CO2 emissions decrease. There is only one sector that increases its CO2 emissions as a result of the FTA, *motor vehicles and*

parts. The largest decrease is accounted for by the sector *Other manufactures*. It is also striking that *Other services* is the second sector accounting for the largest CO2 reduction.

Morocco

Table 5.29 CGE results for CO2 changes in Morocco, total, for households, and sectors with highest changes

Change in CO2 emissions				**In %**	**In 1000 tonnes**
Household CO2 emissions				0.9%	94.1
Total CO2 emissions (households plus sectors)				-2.2%	-1,479.4
Sectors with highest CO2 increase	**%**	**1,000 tonnes**	**Sectors with highest CO2 decrease**	**%**	**1,000 tonnes**
Vegetables, fruit and nuts	4.3%	58.4	Other manufactures	-5.0%	-1296.4
Other agri-food products	2.2%	19.8	Minerals	-2.6%	-120.4
Textiles	11.5%	9.5	Transport Services	-0.8%	-118.7
Wearing apparel	25.2%	6.6	Metals and metal products	-5.9%	-47.4
Processed food	2.1%	3.6	Fossil fuels	-2.3%	-44.3

While households increase their CO2 emissions as a result of the FTA, the change in sectoral structure leads to a decrease in overall CO2 emissions in Morocco. The sector *Other manufactures* accounts for the largest reduction in CO2 emission, followed by *minerals and transport services* sectors. Sectors that see their output expand as a result of the FTA are also estimated to have increased CO2 emissions.

Tunisia

Table 5.30 CGE results for CO2 changes in Tunisia, total, for households, and sectors with highest changes

Change in CO2 emissions				**%**	**1,000 tonnes**
Household CO2 emissions				0.9%	36.2
Total CO2 emissions (households plus sectors)				-3.4%	-947.0
Sectors with highest CO2 increase	**%**	**1,000 tonnes**	**Sectors with highest CO2 decrease**	**%**	**1,000 tonnes**
Wearing apparel	58.5%	41.8	Other manufactures	-6.7%	-704.4
Textiles	14.8%	5.8	Minerals	-5.1%	-131.9
Other Machinery and equipment	5.5%	2.2	Transport Services	-1.7%	-125.2
Leather products	20.1%	1.7	Chemical, rubber and plastic products	-2.6%	-19.4
Vegetable oils	7.8%	1.7	Other services	-1.9%	-17.5

Households are estimated to increase their CO2 emissions as a result of the FTA, but the total effect of the FTA on CO2 emissions is estimated to be decreasing, i.e. CO2 emissions drop as a result of the FTA. This is largely due to the decrease in CO2 emissions of the *Other manufactures* sector, although also the CO2 reduction in the sectors *Minerals* and *Transport services* are significant.

EU and global

Table 5.31 CGE results for CO2 changes in EU, total, for households, and sectors with highest changes (results stemming from the FTAs with Egypt, Jordan, Morocco and Tunisia combined)

Change in CO2 emissions				**%**	**1,000 tonnes**
Household CO2 emissions				0.07%	0.47
Total CO2 emissions (households plus sectors)				0.05%	2.0
Sectors with highest CO2 increase	**%**	**1,000 tonnes**	**Sectors with highest CO2 decrease**	**%**	**1,000 tonnes**

Other manufactures	0.08%	1.07	Vegetables, fruits and nuts	-0.45%	-0.03
Transport services	0.01%	0.12	Wearing apparel	-1.07%	-0.01
Fossil fuels	0.07%	0.11	Vegetable oils	-0.49%	-0.01
Chemicals, rubbers, plastics	0.10%	0.09	Processed foods	-0.04%	-0.01
Metals and metal products	0.09%	0.07	Other agri products	-0.04%	-0.01
Minerals	0.08%	0.07			

Although in the EU the difference in CO2 emissions with or without the FTAs in place are much smaller than in most SMC, CO2 emissions are estimated to be higher with the FTA in place, both for households and for the aggregated sectors. This is true not only for the four FTAs together, but also for each of the four FTAs individually. The FTA with Egypt is estimated to increase EU CO2 emissions most (0.9 MT), followed by Tunisia (0.52MT), Jordan (0.47 M) and Morocco (0.11 MT). Also, for the EU, the sector *Other manufactures* accounts for the largest increase in CO2 emissions, as a result of the output increase in that sector.

The modelling results show that in all four countries, CO2 emissions are estimated to have decreased as a result of the FTA, while a slight increase is estimated for the EU. The decrease in SMCs is however much larger than the increase in the EU. It is also interesting to look at emissions at the global level, as the changes in trade flows and production structures will also affect third countries. The CGE results for global CO2 changes resulting from the Euro-Med FTA are presented in Table 5.32 below.

Table 5.32 Change in global CO2 emissions resulting from four Euro-Med FTAs

	Global CO2 emissions change (%)	Global CO2 emissions changes in Mt
EU-Jordan FTA	-0.0001%	-57
EU-Egypt FTA	-0.0003%	-100
EU-Morocco FTA	0.0000%	0
EU-Tunisia FTA	0.0003%	109
Total (four Euro-Med FTAs together)	**-0.0001%**	**-47**

Source: EC simulation with mirage.

Together, the four FTAs are found to cause a slight reduction global CO2 emissions of about 0.0001% of 50,000 t. There is some heterogeneity, with the FTA with Morocco not causing any visible change at all in global emissions and the FTA with Tunisia even contributing to a slight increase. However, all in all, it is fair to say the effect of the FTA on global emissions is very small.

The perspective of the CO2 intensity of the GDP can also be looked at with the results of the modelling. They are summarised for the EU and the four SMCs in the table below. According to these results, the carbon intensity of the GDP improved in the SMCs (the GDP has increased thanks to the FTA whereas CO2 emissions have decreased). However, the opposite is observed in the EU (the FTA effect results in a GDP increased slower than the increase of CO2 emissions). It is nevertheless important to notice again that the change in emissions in absolute value is very small compared to total emissions.

Table 5.33 Effect of the FTA on GDP and on emission of CO2

	GDP change due to FTA (%)	CO2 emissions change due to FTA (%)	CO2 emissions changes due to FTA in Mt
Egypt	0,38	-0,5	-1,07
Tunisia	1,47	-3,4	-0,95
Jordan	0,39	-0,9	-0,2

Morocco	0,57	-2,2	-1,48
EU-28	0,02	0,05	2

Source: EC simulation with mirage.

The next section looks closer at the impact of the FTA on air emissions in the SMCs, also taking into account other types of emissions, observed trends in actual emissions, and the link to the energy mix.

5.4.1. Case study on air emissions

Introduction

Air emissions of various substances are linked to two key environmental issues: global climate change and local air quality. Climate change is a long-term global problem, the environmental consequences of which may prove significant for the countries of the Mediterranean region, which then also may result in high economic and social costs. Air quality, in particular in urban area, is a more localised problem whose consequences are apparent in the short term due to the pollution and health effects.

In this case study, we adopt the standard labelling approach used at Eurostat and the European Environment Agency. According to this standard, "air emissions" include "air pollutant emissions" on the one hand and "greenhouse gas (GHG) emissions" on the other. Emissions of greenhouse gas are responsible for global warming (resulting in climate change) and emissions of air pollutants are responsible for the air quality at local level. We clearly distinguish the two types of emissions in the different sections of the case study.

Air quality and climate change are becoming increasingly significant for the Mediterranean countries. There is, in particular, an increasing realisation of the size of the health impacts of local air pollution. It is estimated that more than 86,000 deaths are attributable to air pollution in Egypt, Morocco, Tunisia and Jordan all together in 2017[573]. According to UNEP (2019), improving air quality in the Mediterranean basin remains both a health and environmental imperative. There is also a growing awareness of the exposure and vulnerability to climate change in the Mediterranean countries, reflected in particular in the increase of average air temperature, the decrease of precipitations, the severity of heatwaves and of water stress in the last decades[574].

In Egypt, Jordan, Morocco and Tunisia, the 4 SMCs analysed, we observed a doubling of GHG emissions between 1990 and 2015 and a degradation of air quality in all the cities under consideration. The main reasons behind these trends were rising energy production and consumption (in particular of electricity), increase of transport and development of industry, while population growth, economic development, and lifestyle changes were the underlying drivers of these trends. Policy responses to limit air pollution (monitoring, legislation, norms and standard) have been largely developed but still show difficulties of effectiveness. Climate change policies are mostly based on the development of renewable energy (RE) and energy efficiency (EE) in all sectors but the countries still rely massively on fossil fuel and the progress in term of efficient use of energy are slow.

In this context, the objective of this case study is to examine what role the Euro-Med FTA may have played in both emissions of greenhouse gases (GHG) and emissions of local air pollutants. The case study covers specifically these 4 SMCs as the general equilibrium model provides results that can be extrapolated to analyse air emissions. We cover the main greenhouse gases (CO2 -which is the most important in volume-, CH4 and N2O) and the classical "air pollutants" (SO2, NOx and PM2.5 and PM10) for which data are available in Edgar database and in the EORA tables[575].

[573] Health Effects Institute (2019), State of Global Air. Special Report, Boston, ISSN: 2578-6873.
[574] Regional Expert Meeting for the Middle East and North Africa on Climate and Air Pollution (2017), Cleaning up the air and slowing the pace of warming: opportunities for early action in the Middle East and North Africa, UN Environment 2017, available online at: https://www.ccacoalition.org/ar/resources/meeting-report-background-document-regional-expert-meeting-middle-east-and-north-africa.
[575] See the corresponding chapters for detailed explanations of each type of GHG and air pollutant.

The effect of the FTA on both GHG and air pollutant emissions in the 4 SMCs could theoretically be either positive or negative. Emissions would tend to increase in sectors where the FTA would induce an increase of output, in particular when these sectors are strong emitters; increasing emissions are for instance expected from the textile industry. The increase of transport due to the FTA is also a driver of increasing emissions of both GHG and air pollutant. On the other side, emissions could decrease due to the reduction of output induced by the FTA in particular sectors. The FTA could also induce a decrease of air emissions by making easier and cheaper access to low GHG emissions equipment (e.g.: wind turbines) and equipment's allowing to avoid air pollutant (e.g.: filters for industrial emissions) and also by inducing local innovations in these domains. Finally, the effect of the FTA could come from the induced change on the consumer habits (e.g.: access to new imported products, increase of consumption, access to green goods, etc) due to an increase of income.

The case study is organised as follows: first, we present the theoretical channels of how the EU FTA may impact the GHG emissions and the local air quality; secondly, a description of the trend observed over the period considered is presented, mainly based on the information available in the Edgar database[576]. Thirdly, we provide a quantitative assessment of the impact of the EU-FTA both in term of GHG and classical air pollutant (GHG: CH4, CO2, N2O and local air pollution: NOx, SOx, PM10) by combining data from the CGE model and detailed data on air emissions with additional data. Estimated changes in output from the CGE model is combined with the emission data available in MRIO EORA tables. Finally, we discuss the technological effect, the link with the AA Agreement and related impact on emissions by looking at developments, in particular in the energy sector.

The theoretical links between air emissions and the FTA

A first expected effect of trade liberalisation is more extensive economic development resulting from new market opportunities, leading to higher GHG emissions and other air pollutants in the producing region (Copeland and Taylor 2004) – the so-called the "scale effect". Two other effects are expected, namely the "composition effect" - which reflects the changes in the structure of a country's production following trade liberalisation - and the "technique effect" describing the overall decrease of the environmental pressure coming from cleaner technologies and goods allowed by the trade liberalisation. The composition effect always depends on a country's comparative advantage; the effect of the trade liberalisation on a country's GHGs and air pollutant emissions will rely on whether it has a comparative advantage in emission-intensive sectors and whether these sectors are expanding or contracting due to the trade liberalisation[577]" (UNEP, WTO 2009). The technique effect, on the other hand, might be seen as an unequivocally positive one, as it can either come from an increased access to lower cost climate-friendly/clean air technologies due to the FTA[578], innovations encouraged by technological transfer and export opportunities or it can simply lower the emissions of GHGs and local air pollutants due to the growing income levels of citizens[579].
Overall, these three effects can work in opposite directions (particularly the scale and technique effects), which makes a net assessment of impact of trade liberalisation on air pollutants and GHG emissions very difficult. An important additional effect on GHG emissions and air pollution from trade liberalisation is related to international transport services development required when trade expands. In this area, maritime transport, which uses only fossil fuel combustibles, is the more important driver of emissions because this is the transport mode largely dominant in international trade in goods.

[576] https://edgar.jrc.ec.europa.eu/.
[577] This effect is connected to the 'pollution haven hypothesis' which supposes that developing countries would specialise in polluting industries due to less stringent environmental policies than in developed countries. Local companies become then more competitive and these countries become attractive for global company looking for places with low environmental standards (this is the „pollution haven hypothesis". However, there is no consensus from empirical studies aiming at testing the hypothesis.
[578] See the case study on the effect of the FTA on trade in environmental goods (EG). Note that the trade in EG is not necessarily explained by trade liberalisation but rather by other factors such as the stringency of the national environmental policy.
[579] We refer here to the changes in consumer demand associated with higher income. This aspect is connected to the environmental Kuznets curve hypothesis (pollution increase up to a certain level of income from which pollution starts to decrease). Numerous studies tested the hypothesis of an environmental Kuznets curve for GHG, but, as Huang et al. (2008) mention, results vary significantly. They conclude that no evidence supports the EKC hypothesis for GHG emissions.

The region-specific literature on this topic is rather scarce and presents mixed results. UNEP and WTO (2009) briefly mention the Euro-Mediterranean FTA, noting that it lacks measures suggesting how to strengthen the positive effects so that the possible negative ones are counteracted. The ex-ante 2007 SIA FTA study (p. viii) predicted both positive and negative impacts for the SMC at local, regional, national level and global level. Higher environmental stress was anticipated in cities, resulting from declining rural employment and accelerated rural-urban migration and resulting in higher local air pollution; additionally, an adverse impact on climate change and biodiversity, due mainly to scale effects of increased transport and increased production (and significant changes in consumption patterns), was also forecasted. However, these were predicted to be only short - or medium-term (the transition might last up to 15 years) if actions towards environmental protection and decrease of GHG emissions were undertaken; if not, the study anticipated negative effects in the long-term.

Although in principle these negative effects could have been limited with greener technologies and legislation in place, the 2007 SIA did not estimate the possible decrease in GHG emissions in case of such an optimistic scenario.

Nevertheless, multiple examples of positive impacts have been identified in other studies as a result of stricter environmental policies. For example, Blue Plan (2005) found that, in a scenario where renewable energy and energy efficiency are developed ambitiously between 2005 and 2025, CO2 emissions of Mediterranean countries (North, South and East shores all together) could be lower by 25% compared to a business as usual scenario while bringing co-benefit in term of local air quality, financial savings, energy dependency and employments. That has been one of the reasons for broadening the reach of the EU's Horizon 2020 research programme (its climate- and environment-oriented calls) and other financial and technical incentives aimed at promotion of sustainability, renewables and energy efficiency, i.e. Short and Medium-term Priority Environmental Action Programme (SMAP) to the neighbouring countries.

The baseline situation in the 4 SMCs analysed

Emission of air pollutants and air quality

Five main air pollutants are responsible for serious health effects: Carbon monoxide (CO) nitrogen oxides (NOx), fine particulates and dust (PM), sulphur dioxide (SO2), and volatile organic compounds (VOCs). In addition, tropospheric ozone (ground-level ozone) is formed from VOCs, NOx, CO and methane under the influence of light. In all the Mediterranean regions, ground level ozone is the main secondary pollutant and is responsible for respiratory disease (see figure 5.65 for more details)[580].

The major concern is located in the main large cities of the SMCs, where the impacts of poor air quality on human health is growing very costly, according to epidemiological studies. The cost of air degradation and its consequences has been estimated at DH 3.6 billion per year, about 1.03% of GDP[581] in Morocco. Cairo is also considered as a hot spot of local air pollution. The population-weighted exposure to ambient PM2.5 pollution[582] was 73,3% in 2000 (already quite a high level) and reached 87% in 2017[583]. The annual cost of the health effects of ambient PM2.5 air pollution in Greater Cairo is estimated at LE 45-48 billion in 2016/17 with a central estimate of LE 47 billion (Larsen, Bjorn. 2019/World Bank). This is equivalent to 1.3%-1.4% of the Egyptian GDP in 2016/17. In cities, the traffic growth, the age of the vehicles and the high proportion of diesel engines (in particular for buses) are factors affecting air quality; growing activities in the construction sector, the cement production, industries and energy production is also responsible for a significant share of local air pollutions. The fast population growth (in urban area) and the economic development are underlying drivers of several of these factors. For instance, Rafaa Mraihi and al. (2015) found out that bad air quality is predominately a direct effect of rapid and unsustainable urbanisation as well as the growth of personal motorisation (which results from economic growth).

[580] Local air quality is closely linked with GHG emissions since burning fossil fuels releases both air pollutants and greenhouse gases.
[581] Ministère Délégué chargé de l'Environnement (2015), 3ème rapport sur l'Etat de l'Environnement au Maroc.
[582] Defined as the average level of exposure of a nation's population to concentrations of suspended particles measuring less than 2.5 microns in aerodynamic diameter, which are capable of penetrating deep into the respiratory tract and causing severe health damage.
[583] Edgar database and World Bank WDI.

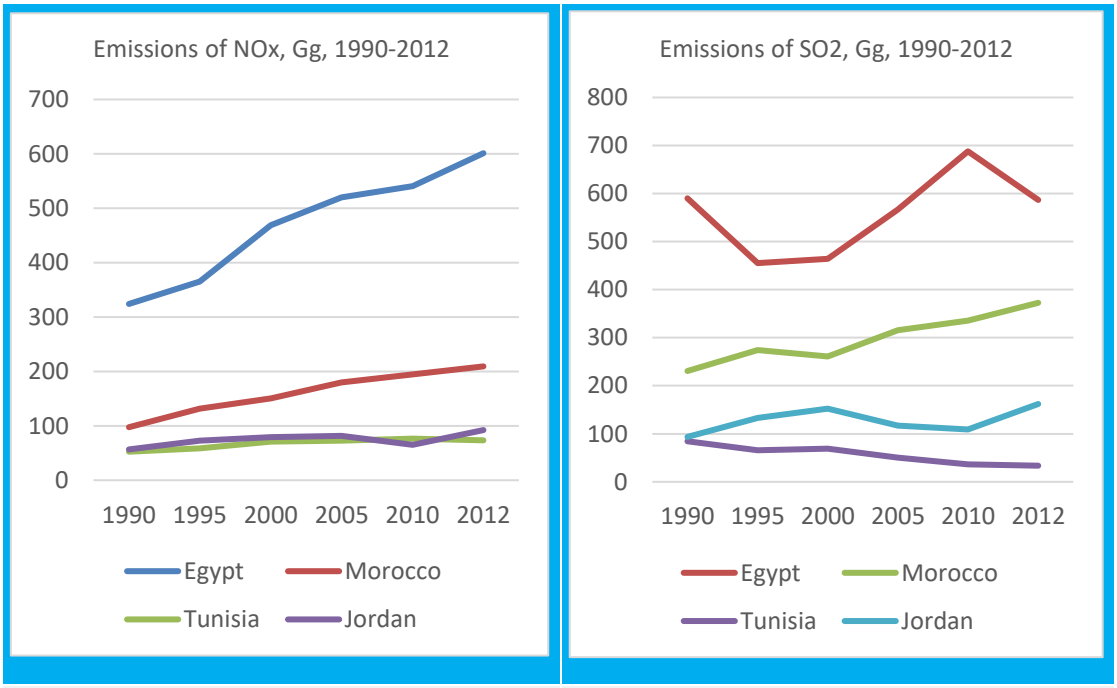
Measurement of fine particulate matter 2.5 micrometres in diameter or less (PM2.5) is considered as the best indicator of the level of health risk associated with air pollution. In Egypt, the percentage of the population exposed to a concentration exceeding the WHO recommendation to avoid adverse effects on health (see table below) is 100% over the period 1990-2017. The situation is more critical in Egypt than in other countries; however, the population in Tunisia is very impacted as well (77% in 2017 as opposed to 67% in 1990). In Morocco and Jordan, respectively, 22% and 20% of the population is concerned in 2017; An important difference between the two countries is that the 2017 situation is the result of a decreasing trend in Jordan and of an increasing one in Morocco.

Table 5.34 PM2.5 pollution, population exposed to levels exceeding WHO Interim Target-1 value (% of total)

	1990	1995	2000	2005	2010	2015	2016	2017
Egypt	100	100	100	100	100	100	100	100
Jordan	38	36	21	18	22	22	20	20
Morocco	7	7	8	9	3	17	20	22
Tunisia	67	54	46	30	42	52	78	77

Percentage of population exposed to ambient concentrations of PM2.5 that exceed the World Health Organization (WHO) Interim Target 1 (IT-1) is defined as the portion of a country's population living in places where mean annual concentrations of PM2.5 are greater than 35 micrograms per cubic meter. The Air Quality Guideline (AQG) of 10 micrograms per cubic meter is recommended by the WHO as the lower end of the range of concentrations over which adverse health effects due to PM2.5 exposure have been observed.
Source: World Development Indicators.

Figure 5.64 Emissions on NOx and SO2 between 1990 and 2012



Source: Author using Edgar database data.

The Edgar database also provides data related to NOx and SO2 on the period 1990-2012 showing that emissions of NOx increased in all the countries. Manufacturing, buildings (dwellings) and construction and the production of electricity are usually responsible for these emissions. The trend in SO2 emissions shows different patterns. A decrease is clearly visible in Tunisia whereas an increase is recorded in Morocco. In Egypt, and to a lesser extend in Jordan, fluctuations are observed. Note that the trend is influenced by economic activity; SO2 emissions from industry in Egypt have strongly decreased after the Arab Spring, explaining the major part of the SO2 emissions decrease. As for the air pollution typically arising in cities close to industrial areas, according to the Egyptian State of the Environment Report, in 2012 the most

important pollutants are "suspended solid particulate matters (PM2.5-PM10), sulphur dioxide, nitrogen dioxide, ozone, carbon monoxide and leads compounds". The air quality issue in Cairo, known as black cloud (smog), is also often associated with the burning of agricultural residues and municipal waste, as well as industrial operations and excessive car-based transportation.

Transport is a source of local air pollutants in each country. For instance, a 2010 Eurostat[584] publication covering the period 2000-2007 highlights that, despite technological progress by carmakers, there remains an upward trend in emissions of NOx from road transport in most of the SMCs; this appears to reflect the growth in the stock of vehicles (the amount of cars in the SMCs as a whole increasing by 35% and lorries by 43 % between 2000 and 2007), the ageing nature of this stock (particularly in Tunisia and Jordan where there has been an upward trend in emissions of NOx per capita) and an increase in the rate of motorisation. Public transport is developing slowly (we can nevertheless observe recent tramway projects in Tunisia and Morocco for instance) but congestion and emissions from transport are growing everywhere.

Air quality policies development

In response to observed trends, governments have developed legislation over the last 20 years. We cannot assess in details air quality policy development in each country and sector since the 1990s in the context of this study, but nevertheless, we provide some brief information with a few examples on developments in this area, country by country.

The monitoring of air quality has improved significantly in all countries, often with the support of international donors, of which the EU and its individual member states are a substantial portion. In the case of Egypt, for example, an online article dated 2011[585] stated that air quality has been partially monitored since the early 1970s and that an air quality monitoring network has been continuously updated with support from the Danish Government to reach a total of 87 stations covering different geographic locations; UNEP indicated in 2015 that the government has developed a national monitoring network for the dust emissions from cement factories[586]. More recently (2019), Minister of Environment Yasmin Fouad announced the installation of 100 air quality monitoring stations nationwide, under the National Network for Industrial Emission Monitoring (NNIEM)[587]. Air quality is one of the principal issues addressed in Law 4/1994 for the Environment[588] and several actions allowed to limit the increase of air pollution over the last 20 years in transport, industry and electricity production. For instance, the SO2 emissions have been mitigated thanks to the switch to natural gas in electricity generation[589].

Although in Jordan local air pollution is perceived as a moderately serious issue[590], it is recognised that there are some vulnerable groups that need to be protected (chemical industry workers, children, etc.). Maximum levels of pollutant gas emissions from industry and transport were set in 2006 and energy efficiency policies and renewable energy investment are probably the reason for the decrease of PM10 over the past 10 years, even if the levels remain high in industrial cities[591]. A network of ambient air quality monitoring stations was established in 2008 to monitor ambient air quality in eight cities. There are regulations and standards for controlling air pollution from industrial activities. However, the control of industrial emissions and their compliance with regulations and standards are still a challenge, as identified in the EEA report (2014)[592].

[584] Eurostat (2010), MEDSTAT II: Transport, energy and environment in the Mediterranean partner countries, Luxembourg: Publications Office of the European Union.
[585] Gelil I.A. (2011), Improvement of Air Quality in Egypt: The Role of Natural Gas, Middle East Institute article, available online at: https://www.mei.edu/publications/improvement-air-quality-egypt-role-natural-gas.
[586] UNEP (2015a), Egypt Air Quality Policies, available online at : https://wedocs.unep.org/bitstream/handle/20.500.11822/17186/Egypt.pdf?sequence=1&isAllowed=y.
[587] https://egyptindependent.com/egypt-installs-100-air-quality-monitoring-stations-nationwide-minister/.
[588] Ibidem.
[589] Gelil I.A (2011), op. cit.
[590] Jordan's Third national Communication on Climate Change (2014), available online at: https://www.undp.org/content/dam/jordan/docs/Publications/Enviro/TNC%20jordan%20pdf.pdf.
[591] UNEP (2015b), Jordan Air Quality Policies, available online at : https://wedocs.unep.org/bitstream/handle/20.500.11822/17226/Jordan.pdf?sequence=1&isAllowed=y.
[592] See EEA (2014), Horizon 2020 Mediterranean report, Annex 2: Jordan, EEA Technical report No 6/2014.

In Morocco, several actions have been taken by the government since 1997, when the monitoring system of air quality started (now comprising 29 stations[593]). An important piece of legislation was passed in 2003 allowing penalties in case of infringement (e.g. air pollution of a factory exceeding the limit value as defined by the legislation). Legislations on standards and norms entered into force in 2010 (following a slow and long process). A national programme has been set up to support environmental performance improvement in terms of air pollutant in the different sectors of the economy. The National Environmental Performance Review's (2014) recommendations were predominately aimed at tackling industrial origin of the particulate matters, as well as old polluting cars (and transportation modes in general). In this respect, a subsidy programme designed to create incentives for the scrapping of old vehicles has been launched by the government, together with some age restrictions for imported cars which date back to 2011. Since a few years, recent cars are more numerous on the market and the quality of fuel used improved[594] (REEM 2015). Nevertheless, air-quality friendly legislation is not fully applied and lack of taxes for those emitting the most within urban areas were still major issue in 2015[595]. At that time, the 3rd State of the Environment assessed that legislation of 2003 could not deliver all expectations also because it is un-complete and not entirely into force. The review also identifies opportunities for improvements on the side of companies, which could be more encouraged to publish their environmental performances in terms of air emissions (national Environmental Performance Review (2014)). In 2017, the government adopted a national programme to improve air quality (2017-2030) with the intention to tackle all of the weakness of the existing air quality policy.

In Tunisia, the quality of air has been monitored for more than 20 years thanks to around 30 measurement stations spread across the country, while the legislation on air quality was passed in 2007 (loi n° 2007-34 du 4 juin sur la qualité de l'air)[596]. However, serious maintenance problems with measurement stations have been reported, especially since the revolution of 2010. A lack of financial and human means has resulted in poor data collection and quality since that event. From the legal point of view, the standard and norms defined following the legislation of 2007 have not been updated for more than 20 years. It was not until 2018 that there was an update with the adoption of three government decrees defining the new rates, the functioning and connection of industries to the national air quality monitoring network, but also the sanctions related to infringements[597]. One can note that PM2.5 air pollution - which amounted for 37,655 in 2018 (measured by micrograms per cubic meter) - is still an issue despite ambitious policies in place. There is no legislation regarding an alert system in case of high level of pollution and the legislation related to mobile pollution sources (transport) has not been updated yet whereas they largely contribute to the degradation of the air quality[598].

As a summary of the baseline, we can say that since the 1990s, air quality policies and actions to decrease emissions have improved in the 4 SMCs; the air quality is much more and better monitored in 2020 than 20 years ago and several legal packages have been developed[599] and adopted at the national level (including standard and thresholds for emissions and legislation to penalize noncompliance in the industry and actions related to transport equipment's and fuel). However, they are not necessarily complete, applied effectively and/or are under development[600]. At national level, sufficient budgets to carry out inspections, maintain the monitoring systems and to sanction infringements are among key obstacles. Despite progress and concrete actions in different sectors (industry, transport, energy, building), policies did not allow yet a full and effective improvement of air quality in general and important impacts on

[593] Surveillance de la qualité de l'air, available online at: https://www.environnement.gov.ma/fr/air/118-theme/air/209-surveillance-de-la-qualite-de-l-air?showall=1&limitstart=.
[594] Ministère Délégué chargé de l'Environnement (2015), op. cit.
[595] Ibidem.
[596] Euronet Consortium (2012), Profil Environnemental de Pays Tunisie Rapport final, available online at: http://www.environnement.gov.tn/fileadmin/pdf/Rapport_final_PEP_Tunisie.pdf.
[597] Tunisie (2019), Rapport National Volontaire Sur la mise en œuvre des Objectifs de Developpement Durable, available online at: https://sustainabledevelopment.un.org/content/documents/23372Rapport_National_Volontaire_2019_Tunisie.pdf.
[598] Les Chiffres Alarmants de la Pollution de l'Air en Tunisie, available online at: https://inkyfada.com/fr/2019/07/04/pollution-pm10-tunisie/.
[599] The international cooperation, of which the EuroMed one, have strongly supported this effort.
[600] Monitoring of air quality and the legal packages are also much less developed and accurate than in the EU.

health is observed[601]. Even if the situation would have been probably worse in a non-action scenario, improving air quality in the Mediterranean basin remain both a health and environmental emergency and a real scientific and political challenge[602].

Figure 5.65 Standard Atmospheric pollutants

Standard Atmospheric pollutants contributing to the worsening of local air quality as defined by the EEA:

- Carbon monoxide (CO), comes from imperfect combustion of fuel in rich mix conditions. It is a danger to health.

- Nitrogen oxides (NOx) are derived from the combustion of fossil fuels and are formed at high temperature by the combination of nitrogen and oxygen from the air in the combustion chamber of thermal engines and from a few industrial processes (production of nitric acid, production of fertiliser, treatment of surfaces etc). Nitrogen oxides measured as they emerge from exhaust pipes are mainly composed of NO (nitrogen monoxide) and NO2 (nitrogen dioxide) with a 60 to 80 % proportion of NO. They are responsible for respiratory difficulties.

- Non-methane volatile organic compounds (NMVOCs) are a collection of organic compounds that differ widely in their chemical composition but display similar behaviour in the atmosphere. NMVOCs are emitted into the atmosphere from a large number of sources including combustion activities, solvent use and production processes. Certain NMVOC species or species groups such as benzene and 1,3 butadiene are hazardous to human health.

- Particulates; these result from both incomplete combustion (notably by diesel engines) of fuel and lubricants but also from the phenomena of wear and friction. Current exhaust pipe filters remove some of these particulates but pass on the problem (how to dispose of the filter).

- The largest source of ammonia (NH3) emissions is agriculture, including animal husbandry and NH3-based fertilizer applications. Other sources of NH3 include industrial processes, vehicular emissions and volatilization from soils and oceans.

- Ground-level (tropospheric) ozone: Ground-level ozone is not directly produced either by nature or by human activities. It comes from photochemical reactions (activated by the sun) involving pollutants emitted by human activities. Among the pollutants listed above, emissions of non-methane volatile organic compounds (NMVOCs), nitrogen oxides (NOx), carbon monoxide (CO) and methane contribute to the formation of ground-level (tropospheric) ozone. Ozone is a powerful oxidant and tropospheric ozone can have adverse effects on human health and ecosystems. It is a problem mainly during the summer months. High concentrations of ground-level ozone adversely affect the human respiratory system and there is evidence that long-term exposure accelerates the decline in lung function with age and may impair the development of lung function. Some people are more vulnerable to high concentrations than others, with the worst effects generally being seen in children, asthmatics and the elderly. High concentrations in the environment are harmful to crops and forests, decreasing yields, causing leaf damage and reducing disease resistance. The ground level ozone pollution is a serious issue all around the Mediterranean basin, in particular in summertime.

Source: European Environment Agency website, https://europa.eu/european-union/about-eu/agencies/eea_fr.

Greenhouse gas emissions

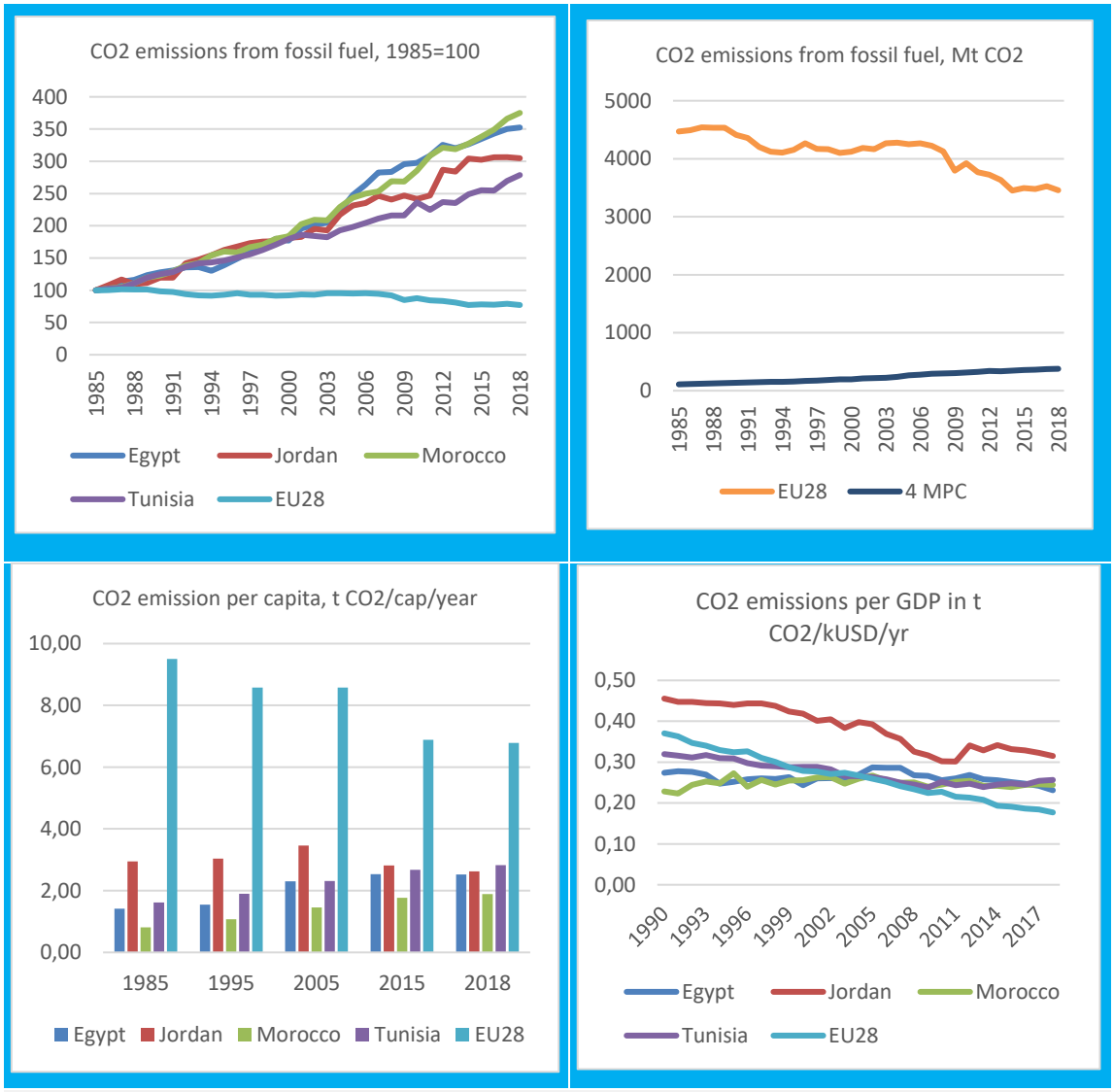
In the 4 SMCs, between 73 and 78% of GHG emissions are CO2 originating from fossil fuel burning[603]. Between 1990 and 2015, emissions of GHG more than doubled and CO2 emissions from fossil fuel burning almost tripled in Jordan, Egypt and Morocco and increased by 2.2 times in Tunisia (see text box for description of the trends in each country as well as graphs in annex F8). The drivers of this impressive increase in emissions are population growth, economic development and energy demand growth, meaning that the energy system (production, distribution, consumption) is therefore at the heart of the issue. In contrast, emissions from the EU-28 have declined over the last 25 years (from 5743 MtCO2eq in 1990 to 4500 in 2015). However, it has to be recalled that the total emissions of GHG per capita in the 4 SMCs is very

[601] For more information, see the 2014 Horizon 2020 Mediterranean report, Toward shared environmental information systems, EEA-UNEP/MAP joint report. A new report is expected in 2020 and should analyse more in detail the context.
[602] UNEP (2019), UNEP/MED IG.24/Inf.11, 21st Meeting of the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols.
[603] Carbon dioxide (CO2) is the most prominent greenhouse gas (GHG), along with other GHG, such as methane (CH4), halocarbons and nitrous oxide (N2O) in particular. F-Gases emissions are very low in the 4 SMCs.

low. In 2015, GHG emissions per capita was around 3.5 t per habitant in Tunisia, Jordan and Egypt, 2.4 t/cap in Morocco whereas it is 8.9 t per inhabitant in the EU-28[604].

In the 4 SMCs, on average, CO2 emissions originate from fuel combustion mainly in the power sector (37%), followed by transport (22%), industries (16%), construction (9%) and other sectors (mainly services) (16%) (2018 data, Edgar database). Trend data by sector show a growth of emissions in all sectors, as emissions are generally very correlated with economic growth in each sector. However, globally, CO2 intensity (amount of CO2 emitted per unit of GDP) has decreased since 1990 in each of the 4 countries. This is the result of the improvements in energy and technology efficiency and increasing capacity of renewable energy sources. Nevertheless, the fossil fuel still largely dominates the energy mix in all the countries and any further economic growth is therefore likely to be coupled with further CO2 emissions.

Figure 5.66 CO2 emissions trends between 1985 and 2018



Source: Author from World Bank data.

Figure 5.67 GHG emission trends in each of the 4 SMCs (data from Edgar database)[605]

[604] It is also worth noting that the combined emissions of GHG of the 4 SMCs represent 10,7% of the EU emissions in 2015 and less than 1% of the world emissions (it was 0,67% in 1990).
[605] See also annex 1.

In the 4 SMCs, between 73 and 78% of GHG emissions are CO2 originating from fossil fuel burning.

Egypt: Egyptian GHG emissions (all together and expressed in CO2eq) have been steadily growing throughout the years from 146.055 Mt CO2eq/yr in 1990 to 258.324 Mt CO2eq/yr in 2005 and 322.743 Mt CO2eq/yr in 2015. This growth of GHG emissions when 2015 and 1990 are compared was as high as +284% for the power industry; +30% for other industrial combustion; +98% for buildings; +241% for transport, and +81% for other sectors. Broken down by gas, the main gas emitted and the biggest increase have been recorded for CO_2 emissions which between 1990 and 2018 grew by +333% in the power industry; by +40% for the other industrial combustion; by +89% for buildings; by 204% for transport, and by +246% for other sectors. Over the period 1990-2015, emissions of N2O increased by 323% and of NH4 by 44%. These 2 gasses together account for 26% of the total emission of GHG in 2015.

Jordan: Jordanian GHG emissions (all together and expressed in CO2eq) have been steadily growing throughout the years from 12.721 Mt CO2eq/yr in 1990 to 24,233 Mt CO2eq/yr in 2005 and 33,027 Mt CO2eq/yr in 2018. This growth of GHG emissions when 2015 and 1990 are compared was as high as +273% for the power industry; +30% for other industrial combustion; +37% for buildings; +185% for transport, and +173% for other sectors. Broken down by gas, the main gas emitted and the biggest increase have been recorded for CO2 emissions which between 1990 and 2018 grew by +221% in the power industry; by +73% for the other industrial combustion; by +43% for buildings; by 203% for transport, and by +176% for other sectors. Over the period 1990-2015, emissions of N2O increased by 33% and of NH4 by 36%. These 2 gasses together account for around 21% of the total emission of GHG in 2015.

Morocco: Moroccan GHG emissions (all together and expressed in CO2eq) have been steadily growing throughout the years from 39,175 Mt CO2eq/yr in 1990 to 63,878 Mt CO2eq/yr in 2005 and 84,102 Mt CO2eq/yr in 2018 according to Edgar database. This growth of GHG emissions when 2015 and 1990 are compared was as high as +183% for the power industry; +48% for other industrial combustion; +238% for buildings; +307% for transport, and +49% for other sectors. Broken down by gas, the main gas emitted and the biggest increase have been recorded for CO2 emissions which between 1990 and 2018 grew by +189% in the power industry; by +50% for the other industrial combustion; by +322% for buildings; by 368% for transport, and by +235% for other sectors. Over the period 1990-2015, emissions of N2O increased by 84% and of NH4 by 73%. These two gases together account for around 27% of the total emission of GHG in 2015.

Tunisia: Tunisian GHG emissions (all together and expressed in CO2eq) have been steadily growing throughout the years from 21.737 Mt CO2eq/yr in 1990 to 33,848 Mt CO2eq/yr in 2005 and 41,236 Mt CO2eq/yr in 2018. This growth of GHG emissions when 2015 and 1990 are compared was as high as +142% for the power industry; +63% for other industrial combustion; +65% for buildings; +169% for transport, and +63% for other sectors. Broken down by gas, the main gas emitted and the biggest increase have been recorded for CO2 emissions which between 1990 and 2018 grew by +151% in the power industry; by +72% for the other industrial combustion; by +81% for buildings; by 210% for transport, and by +105% for other sectors. Over the period 1990-2015, emissions of N2O increased by 41% and of NH4 by 198%. These 2 gasses together account for around 27% of the total emission of GHG in 2015.

	1990	1995	2000	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018
	CH4 - Emission in Million tons of substance												
Egypt	1,8	2,1	2,0	2,5	2,6	2,7	2,7	2,6	2,6	2,5	:	:	:
Morocco	0,5	0,5	0,5	0,6	0,6	0,6	0,6	0,6	0,6	0,6	:	:	:
Tunisia	0,2	0,3	0,3	0,3	0,4	0,4	0,4	0,4	0,4	0,3	:	:	:
Jordan	0,1	0,1	0,1	0,1	0,2	0,2	0,2	0,2	0,2	0,2	:	:	:
	N2O - Emission in Million tons of substance												
Egypt	0,03	0,04	0,05	0,06	0,06	0,07	0,06	0,06	0,06	0,06	:	:	:
Morocco	0,02	0,01	0,02	0,02	0,02	0,02	0,02	0,02	0,02	0,02	:	:	:
Tunisia	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	:	:	:
Jordan	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	:	:	:

	CO2 - Emission in Million tons of substance												
Egypt	90,8	98,7	125,9	176,4	211,7	219,6	231,6	227,7	232,2	238,0	244,0	248,9	250,7
Morocco	22,4	29,2	33,4	44,4	52,0	56,2	58,5	58,1	59,7	61,5	63,6	66,6	68,3
Tunisia	14,8	17,3	21,2	23,4	27,9	26,6	28,0	27,8	29,4	30,2	30,1	31,8	32,9
Jordan	10,2	13,9	15,5	19,8	20,6	21,1	24,5	24,2	26,0	25,8	26,1	26,2	26,0
	CH4 - Emission in Million tons of CO2 equ												
Egypt	43,8	52,5	49,1	63,1	65,2	67,2	68,6	65,2	65,0	63,3	:	:	:
Morocco	12,0	11,5	13,0	14,0	15,0	15,5	15,7	16,0	16,1	16,2	:	:	:
Tunisia	5,0	7,0	7,7	8,1	9,1	9,2	9,2	9,0	9,0	8,7	:	:	:
Jordan	1,9	2,7	2,9	3,4	4,4	4,7	5,0	5,2	5,5	5,8	:	:	:
	N2O - Emission in Million tons of CO2 equ												
Egypt	9,9	13,4	14,6	16,9	19,2	19,6	19,3	18,7	18,9	19,2	:	:	:
Morocco	4,8	4,2	5,0	5,5	5,8	6,0	6,0	6,2	6,2	6,4	:	:	:
Tunisia	1,9	2,0	2,4	2,4	2,4	2,4	2,4	2,3	2,4	2,4	:	:	:
Jordan	0,6	0,8	0,7	0,9	1,0	1,1	1,1	1,2	1,3	1,2	:	:	:
	Total GHG emissions in CO2eq												
Egypt	144,5	164,6	189,6	256,4	296,2	306,4	319,5	311,6	316,1	320,5	:	:	:
Morocco	39,2	44,9	51,5	63,9	72,7	77,7	80,1	80,3	82,0	84,1	:	:	:
Tunisia	21,7	26,2	31,3	33,8	39,4	38,1	39,6	39,1	40,8	41,2	:	:	:
Jordan	12,7	17,4	19,2	24,1	26,0	26,9	30,6	30,6	32,8	32,8	:	:	:

Source: Data from Edgar database.

Climate change mitigation policies

With respect to the policy response, the 4 SMCs had ratified the Kyoto Protocol and, more recently, they ratified the Paris agreement. The overall region is quite active in the domain both at international and at regional level; The 22th United Nation Framework Convention on Climate Change (UNFCC) Conference of Parties was organised in Morocco (2016) and, at regional level, the MedCOP initiative (2016, 2017), also organised in Morocco in 2016, allowed to involve the non-state actors of the Mediterranean region in the discussion. The donors involved in the regional and international cooperation, actively support the engagement of the SMCs, for instance through the Union for the Mediterranean (UfM) with its Climate Change Expert Group. At national level, the 4 countries have developed a National Determined Contribution (NDC) in the framework of the Paris agreement which reflect their commitment in term of GHG emissions and their actions, in particular in terms of sustainable energy. Actions in energy intensity and renewable energy are well known as actions relevant both economically, socially, strategically and from a climate perspective[606]. These two options, applied to each economic sector (industry, building, transport, services), have therefore been the main part of the climate change mitigation strategies developed until now. For the 4 SMCs, the objective is not to reduce the consumption of energy (which is simply not possible due to the increase of the population and the need of the economy to grow) but rather to ensure that the energy system gradually becomes low carbon and energy efficient[607] so that emissions of GHG increase slower in the future. The legal and administrative frameworks have been developed both for encouraging the development of renewable energies and energy efficiency; from the side of environmentally

[606] See for instance FEMIP (2008), Climate Change and Energy in the Mediterranean, Plan Bleu Regional Activity Center, available online at: https://www.eib.org/attachments/country/climate_change_energy_mediterranean_en.pdf.

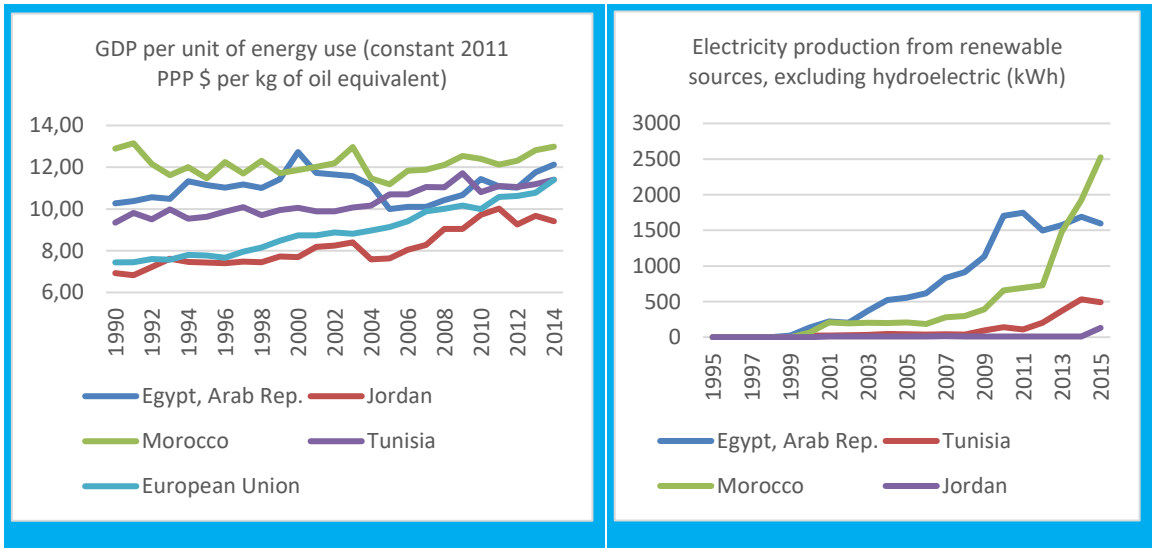
[607] For more information, see: ENERGIES 2050 (2018), Le bassin méditerranéen dans le nouvel Agenda climatique international, ENERGIES 2050, Institut de la Méditerranée, FEMISE, available online at: http://energies2050.org/rapport-mediterranee-2018/.
ENERGIES 2050 (2018), "GUIDES TO ACT #6: Commitments of Mediterranean countries within the Paris Agreement. http://energies2050.org/ressources/rapports/.

harmful subsidies, fossil fuel subsidies reform have also started in particular in Egypt and Morocco[608].

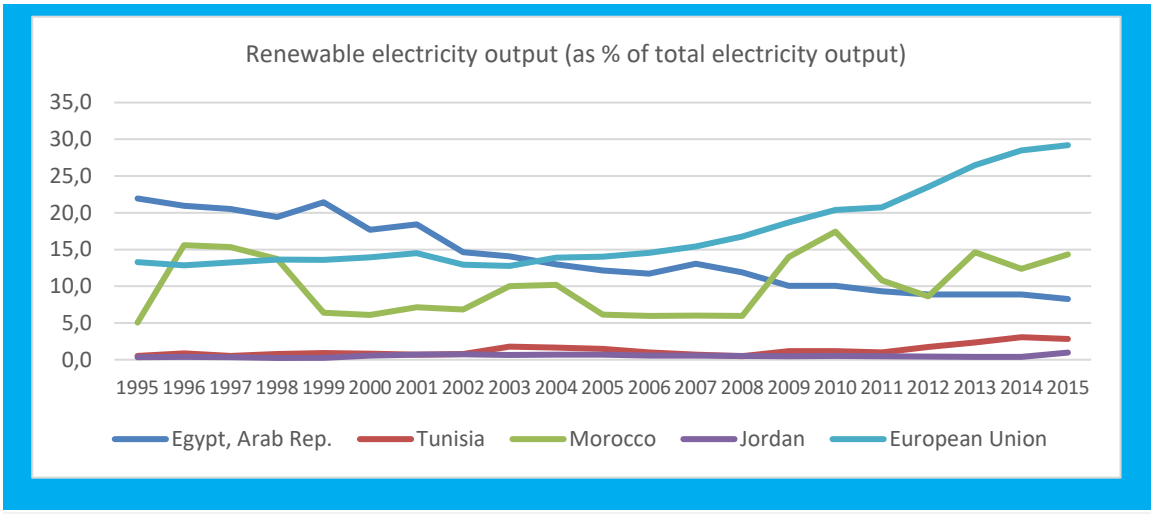
The results of these actions are visible. Until the early 2000s, renewable energy technologies were almost non-existent in the 4 SMCs, apart from hydropower and biomass. Between 2000 and 2015, non-hydro renewables have developed very quickly, in particular wind and solar. Morocco developed an ambitious investment programme in solar RE[609], Egypt has been an African pioneer in wind energy and Tunisia[610] is often cited as an example of a good performing country in energy efficiency and in the development of solar water heating systems. Jordan faces difficulties to overcome obstacles to develop RE (energy business model and technical issues) but it was recently ranked as having the third-most-attractive environment for renewable energy investment among developing countries by the Bloomberg Climate scope Index in 2018[611]. In relation to the global target, according to climate tracker, Morocco is one of the only two countries in the world (for which data is available) for which pledges are compatible with 1,5°C [612]; This is not the case for the other 3 SMC of this study as for all other countries involved at the UNFCC, including the EU613.

However, in relative terms, performances are not as impressive. The share of RE energy in the electricity production has not progressed positively in all the countries (production of energy from fossil fuel still grows faster than RE) and the level of energy efficiency (expressed as GDP per unit of energy used) remains lower than in the EU.

Figure 5.68 Recent trends in energy mix in four SMCs



[608] See for instance: Bousselmame H. (2017), A Phased Approach to Energy Subsidy Reform: Morocco Experience, ESMAP article available online at: https://www.esmap.org/node/140726; Morocco's NDC aims for "significantly reducing government subsidies to fossil fuels, following up on the measures already taken in recent years". In the Egyptian NDC (2015) evokes the reform of fossil fuel subsidies, with several pillars including differentiated prices for petroleum products based on the efficiency of energy production, support for the transition to clean energy and a system of targeted subsidies paid directly to beneficiaries. However, the fossil fuel subsidies in Egypt increased again in 2017 and 2018 after 6 years in a row of decrease.
[609] See http://www.masen.ma/: The Moroccan energy investment programme for 2020 is estimated at around 19 billion USD, which would generate some 50,000 jobs. The programme forecasts that the share of installed electrical power in renewable energy (wind, solar, and hydro) would reach 42% of the energy mix by 2020 (52% by 2030); and would also save 2.5 million tonnes of oil equivalent (TOE) in fuel, or nearly USD 1.25 billion, and avoid 9 million tonnes of CO2 emissions per year.
[610] La Tunisie multiplie les mesures d'efficacité énergétique, available online at: https://www.econostrum.info/La-Tunisie-multiplie-les-mesures-d-efficacite-energetique_a24543.html.
[611] For more information, see: Jordan: A case study in expanding renewable energy, article available online at: https://castlereagh.net/jordan-a-case-study-in-renewable-energy-development/.
[612] See Climate action tracker, https://climateactiontracker.org/countries/.
[613] As a result, at global level, the current global CO2 emission path is not compatible with the temperature increase target as defined in the Paris Agreement. At the global level, a reduction of CO2 emissions by about 45% from 2010 levels by 2030 would be needed for compatibility with a 1.5°C warming scenario (IPCC, 2018).



Source: Author from World Bank data

Quantitative evaluation of the impact of the FTA

In the previous section, we analysed the trends of GHG emissions and of air pollutant emissions over the period 1990-2018, discussing the main impacts, the main drivers and some political responses set by the 4 SMCs over the last 20 years. In this section we try to establish a link with the FTA by quantifying to what extent the FTA may have contributed to the (i) change in emissions of GHG and to the (ii) change in emissions of air pollutants. In other words, we try to investigate the role of the FTA as a driver of air emissions in the 4 SMCs.

The same approach is used for quantifying the FTA effect in term of air pollutants emissions and in term of GHG emissions. We compare emissions level in a situation with FTA with emissions level in a situation without FTA. This exercise requires data on changes in output due to the FTA (compared to a situation without the FTA) which are given by the results of the CGE simulation. We combined them with detailed data on air emissions by economic branch, as available in the EORA database[614][615]; value added are taken from OECD when available and from EORA if not[616].

The quantitative simulations consider only direct effects of economic activity on emissions of air emissions (GHG and air pollutant). Therefore, indirect effects related to economic development, such as improved technology or shifts in preferences towards emission abatement, are not considered. Since these indirect effects are expected to have an impact in reducing emissions, the estimates provided below can be considered as the upper limits of FTA-induced emissions change. (The technological effect is discussed qualitatively in the last section).

The FTA has affected both the volume of economic activity as a whole, as well as the composition of the overall economy (at the sectoral level). The combination of these two changes affects emissions volumes; the FTA-induced changes have been split into two components, labelled as "the scale effect" and "the composition effect" to take them both into consideration. As noted above, the scale effect expresses the change in volume of emissions due to an increase in economic activity. The composition effect expresses a change in emissions due to a change in sector composition of the economy. For details on the methodology and aggregation method, please refer to Annex F8.

The economic sectors used in the CGE model and in EORA database have different levels of aggregation, and some assumptions have been made for the matching between sectors. As this matching is not perfect and as underlying data source and modelling aspects may influence results, we focus the comments on directions of the trends and on the relative effects.

[614] We used 2013 data as available at: https://worldmrio.com/.
[615] We use emissions data available in EORA as they are published; these data have been computed by the JRC by merging different emission sources, of which data from the Edgar database.
[616] Note that the value-added data by branch in EORA may differ from data published in other sources at a comparable level of desegregation. We used OECD data for Tunisia and Morocco and EORA data for Egypt and Jordan since no data is available for these two countries in the OECD database.

In this section we first discuss the possible impact of the FTA in terms of air pollutant emissions in each of the 4 SMC. We then analyse the possible effect of the FTA in terms of GHG emissions in each of the 4 SMCs. Finally, we complement the data by providing information about emissions due to the transport activity induced by the FTA.

Air pollution

This section provides a quantitative assessment of the impact of the FTA on the 4 countries emissions of classical air pollutants, based on the results of the CGE model. We consider the following classical air pollutants: SO2[617], NOx[618] and PM10[619] [620].

The analysis shows that based on this approach, the FTA contributed to a reduction in some air pollutants and to an increase in others, depending on the country and the pollutant. The effect of the FTA is therefore not homogeneous across countries, it depends on what sectors have been impacted most by the FTA and in what direction.

Overall, a decrease of emissions of the three pollutants is observed in Morocco, whereas PM10 in Tunisia, NOx in Egypt and NOx and PM10 in Jordan increased. The scale effect tends to slightly increase the level of emissions whereas the composition effect tends to decrease emissions in all countries except in Tunisia (where both effects tend to increase emissions. Note that for some pollutants, it may be possible that the share of emissions comes from household activities (e.g.: transport or dwellings) which are assumed to be included in the scale effect. The scale effect is relatively higher in Tunisia compared to other countries. At sector level, the calculation shows that in all countries "textile and wearing apparel" sector increases its emissions due to the FTA (except in Jordan) whereas "other manufacturing, electricity and gas" decrease its emissions due to the FTA.

Table 5.35 Decomposition of FTA-induced change in emissions of classical pollutants in Morocco, Tunisia, Egypt and Jordan, expressed in Gg (1 Gigagram= 1000 t)

Morocco			
	Composition effect	Scale effect	Net effect
NOx emissions (Gg)	-17.3	2.8	-14.5
PM10 emissions (Gg)	-10.2	1.6	-8.6
SO2 emissions (Gg)	-58.5	4.2	-54.3
Tunisia			
	Composition effect	Scale effect	Net effect
NOx emissions (Gg)	-6.6	5.9	-0.8
PM10 emissions (Gg)	-1.7	4.3	2.6
SO2 emissions (Gg)	-12.9	6.9	-6.0
Egypt			
	Composition effect	Scale effect	Net effect
NOx emissions (Gg)	-0.1	3.3	3.2
PM10 emissions (Gg)	-2.7	1.2	-1.5

[617] Sulphur dioxide (SO2) is a gas primarily emitted from fossil fuel combustion at power plants and other industrial facilities, as well as fuel combustion in mobile sources such as locomotives, ships, and other equipment.
[618] Most airborne NOx comes from combustion-related emissions sources of human origin, primarily fossil fuel combustion in electric utilities, high-temperature operations at other industrial sources, and operation of motor vehicles.
[619] Regrading particulates, no data on PM2.5 is available in EORA, we use PM 10 instead. Usually, building heating in the residential and tertiary and the transport sectors (fuel combustion of vehicles) are responsible for emissions of PM.
[620] Note that NOx is among pollutants (together with emissions of non-methane volatile organic compounds (NMVOCs), carbon monoxide (CO) and methane) that contribute to the formation of ground-level (tropospheric) ozone. Ozone is a powerful oxidant and tropospheric ozone can have adverse effects on human health and ecosystems. It is a problem mainly during the summer months. High concentrations of ground-level ozone adversely affect the human respiratory system and there is evidence that long-term exposure accelerates the decline in lung function with age and may impair the development of lung function. Some people are more vulnerable to high concentrations than others, with the worst effects generally being seen in children, asthmatics and the elderly. High concentrations in the environment are harmful to crops and forests, decreasing yields, causing leaf damage and reducing disease resistance. Source: EEA.

SO2 emissions (Gg)	-7.4	3.3	-4.1
Jordan			
	Composition effect	Scale effect	Net effect
NOx emissions (Gg)	-1.2	1.5	0.3
PM10 emissions (Gg)	-1.0	1.0	0.0
SO2 emissions (Gg)	-3.4	1.6	-1.8

Source: author's calculations, based on EC's CGE results and EORA data.

To understand how significant these changes are, Table 5.36 presents the changes in emissions as share of the total emissions of a particular pollutant.

Table 5.36 Relative importance of FTA induced reduction/increase of emissions

	Emission (EORA data 2013)				FTA effect as % of total emissions			
	MA	TN	EG	JO	MA	TN	EG	JO
NOx emissions (Gg)	313	218	752	215	-4.6	-0.3	0.4	0.1
PM10 emissions (Gg)	185	157	273	139	-4.7	1.6	-0.6	0.0
SO2 emissions (Gg)	473	254	750	230	-11.5	-2.4	-0.6	-0.8

Source: author's calculations, based on EC's CGE results and EORA data.

This shows that overall the variations in emissions due to FTA are rather small in relative terms (+ or – 0 to 1%), with however some more marked variations in Morocco (for SO2, in particular) and Tunisia.

In Morocco, the FTA induces a net decrease of the 3 gases considered. The decrease of SO2 emissions is quite significant and represent more than 11% of 2013 emissions of this gas (EORA data). This is mainly due to the decrease in output of the sector "Other manufacture, electricity and gas" which result in a decrease in emissions (this is also valid for NOx and PM10). At sector level, an increase of emissions of the 3 gases from the "textile and wearing apparel sector" is observed (they are also sectors for which exports of Morocco to the EU increased as an induced effect of the FTA). No effect or minimal positive or negative changes in emissions are observed in all other sectors.

In Tunisia, the calculations show a net increase of PM, a minimal decrease of NOx and a decrease in SO2. The scale effect is relatively strong. For all gases, the net effect of the FTA is limited in relative terms; they account for 2.4 to 0.3% of total emissions (EORA data). When looking at the sector level, the calculations show that emissions due to the FTA have increased from the sector "Textile and wearing apparel" (which also shows an increase of output and of export to the EU) and to a lesser extend to the sectors "quarrying and chemical, petroleum" and "electrical and machinery". The sectors "other manufacturing, electricity and gas" show a significant decrease of emissions that does not compensate the increase in textile. For other sectors, changes are small or minimal (increase or decrease) except for SO2 decrease from the "mining, petroleum, etc" sector.

In Egypt, the FTA generally induced a net decrease of emissions, except for NOx. The relative change is however modest (0.4% of NOx emissions and -0.6% for PM and SO2). Looking at sector, the decrease in SO2 is driven by the output decrease in the sector encompassing "Mining, quarrying, petroleum, chemical and non-metallic mineral products" and "other manufacturing, electricity and gas" resulting from the FTA. The decrease of emissions from these two sectors more than compensate increase of pollutions in the 3 gases from "Textile and wearing apparel" and from "Transport services" (in particular for NOx). Note that these are also two sectors where exports increased due to the FTA. Changes in other sectors are nil or limited.

In Jordan, the effects of FTA on emissions is less significant than in the other 3 SMCs and show less variations across pollutants (both in absolute and relative term). The overall tendency is a slight increase of Nox and a decrease of SO2 and no effect of PM 10. The relative changes due to the FTA represents is low with less than 0.8% of the total emissions of SO2 and a quasi-nil effect for NOx and PM 10 (EORA data). The calculation at sector level show that the increase of NOx is mainly due to the impact of the FTA on the transport service sector whereas the sector "other manufacturing, electricity and gas" show a decrease of emissions (in particular of SO2). Agriculture also show a small increase in emissions of all gases, reflecting the increase of output and of exports (vegetables, fruits, wheat, cereals) due to the FTA; where the food industry show a decrease of emissions. Changes in other sectors are minimal or nil.

Overall, the influence of the FTA on air pollution has been limited for most pollutants and countries, which reflects the small size of impacts on economic development as compared to other drivers, as shown in section 3.

Greenhouse gas emissions

This section focuses on a quantitative assessment of the FTA's effects on greenhouse gas emissions through the economic channel using the same methodology as in the previous section on air pollution.

The decomposition analysis shows that the scale effect (which includes emissions from private households) is positive in all countries whereas the composition effect is negative in all countries for all GHGs except in Tunisia, where the FTA has a positive effect on the emission of N2O. Overall, the combination of the CGE results and the EORA database indicate that the FTA's effect has a decreasing effect on GHG emissions (total of all GHG in CO2eq) in all countries. Whereas the effects vary by specific GHG and countries, for CO2 the effect of the FTA is a decrease in all countries.

Looking at the relative importance of the effect of the FTA, one can say it is rather small in Egypt and Jordan and only slightly more significant in Morocco and Tunisia; the effect of the FTA represents 6 and 4% of total GHG emissions in Morocco and Egypt (1 and 0.5% in Egypt and Jordan).

The results of the CGE model also provides data on CO2 emissions due to the FTA (note that CO2 is treated as one of the different GHG). A comparison of result of our calculation on the effect of the FTA on the CO2 emissions (as one of the 3 GHG we have considered) with the results of the CGE model in terms of CO2 emissions shows a decrease of CO2 emissions (in total) in both simulations. At aggregated level, our results are therefore consistent with the result of the CGE model.

In general, three aspects can be mentioned about trend at industry level:

- The most important changes are observed in the sectors "textile" and "other manufacture, electricity and gas";
- The FTA led to an increase of GHG emissions from the textile and wearing industry except in Jordan; the FTA also induced increased output and exports of this sector;
- In the 4 SMCs, the FTA effect led to a decrease of emissions from the sector "electricity & other manufacture[621]"; for these particular sectors, the CGE model show a decreasing effect of the FTA on the output and a positive but modest effect on trade (both import and export);
- Emissions from "mining and quarrying, chemical, petroleum" decreases due to the FTA in all countries (except in Jordan where no change is showed), as the sectors output decreases, and imports increasing more than exports.

In term of specific GHGs, the FTA led to a decrease in CO2 in all countries whereas it led to an increase of CH4 in Jordan and N2O in Tunisia. These emissions come mostly from "the textile and wearing" sector and also from the scale effect (which includes the contribution of households).

Table 5.37 Decomposition of FTA-induced change in emissions of GHG in Morocco, Tunisia, Egypt and Jordan, in CO2eq and Gg (1 Gg=1000t)

Morocco			
	Composition effect	Scale effect	Net effect
CH4 emissions (Gg)	-210	146	-64
CO2 emissions (Gg)	-4254	391	-3864
CO2b emissions (Gg)	-97	13	-83
N2O emissions (Gg)	-885	387	-499
Total CO2eq	-5446	937	-4509
Tunisia			
	Composition effect	Scale effect	Net effect

[621] Note that the GEM model provides results where "power production" and "other manufacturing" are aggregated together. Given that, the power industry is a main CO2 contributor (see baseline paragraph), we can guess that the FTA may have reduced emissions from the sector "other manufacturing".

CH4 emissions (Gg)	-412	308	-103
CO2 emissions (Gg)	-2191	729	-1462
CO2b emissions (Gg)	-123	86	-37
N2O emissions (Gg)	-275	1118	843
Total CO2eq	-3000	2242	-759
Egypt			
	Composition effect	Scale effect	Net effect
CH4 emissions (Gg)	-1945.8	278.3	-1667.5
CO2 emissions (Gg)	-3559.1	1067.6	-2491.4
CO2b emissions (Gg)	-393.3	77.9	-315.3
N2O emissions (Gg)	-592.9	276.4	-316.5
Total CO2eq	-6491.0	1700.2	-4790.8
Jordan			
	Composition effect	Scale effect	Net effect
CH4 emissions (Gg)	-16.9	41.1	24.2
CO2 emissions (Gg)	-300.0	157.0	-143.0
CO2b emissions (Gg)	-0.7	2.9	2.2
N2O emissions (Gg)	-295.2	276.5	-18.7
Total CO2eq	**-612.9**	**477.5**	**-135.4**

Data have been converted into CO2 equivalent for a matter of comparison.

CO2b refers to emissions from biomass.

Source: author's calculations, based on EC's CGE results and EORA data.

Table 5.38 Relative importance of FTA induced reduction/increase of emissions

	Total GHG emissions 2015 (CO2eq) GG	FTA effect as % of total emissions
	2015	
Morocco	84 102	-5.4
Tunisia	41 236	-1.8
Egypt	322 743	-1.5
Jordan	33 027	- 0.4
	Total CO2 fossil 2018 (GG)	**FTA effect as % of total emissions**
	2018	
Morocco	68 308	-5.7
Tunisia	32 926	-4.4
Egypt	250 658	-1.0
Jordan	26 044	-0.5

Source: author's calculations, based on EC's CGE results and EORA data.

Looking in more detail at country and sector level effects, several key observations can be made:

In Morocco, in total the FTA effect is a decrease of emissions, in particular of CO2 (other GHG decreased much less in volume). Especially for CO2, the changes in industry composition more than compensated the positive effects of emissions increase due to the overall economic growth induced by the FTA. At the industry level, the composition effect is driven by emissions changes from "electricity & other manufactures", "Mining, quarrying, petroleum, chemical and non-metallic mineral product" and "transport services". This is not surprising since these two sectors are responsible for a large share of the energy-related CO2 emissions of the country and the FTA decreases output of this sector, based on the CGE results; this decrease in emission is associated with a small increase of exports. Note that the sector "electricity & other manufacture" includes the power production (responsible for around 1/3 of total CO2 emissions from burning fossil fuel) and a few branches of industry which are much less CO2 intensive; this figure might therefore be overestimated, depending on the shifts in output of the different subsectors. "Textile and wearing apparel", "Food industry" and, to a lesser extent, "agriculture" and "transport equipment", are the three sectors where all types of GHG have increased; the most important increase is for N2O from textile industry and, to a lesser extent, from agriculture/food industry and; two sectors where the FTA has caused an increase of output and exports.

In Tunisia, the increase of emissions from the textile and wearing industry in CO2 and in N2O (and to a lesser extent NH4) is significant. The textile industry has a significant weight in the

economy and it is also the one where the FTA induced effect on both output and export is observed. The increase of the sector is compensated by the changes in emissions from other sectors, with the sector responsible for the largest decrease in GHG being "Other manufacture, electricity and gas" sector, in particular in terms of CO2. Modest increases of emissions of all GHG is seen in "food industry", "Electrical and machinery" and "transport equipment".

In Egypt, the most important decrease of GHG due to the FTA is observed in "Mining, quarrying, petroleum, chemical and non-metallic mineral products" (in particular for CH4 and CO2) as well as in "Other manufacture, electricity and gas" (in particular for CO2). Note that the FTA decreases the output of this sector and that imports from the EU of corresponding products have increased due to the FTA. "Textile and wearing apparel" and, to a lesser extent, "Transport services", increased their emissions of GHG due to the FTA, and especially for the former, the FTA increased output and export significantly.

In Jordan, the overall change in emissions due to the FTA is small both in absolute and relative value. The most important decrease of GHG due to the FTA arise in the "Other manufacture, electricity and gas" sector whereas a small increase of emissions is observed in agriculture and in transport (in particular in CO2 – it represents 1% of the total CO2 emission from fuel combustion in 2018).

Emissions from international transport

Beside impacts through economic channels operated within the countries, FTA may impact air pollution and GHG emissions due to an induced increase of international transport[622]. It is not possible to quantitatively compute this impact of the FTA alone in the context of this case study; however, external trade data by transport mode show a strong increase of trade (import+export) expressed in tons (from 29 to 72 million tons between 2002 and 2018) and a very dominant share of sea as transport mean in the trade between the EU and the 4 SMCs (more than 95% of trade is done by maritime transport) which can be assumed to have increased greenhouse gases (GHG) emissions, sulphur oxides (SOx) and nitrogen oxides (NOx), but with impacts largely outside the borders of the 4 SMCs. We also notice that road transport represents a low share of trade by transport mode (around 3% in 2018), it has increased significantly between 2002 and 2018.

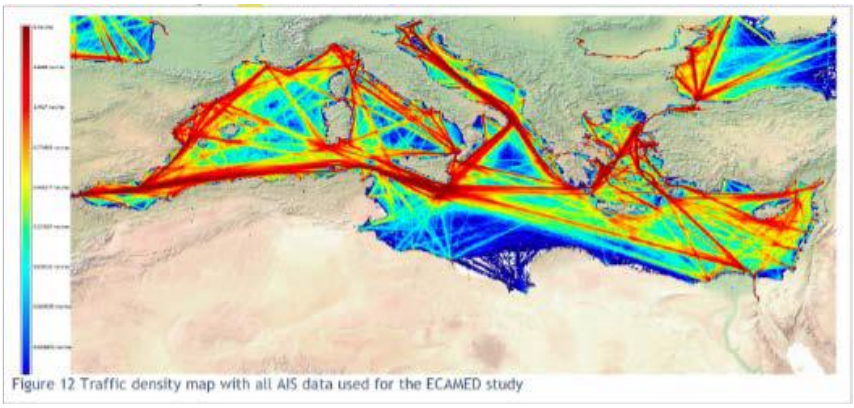
Table 5.39 Trade between the EU-28 and the 4 Med partners by mode of transport (in tons, 2002 and 2018)

FLOW	PERIOD / TRANSPORT_MODE	2002 Total	2002 % of total	2018 Total	2018 % of total	% change 2002/2018
IMPORT	Unknown	645 788	2.4	94 092	0.3	-85.4
	Sea	24 656 602	91.5	25 941 695	93.4	5.2
	Rail	177 619	0.7	4 155	0.0	-97.7
	Road	766 078	2.8	1 161 609	4.2	51.6
	Air	46 662	0.2	68 189	0.2	46.1
	Post	93	0.0	20	0.0	-78.5
	Fixed Mechanism	460 100	1.7	417 037	1.5	-9.4
	Inland Waterway	177 724	0.7	88 062	0.3	-50.5
	Self Propulsion	22 528	0.1	171	0.0	-99.2
	TOTAL	26 953 194	100.0	27 775 030	100.0	3.0
EXPORT	Unknown	302 566	1.4	698	0.0	-99.8
	Sea	20 039 365	92.7	42 732 032	97.6	113.2
	Rail	219 096	1.0	116 061	0.3	-47.0
	Road	868 965	4.0	772 077	1.8	-11.1
	Air	60 875	0.3	86 499	0.2	42.1
	Post	57	0.0	18	0.0	-68.4
	Fixed Mechanism	129	0.0	-	-	-100.0
	Inland Waterway	111 904	0.5	78 137	0.2	-30.2
	Self Propulsion	18 465	0.1	15 017	0.0	-18.7
	TOTAL	2 1621 422	100.0	43 800 539	100.0	102.6

[622] Although the literature on the FTAs impact on GHG emissions barely tackles the issue of transportation of those goods under liberalised rules, some i.e. Copeland and Taylor (2004), prove that larger trade volumes will effectively lead to a greater scale of cross-border transportation and significantly increased emissions as a result.

Source: Eurostat, COMEXT database.

Figure 5.69 Traffic density in the Mediterranean Sea Area



Source: INERIS, 2019.

Figure 5.70 Visualisation of CO2 emissions across global shipping routes in 2015

Source: OECD, 2018.

CO2 emissions from the maritime trade and shipping industry grow in particular due to international trade growth, despite some progress in CO2 efficiency. And, a significant share of maritime emissions is generated along the Euro-Mediterranean maritime lanes -, not necessarily due to the EU-Med trade but also due to the strategic world location of the Mediterranean and regional trade increases (see map) [623]. In the last International Maritime Organisation (IMO) GHG Study (2014), emissions have been estimated globally at 796 million tonnes (ca. 2.2% of the global total anthropogenic CO2 emissions, compared to 1.8% in 1st study of this series in 2000 - the most-up-to-date statistics will be published in late 2020[624]); it is now around 3% according to the EC[625] and the OECD estimate that carbon emissions from international shipping

[623] The Mediterranean host an important transit lane and transhipment activities. It is estimated that the Mediterranean Sea is harvesting 20% of the global seaborne trade and 10% of world container throughput. See: Maritime transport, available online at: https://www.medgsr.org/maritime-transport.
[624] IMO and the UNFCCC policy framework, available online at: http://www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Historic%20Background%20GHG.aspx.
[625] Commission publishes information on CO2 emissions from maritime transport, available online at : https://ec.europa.eu/clima/news/commission-publishes-information-co2-emissions-maritime-transport_en.

could increase by 23% to 1090 million tonnes by 2035 compared to the 2015 level in a BAU scenario[626].

As a response to the increase of emissions at the international level, the IMO is pushing towards low carbon shipping and air pollution control, i.e. via mandatory energy-efficiency measures for shipping (2011 and entry into force in 2013) and its 2018 IMO strategy on reduction of GHG emissions from ships[627]. At a meeting in Malta between 11 and 13 June 2019, the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) discussed possibility of designating the Mediterranean Sea or parts thereof as SOx emission control area (ECA) under MARPOL Annex VI and the works on feasibility assessments are ongoing. The same strict environmental conditions would apply to NOx and particulate matters, if the emission control area ECA is fully implemented (REMPEC/WG.45/INF.11)[628]. These regional policies are very recent and therefore did not mitigate increasing emissions of maritime transport due to the FTA in the last 20 years.

Technological effect

As discussed in the baseline description, energy intensity and the production of electricity from renewable energy are two options at the heart of the mitigation of GHG and local air pollutant emissions. Despite an increase of air emissions in general over the period considered (1995-2018), energy intensity has improved, and the amount of power produced from RE has increased significantly in the four SMCs. This fact suggests that without the penetration of several new technologies, the increase of emissions in the air would have been even higher than what is observed. An interesting issue is therefore whether or not the FTA has induced an increased trade in environmental goods and services needed to achieve, for instance, the target of the Paris agreement. This effect refers to the "technical effect" in the analytical framework described in paragraph 1. It plays a role in the equation by allowing an easier and cheaper access to low carbon equipment's and technologies. Note that the technic effect can also come from innovation induced by the FTA in each country – we consider here only the technic effect from an easier access to import of specific goods.

To investigate this potential effect, we focus on renewable energy (a sector at the heart of both climate change policies and air quality plans)[629]; we have compiled data on tariffs, on imports from the EU and on installed production capacity in each of the 4 SMCs. To be able to compare information, we have aggregated imports and tariff data on renewable energy plants (taken from the HS codes of WTO EG friend list) by technology as suggested by Jha (2009).

The data clearly show that, quite often, while tariffs decreased gradually to "0" over the period 1995-2018, imports of technologies match with increases in installed capacity in each country. For instance, tariffs in solar applied by Morocco on imports from the EU decreased from 31% to 0% while imports increased during the period 2006-2017 compared to the period 1995-2006 and installed capacity rose from 33 to 735 MW between 2009 and 2018. The same type of correlation is visible for wind technology. Installed capacity of hydro power energy is not increasing over the period (most of the cost-effective dam spots have been already exploited) and imports are of corresponding equipment's are low.

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[626] Note that at regional level, the development of infrastructure in the SMCs also play a role in this trend. Despite the fact that following the world's trade activity, international maritime trade lost momentum in 2018 when it grew only by 2.7% (compared to 4.1% in 2017), the African ports in the Mediterranean are gaining on importance and both Egypt and Morocco are sub-regional leaders when it comes to connection to the global liner shipping network as measured by the "liner shipping connectivity index" (UNCTAD 2019). In fact, Moroccan Tanger Med "recorded the world's highest absolute increase in its index during the first decade of its operations since 2007" in 2018 (Ibidem, p. 63). In addition, the capacity doubling of the Suez Canal will surely increase the traffic, pollution and marine litter in the Mediterranean. These are inevitable as the larges traffic routes in the region are dominated by crude oil shipments (i.e. from Northern Egypt, or from the Persian Gulf via the Suez Canal) and by container ship traffic.

[627] Nate that at the global level, no emission reduction target has been established for maritime transportation, under the United Nations Framework Convention on Climate Change (UNFCCC).

[628] Holding our breath for a breakthrough in the Mediterranean, available online at: http://www.rempec.org/rempecnews_search.asp?NewsID=1505.

[629] The 4 SMCs together have imported from the EU around 40% of their total import of RE equipment over the period 1995-2017 (the rest coming from other countries of the world).

However, as analysed in the case study on trade in environmental goods further in this chapter, it is difficult to isolate the effect of the FTA (low/nil tariff levels) alone on trade in EG; other factors may well play a more important role, such as political will and the stringency of environmental policies, international cooperation and FDI. For the specific case of RE and EE to mitigate CO2 and local air pollution, we can more specifically include: (i) the development of a suitable, complete, visible, stable and efficient legal and administrative framework for EE and RE, (ii) the large dissemination of information about the cost and advantage of RE and EE to political decision makers (national and local level), economic actors and households and the reinforcement of technical skills (iii) the level of fossil fuel subsidies which are reflected in low prices for the final consumer and hamper RE and EE actions to be competitive (and the taxes on RE and EE equipment's, of which tariff levels on imports) and (iv) the efficiency of financial mechanisms and fiscal incentives for EE and RE and access to carbon finance[630].

Although these factors are not directly related to the FTA, they are connected to the AA and, in particular, to agreements on cooperation. The promotion of RES, energy efficiency, modernisation of energy systems and networks are directly mentioned in in each EU-4 SMCs AA. Sustainable energy has been a priority of the Euromed dialogue[631] during the period covered by this assessment and many initiatives and projects funded by the EC (see table in the next page for recent examples) and by the EU Member States have been implemented in the SMCs. These have been aimed at improving knowledge and skills, advocating for the development of a sustainable low carbon energy system, supporting the development of the legal and administrative framework, defining financing schemes, and supporting reforms over the last 20 years. In term of financing, the EIB and the EBRD – as well as Member States development banks - are also very involved and will continue to be so in the future. All together, these factors, not directly related to the FTA, counts probably more than the tariff reductions; however, the latter has, with no doubt, helped each country to access the technologies at a lower cost and made these technologies more competitive relatively to CO2 intensive fossil fuel technologies (however, we have to keep in mind that the share of RE in the electricity consumed tend to decrease and the energy efficiency is still not at the level of the EU one).

Table 5.40 Tariffs effectively applied on RE equipment by type of technology

	Egypt			Jordan			Morocco			Tunisia		
	1995/ 2005	2005/ 2015	2018	1995/ 2005	2005/ 2015	2018	1995/ 2005	200/ 2015	2018	1995/ 2005	2005/ 2015	2018
Wind	18	7	0	9	9	1	31	7	0	25	24	1
Solar	20	6	0	8	13	2	31	6	0	31	25	1
Hydro	4	2	0	0	0	0	15	1	0	15	7	0
Biomass	7	2	0	2	7	3	29	4	0	11	7	1
Geothermal	28	13	0	12	18	1	11	1	0	37	33	1
Other	7	2	0	0	0	1	9	1	0	9	10	1

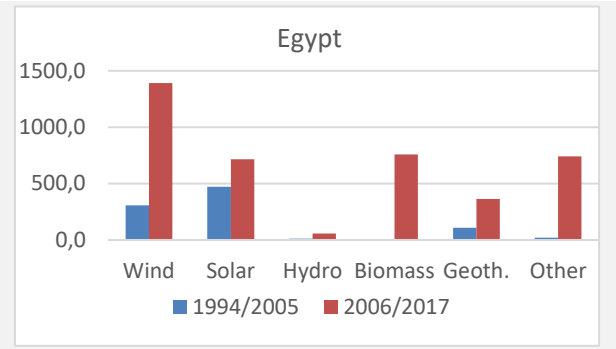
Source: compiled from WITS data.

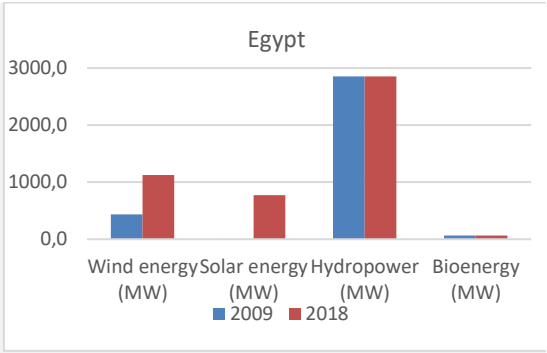
Figure 5.71 RE trends: equipment's imports from the EU and installed capacity by technology in 4 SMCs

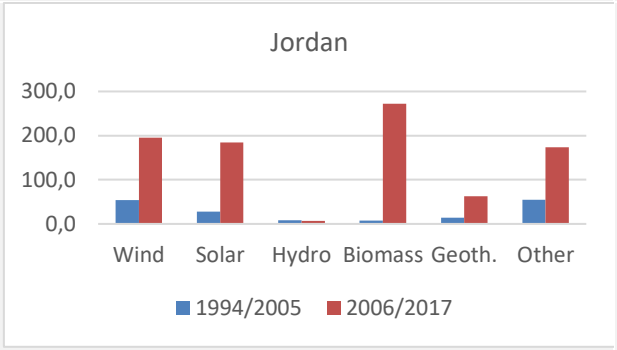
RE equipment's imports from the EU by technology, total 1994-2017 (split in 2 sub-period) in Million US	RE installed capacity by technology, 2009 and 2018, in MW

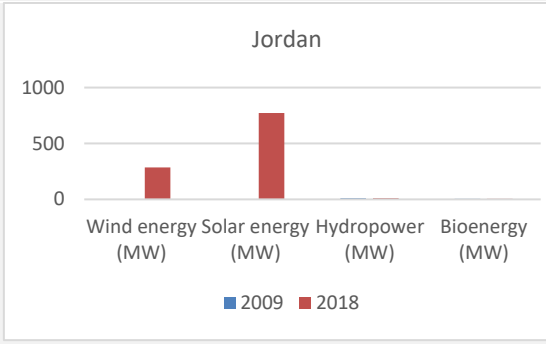
[630] See for instance Plan Bleu (2005), EIB/Plan Bleu (2008), MEDENER (2016), OME (2016), UNEP/MAP (2019).

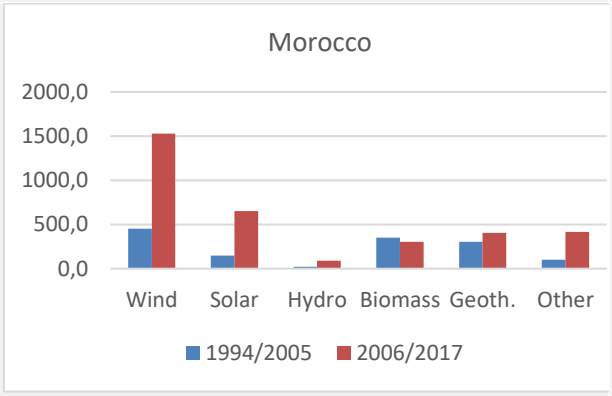
[631] "The Euro-Mediterranean dialogue, under the chair of the European Commission and the Kingdom of Jordan, and at the Rome conference in November 2014, decided to establish three platforms for exchange and partnerships. The ultimate goal for these platforms is to operate as permanent consultation forum on strategic objectives and measures to be implemented under the auspices of the Union for the Mediterranean. The three platforms cover: (i) the gas sector and is managed by OME, (ii) the electricity market with support provided by MEDREG and MEDTSO and finally (iii) the renewable energy and energy efficiency with support of MEDENER, RCREEE and RES4Med." Source: OME and MEDENER, 2016.

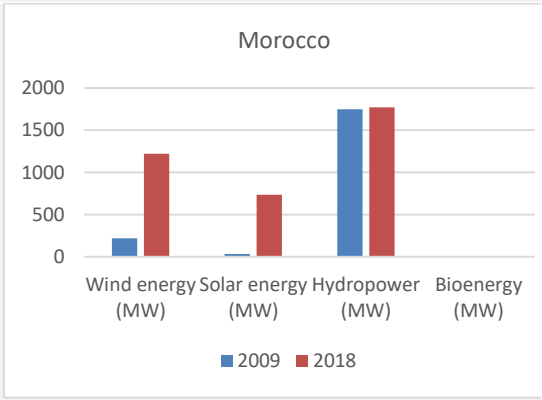


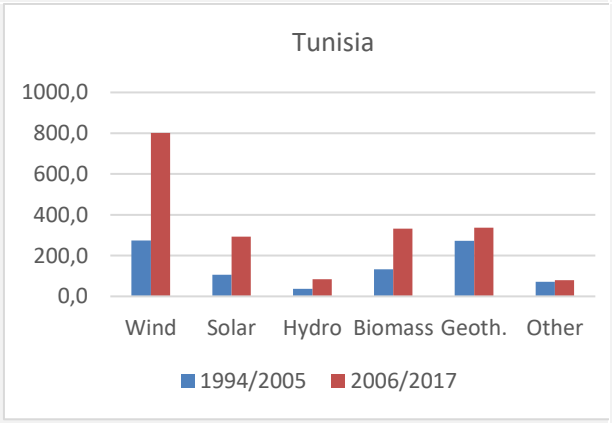


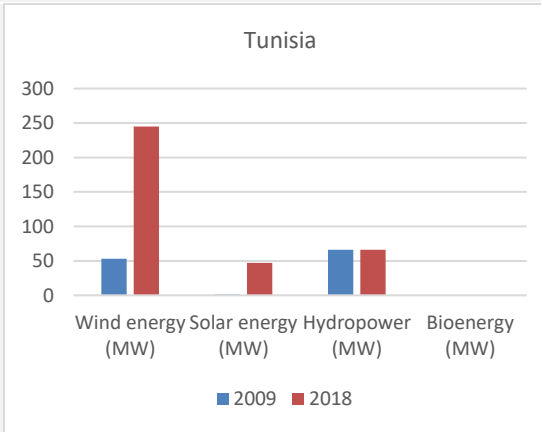












Source: UN Comtrade and IRENA. Note: Import data have been aggregated using the WTO "power plant" environmental goods and groups by technology as suggested by Jha, V. (2009).

Table 5.42 Example of EuroMed regional cooperation projects on RE and EE funded by the EU (non-exhaustive list)

Name	Countries	Objectives/Scope	Website

CES-MED project (Clean energy saving Med cities)	ENPI South region	Training and technical assistance support to Local and National Authorities with a view to help them respond more actively to sustainable policy challenges. 2013-2018. Budget. 6,82 million Euros	http://www.ces-med.eu/project/what-ces-med
ClimaSouth	Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine and Tunisia.	Climate change mitigation and adaptation in 9 South Mediterranean countries. 2013-2017 - 5 million Euros	http://www.climasouth.eu/en/?refresh=02
Switch Med	Mediterranean Region	Scale-up social and eco innovations, i.e. for Industry & Service Providers in order to decrease the GHG emissions 2012-2015 – € 3.8 million	https://www.switchmed.eu https://ec.europa.eu/environment/marine/pdf/SWITCH-MED_project.pdf
Clima-Med	8 partner countries in the Southern Neighbourhood	Focuses on supporting sustainable energy policies and strategies both at national and local levels; Providing technical assistance to support the formulation and implementation of local Sustainable Energy Access and Climate Action Plan (SEACAPs). June 2018-2022 - € 6,9 million	https://www.climamed.eu/project/what-is-clima-med/
The SEMed Private Renewable Energy Framework "SPREF"	Egypt, Jordan, Morocco and Tunisia	Financing (+ mobilisation of further investments) of deployment of private RES markets across the region. 2015 to 2018 - € 836 million	https://ufmsecretariat.org/project/semed-private-renewable-energy-framework-spref/
CAMENA	Algeria, Egypt, Palestine, Israel, Jordan, Lebanon, Morocco and Tunisia	Grants for specific projects tackling climate change across the region, especially those targeting mobilisation of financing	https://www.eib.org/en/publications/camena-climate-action-in-the-middle-east-and-north-africa.htm

Source: Information based mostly on: https://www.climamed.eu/networks/international-and-regional-projects/.

Conclusion and synthesis

In this case study, we looked at trends in emissions of GHG and air pollutant and tried to identify and quantify the possible role of the FTA.

Our baseline analysis on emission of air pollutant and air quality shows increasing trend in emissions of NOx SO2 and PM 2.5 in all 4 countries. Increasing population, urbanisation, and economic development (industry and transport) are the main drivers of that trend. The effect on health is a concern and is costly in the 4 countries. In order to mitigate emissions, since the 90s, air quality policies and actions to decrease emissions improved in the 4 SMCs; the air quality is much more and better monitored in 2020 than 20 years ago and several legal packages have been developed[632] and adopted at national level (including standard and

[632] The international cooperation, of which the EuroMed one, have strongly supported this effort.

thresholds for emissions and legislation to penalize noncompliance in the industry and actions related to transport equipment's and fuel). However, they are not necessarily complete, applied effectively and/or are under development[633]. At national level, budget to carry out inspections, maintain the monitoring systems and to sanction infringements are among obstacles. Despite progress and concrete actions in the different sectors (industry, transport, energy, building), policies have not yet allowed a full and effective improvement of air quality in general and important impacts on health is observed[634]. Even if the situation would have been probably worse in a non-action scenario, improving air quality in the Mediterranean basin remain both a health and environmental emergency and a real scientific and political challenge[635].

In terms of GHG, between 1990 and 2015, emissions more than doubled and CO2 emissions from fossil fuel burning almost tripled in Jordan, Egypt and Morocco and increased by 2.2 times in Tunisia. The drivers of this strong increase in GHG emissions are the population growth, the economic development and the energy demand growth. Among the key plan to limit the growth of GHG emissions, renewable energy and energy efficiency policies are central. Progress are seen in the production of energy from renewable sources (solar, wind) and energy efficiency improved; However, progress is slow and fossil fuel is increasing faster than renewable energy in the energy mix.

Our quantitative evaluation tried to investigate the role played by the FTA in the observed trend of air emissions, separately for GHG and for air pollutants. Our results show that, in most of the cases, there is an overall limited impact of the FTA in term of both air pollutant and GHG emissions. As expected, the scale effect tends to increase emissions and, the composition effect tends to decrease them. Regarding air pollutants, the impact of the FTA seems to be a very limited increase of pollution in Jordan and a very limited decrease in air emission in Egypt; In Tunisia and Morocco, the effect of the FTA looks a little more significant in relative terms.

Regrading GHG, overall, the combination of the CGE results and the EORA database indicate that the FTA's effect (total of all GHG in CO2eq) has been a reducing one in all countries. Looking at the relative importance of the effect of the FTA, one can say it is rather small wile a little more significant in Morocco and to a lesser extent in Tunisia. When looking at specific sectors, we see that the increase of emissions (both local pollutant and GHG) due to the FTA comes mainly from the textile and wearing industry (which is also a sector where exports to the EU due to the FTA has increased), the transport sector (Egypt and Jordan in particular) while emissions from agriculture and food industry tend to increase in Morocco due to the FTA (agricultural products export from Morocco to the EU also increased). Most of the reduction of emissions due to the FTA comes from the sector "Electricity and other industry" and "mining and quarrying, chemical". Note that emissions (both for air pollutant and GHG) from international transports induced by the FTA and, in particular from the maritime transport has also very likely increased outside the borders of the 4 SMCs and that this is only very recently that regional policies are under design to tackle this source of emission.

In order to discuss the technical/technological effect due to the FTA we gathered data on the specific sectors of renewable energy and energy efficiency which are the two options clearly identified to be the most import to mitigate emissions of GHG and air pollutant in the region. The baseline shows that installed capacity in renewable energies have significantly increased in the 4 SMCs (solar and wind were almost non existing in the early 2000s) and that energy efficiency has improved slightly. This trend looks positive even if the share of RE energy in the electricity production or consumption does not increase (electricity production from fossil fuel are still growing faster than electricity from RE) and the energy efficiency level remains lower in the 4 SMCs than in the EU. The role of the FTA in this trend may have come from a decrease of the tariffs of the related RE and EE products, making them cheaper and more competitive (in particular in front of fossil fuel options).

To be able to compare trade information with energy sector information, we have aggregated imports and tariff data on renewable energy plants (taken from the HS codes of WTO EG friend

[633] Monitoring of air quality and the legal packages are also much less developed and accurate than in the EU.
[634] For more information, see the 2014 Horizon 2020 Mediterranean report, Toward shared environmental information systems, EEA-UNEP/MAP joint report. A new report is expected in 2020 and should analyse more in detail the context.
[635] UNEP (2019), UNEP/MED IG.24/Inf.11, 21st Meeting of the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols.

list) by technology (wind, solar, hydro, geothermal and biomass). From this perspective, we clearly observe that tariff declines, import of equipment and installed capacity are correlated in the expected way for both wind energy and solar energy (imports of RE equipment from the EU in the 4 SMCs account on average for 40% of total imports of these goods). However, as explained in the case study 1, the trade in EG in general depends mostly on other factors. In the particular case of energy efficiency and renewable energy factors often cited in studies are the lack of political will, ineffective/incomplete administrative and legal framework, the lack of information about cost and advantage of RE, the lack of technical skills, the fossil fuel subsidies (hampering RE and EE to be cost effective), the cost of RE and the lack of financial system and incentive (including access to carbon finance). Although these factors are not directly related to the FTA, they are connected to the AA and, in particular, to agreements on cooperation.

Each of the 4 SMCs indicate a priority on sustainable energy in their AA and many cooperation projects have been funded by the EU (although often judged as not large enough to answer the scale of the challenge). This is important to note since the EuroMed cooperation is seen as key leverage of RE and EE policies in the Mediterranean countries. Overall, the development of RE is still limited in relative terms but shows encouraging recent progress and a positive outlook - in particular, for instance, in Morocco. Given that the relative cost effectiveness of RE compared to fossil fuel is seen as one of the key factors for the penetration of these technologies, the decrease of tariffs has probably played a positive role in term of technic effect and played positively for developing RE capacities.

The global net effect of the FTA in term of air emission is difficult to estimate and it is very likely modest. The FTA has induced a small reduction of most, but not all, GHG and air pollutant and the technic effect has probably contributed to a decrease of certain emissions compared to a scenario without FTA. However, the FTA induced increases in emissions in some particular sectors such as textile and wearing industries. Policies developed by countries may have counteracted some potential effect of the FTA but progress in the effectivity of actions still need to be done. It is also likely maritime transport has increased emissions due to the FTA. Finally, FTA effect on emissions reductions/increase in the SMCs may have led to higher/lower emissions in the EU and/or in third countries but this aspect is not investigated in this study.

5.4.1. Case study: Environmental goods

Trade in environmental goods between the SMCs and the EU increased almost threefold in the last 20 years. The EU's share in the total trade in environmental goods (EGs) of the six Mediterranean partners is around 45% in 2017 (against around 70% in the late 90s). The six SMCs, except Tunisia, import many more EGs than they export, and the EU registers a positive trade balance for these particular products.

In this case study, we discuss whether the FTAs contributed to the greening of the economies by increasing trade in environmental goods between the EU and the 6 SMCs. The objective is to describe the trends in environmental goods between the EU and the SMCs and discuss in what way(s) and extent the FTA between the EU and each Mediterranean partner may have contributed to it and eventually to the greening of each partner's economy.

After a section providing definitions and methodological aspects, we first provide a detailed analysis of the trend and pattern of trade in EGs between the EU and the 6 MPCs. We then turn to the analysis of tariffs level applied on EGs as a first factor potentially influencing the trade in these goods and eventually the greening of the economy, thus linking the trade developments to the FTA. Next, other economic and political factors that influence the trade in EGs are examined. Finally, the possible role, and magnitude, played by the FTA in the trade of EGs and eventually in the greening of SMCs economies is assessed.

Environmental goods: concepts and definitions

Carbon dioxide scrubbers, filters, recycling machinery, building insulation equipment, heat pumps, thermostats, pollution measuring equipment, wind turbines, water treatment equipment, solar panels, etc… are all environmental goods. However, there is no international agreed definition of the so called "environmental goods and services". The one jointly agreed by Eurostat and the OECD in the late 1990s, is recognised as a reference: "*the environmental goods and services industry consists of activities which produce goods and services to measure, prevent, limit, minimise or correct environmental damage to water, air and soil, as well as problems related to waste, noise and eco systems. This includes cleaner technologies, products and services that reduce environmental risk and minimise pollution and resource use*." Eurostat,

in reference to the System of Environmental-Economic Accounting defines the environment related activities as "*activities that either directly serve an environmental purpose or produce specifically designed products whose use serve an environmental purpose*" (See Eurostat, Environmental goods and services sector accounts manual, 2016).

From a practical point of view, the additional difficulty is to identify a list of codes in the Harmonised System (HS) or in the Combined Nomenclature (CN) that could be considered as "environmental goods". Several institutions have derived such lists, namely: OECD (254 products), the APEC (54 products), the WTO "Friends list" (153 products), Eurostat, the World Bank, and the International Centre for Trade and Sustainable Development, among others. Questioning and comparing these lists is a research topic in itself (see for instance (Sugathan, Mahesh, 2013) which will not be tackled in this case study. In the framework of this case study, we will rely specifically on the WTO "Friends list" (see WTO document "JOB(07)/54") which has been elaborated with countries participating to the WTO negotiations on the Environmental Goods Agreement (EGA)[636].

As regards any of the other lists of environmental goods, two limitations have to be kept in mind. First, because there is no universally agreed methodology to assess environmental performance of a product throughout its life cycle, the products included in the lists of EGs are selected on the basis of their end-use. Secondly, selected HS lines may include both environmental and non-environmental goods, including products characterised by multiple end-uses, including non-environmental applications (OECD, 2018); the figure based on those lists likely grossly overestimates the value of EGs (ESCWA, 2007).

Green economy and trade in environmental goods: opportunities and challenges

According to UNEP's working definition, a green economy is one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. At the same time, international trade may take different forms, positive or negative, in contributing to the greening of economies. On one side, while creating economic growth and increasing volumes of exports and imports, trade can put additional stress on environment and natural resources (UNEP, 2012). On the other, positive interaction between trade and the transition to a greener economy is clearly identified through two main channels.

First, by fostering access in environmental sound technologies at competitive price, trade in EGs may bring positive environmental benefits in terms of resource-use efficiency, pollution prevention, control of air and water pollution and CO2 emissions by upgrading polluting sectors. Second, trade may create new opportunities of export in certified products (e.g.: organic food) or services (e.g.: green tourism) and may participate to the greening of international supply chain. For instance, clean technologies transfer may occur with the arrival of international firms in form of foreign direct investments (FDIs).

Although the focus of this case study is on the side of opportunities, it is important to keep in mind that the production of and the trade in EGs may pose environmental challenges which should not be neglected[637]. The increase in demand could partly offset potential environmental benefits (scale/rebound effect). Additionally, some environmental goods utilise components whose production constitutes an environmental hazard (UN, 2018) and the end of life of the EGs should be managed properly to avoid additional pressure on the environment. Along the same lines, the greening of the economy can fully and 100% effectively benefit from imports of EGs, only if the equipment and infrastructure acquired are managed, maintained and run properly. Legislation, human capacity, availability of particular products and financial means (e.g.to carry out regular chemical analysis) are required but this is not always available.

The Mediterranean area faces several environmental issues. The latter are considered at regional level in various strategic documents (ex.: Barcelona Convention for the Protection of

[636] Countries participating to the EGA negotiations are: Australia, Canada, China, Costa Rica, Chinese Taipei, the European Union, Hong Kong (China), Japan, Korea, New Zealand, Norway, Switzerland, Singapore, United States, Israel, Turkey and Iceland.

[637] For instance, the production of wind turbines is energy intensive and relies extensively on the use of fossil fuels and metals (e.g. neodymium) whose production process constitutes an environmental hazard ((Steenblik, 2005b) in UN Env. 2018).

the Mediterranean Sea, Mediterranean Strategy for Sustainable Development (2005 and 2016), Environmental priorities in the AAs with the EU, regional thematic strategies, among others) in which environmental targets are clearly specified. In addition, national targets have been set in the context of the Paris Agreement (2015)[638], 2030 Agenda for Sustainable Development and national strategies.

To achieve the objectives announced, the countries analysed herein have been working to raise the level of stringency of their respective environmental policies. This in turn can increase the demand in environmental goods and services, if stakeholders are willing and able to invest in these in order to comply with new environmental legislation. The need to liberalise trade in EGs has therefore repeatedly been emphasised as one of the triple-win opportunities for the environment, development and trade, and one that could make a significant contribution in facilitating the transition to a green economy (IISD and UNEP, 2014). As suggested by the OECD, we assume in this case study that FTAs can contribute to this trend by facilitating the access to equipment and technology necessary to abate or avoid environmental damage (OECD, 2018).

EU-SMC Trade in environmental goods

Data sources and aggregation

The World Integrated Trade Solution (WITS) database has been used to extract data from COMTRADE database (trade in goods) and from the TRAINS database (tariffs level). In both databases, data is as declared by each of the six SMCs. Another option would have been to use the data declared by the EU as available in the Eurostat COMEXT database; the advantage would have been the degree of quality and comparability of data. However, these data do not allow to make comparison of trade flows of the SMCs with the EU and with the rest of the world.

The WTO "friends list" is based on the HS 2002 version. However, to be able to extract historical data from the beginning of the 1990s from COMTRADE, the 1992 HS version should be chosen. To adjust the list of EGs, we have used the correspondence tables between the different HS versions which are available on WITS. EGs data has been aggregated by 12 environmental subgroups[639] following the "WTO friend list" structure. The full list is available in Annex E (table E.17).

In the COMTRADE database, the predefined EU 27 aggregate has been used, and for the purpose of this study we have created the SMCs 6 aggregate (grouping of six SMCs countries in one single aggregate). When using this aggregate in the analysis, data series starts in 1998 since data is fully available for all the six countries only from this date.

Overall trend and share of the EU

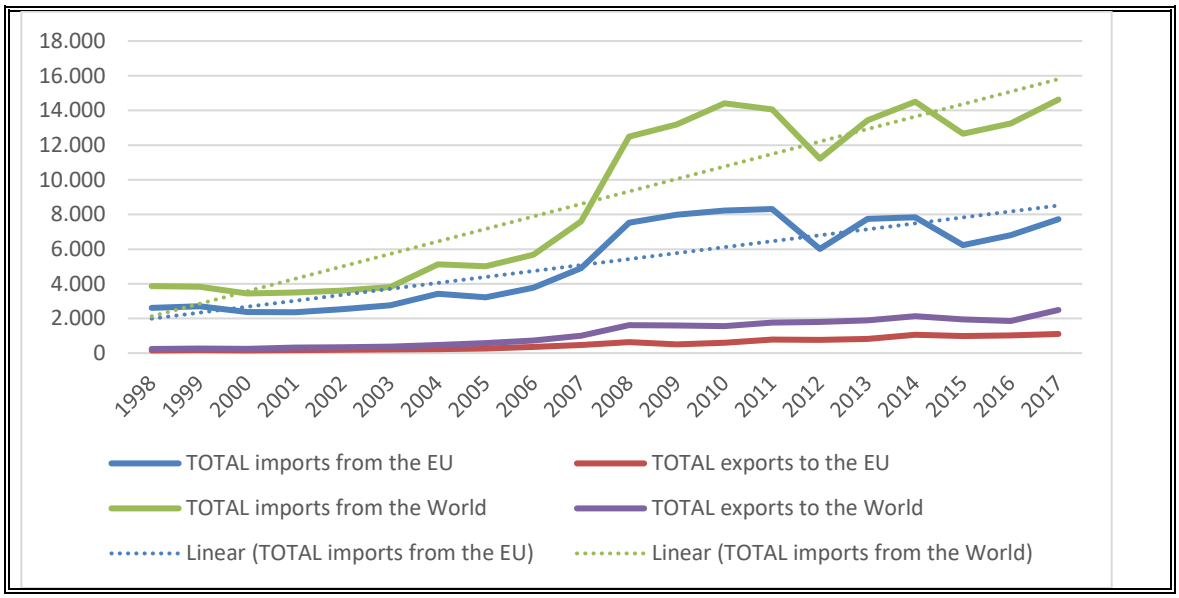
The share of EGs in trade between the 6 SMCs and the EU accounts for 8% of the six SMC total imports from the EU and 1,5% of exports in average over the period 1998-2017. The six SMC imports of EGs from the EU is therefore quite significant. The trade of EGs between the six SMCs and the EU shows an overall upward trend between 1998 and 2017, in particular on the import side. Imports have risen from roughly less than USD 3 billion in 1998 to USD 8 billion in 2017. However, when looking at the trends, three sub-periods may be distinguished in this timeframe. The trade of EGs developed slowly before 2003 and then started to rise faster up to 2008. After 2008, a threshold is found with low years in 2012 and 2015. If we compare imports of EGs from the EU throughout the period between 1998 and 2002 (period during which the EU FTA with Tunisia, Morocco and Jordan entered into force) with the period 2013-2017, the imports of EGs of the six SMCs from the EU have been nearly multiplied by 3. If we compare 2003-2012 (FTA of the 6 SMCs are into force) with 2013-2017, imports of EGs remained at the same level in average.

[638] In the respective National Determined Contributions each country has provided to the UNFCC Secretariat.
[639] Renewable energy plant products, Waste water management and potable water treatment, Management of solid and hazardous waste and recycling systems, Air Pollution control goods APEC list, Noise and vibration abatement, Natural resources protection, Cleaner or more resource efficient technologies or products, environmentally preferable products, based on end use or disposal characteristics, Heat and energy management products, Clean up or remediation of soil and water.

Numerous factors may explain the observed trend (see next section of this study). We can however state that trade in EGs between the EU and the six SMCs seems to increase at a time when countries are making operational environmental policies by, for instance, investing in specific infrastructures. The slow growth on trade in EGs after 2008 may also reflect a lower demand due to the global economic crisis and the Arab Spring crisis. Note that an overall similar trend of slowdown in the overall demand is observed, if we consider the total trade in EGs of the six SMCs with the world.

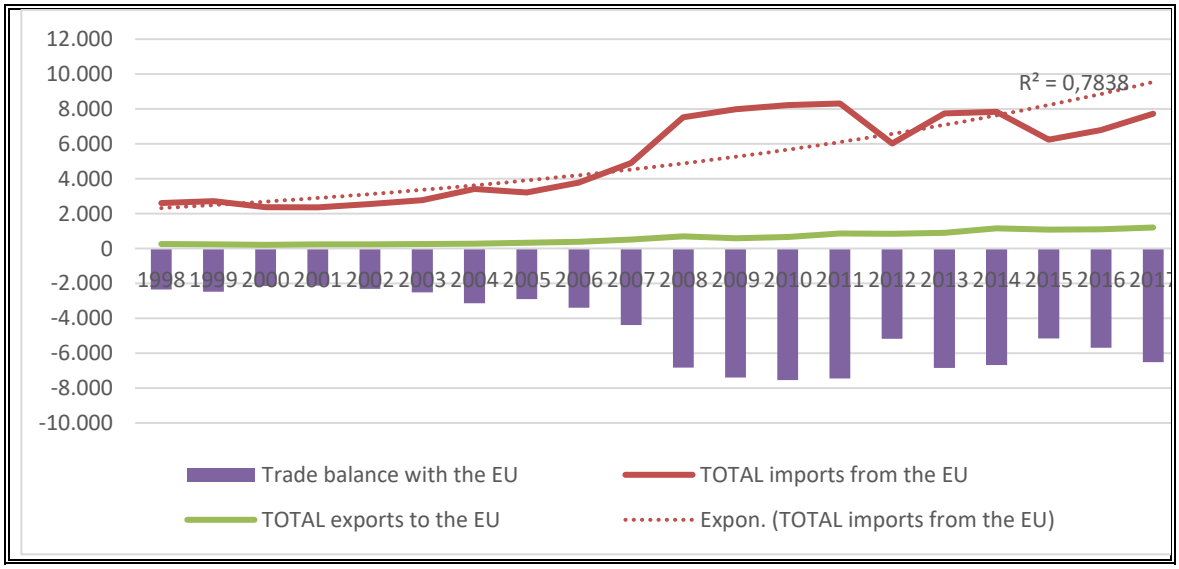
The six SMCs imported much more EGs than they exported to the EU. In their trade with the EU, the share of SMCs exports of EG in the total trade of EGs (import + export) accounts for around 7 to 9% over the period 1998-2011. It is interesting however to note that the value of the same ratio ranges between 10 and 15% over the period 2012-2017, showing an acceleration of exports in EGs from the six SMCs to the EU. In particular Tunisia, Morocco and to a lesser extent Egypt have increased their relative exports of EGs to the EU in recent years.

Figure 5.72 6 SMCs trade in environmental goods (EG) with the World and the EU, 1998-2017, Million USD



Source: Comtrade.

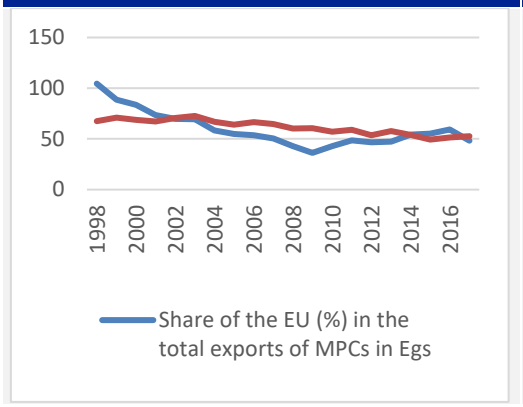
Figure 5.73 Six SMCs trade in Environmental Goods (EGs) with the EU 1998-2017, US$m



Source: Comtrade.

Figure 5.74 Share of the EU in the 6 SMC world trade in EG

Share of the EU in the total trade in EGs of the 6 SMCs, 1998-2017, %



6 SMCs total trade (imports+exports) in EG with the EU and with the rest of the world (non-EU countries), (Million USD)

Source: Comtrade.

The EU remains the leading partner of the six SMCs in trade of EGs, accounting for more than 50% in 2017. However, the EU has lost market shares in the six SMCs over time. The value of the same ratio was indeed around 70% on the period 1998-2003, showing that competitors have entered the EGs markets and allowed a diversification of the providers for the six SMCs. China and other Asia-Pacific Economic Cooperation (APEC) countries are becoming increasingly important players on the world market. According to UNEP (2018) and over the period 2006-2016, out of the ten main traders in EGs, 5 countries are from the EU (with Germany ranking as the top importer and exporter of EGs within the EU). However, China has become a leading exporter of EGs over the past decade, and to a lesser extent, Korea and Mexico as well while the traditional players (USA and Japan) are also among the top ten exporters of EGs.

SMC-EU trade by EG sub-groups

When looking at imports of SMCs by sub-groups of EGs, products that deal with water management, help in waste management, or enhance development of renewable energy production are the most traded. Together they account for nearly 75% of total imports of EGs. Management of water products account for 36%, renewable energy production equipment for 20% and solid waste management products for 19%.

Figure 5.75 6 SMC Imports in EGs from the EU by EGs groups and sub-period (US$m)

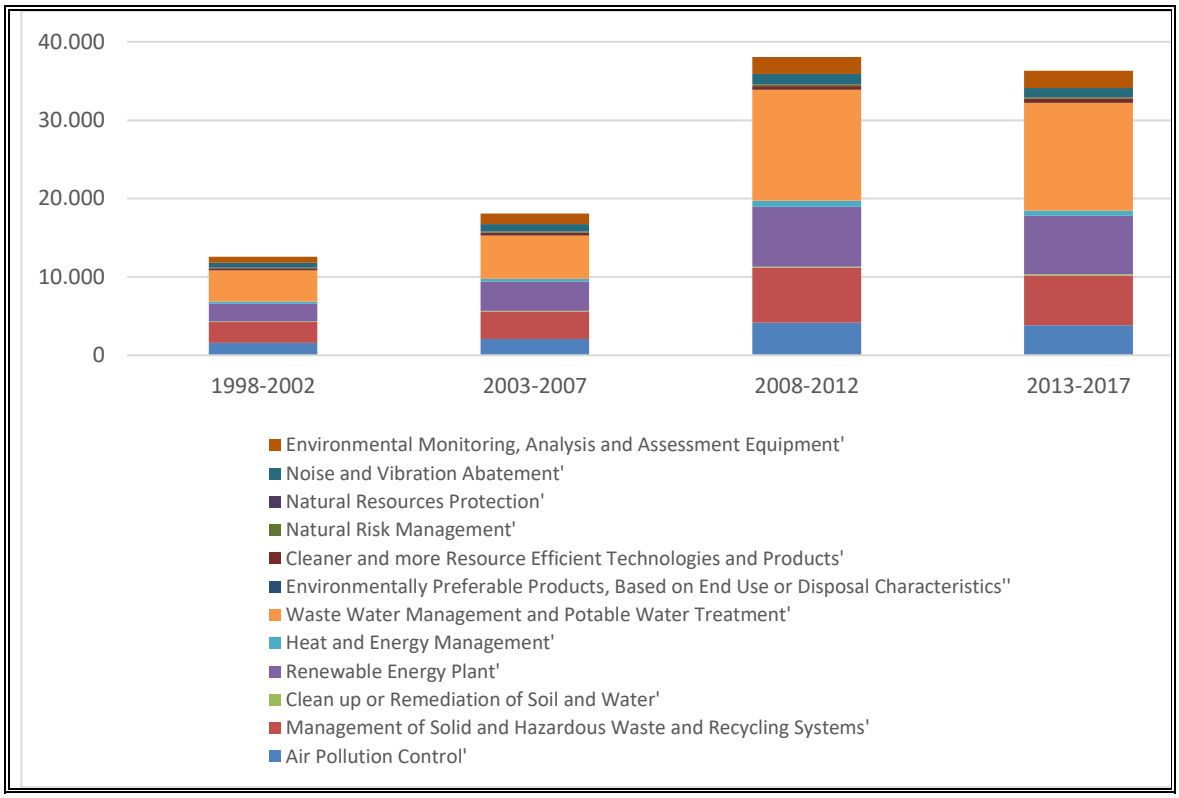


Table 5.43 6-SMC imports of EG from the EU by sub-groups, trend and share

	Million USD				% Share of EG groups in total EG imports					% change
	1998-2002	2003-2007	2008-2012	2013-2017	1998-2002	2003-2007	2008-2012	2013-2017	1997-2017	98/02-13/17
Air Pollution Control'	1577	2061	4177	3846	12.5	11.4	11.0	10.6	11.1	121
Management of Solid and Hazardous Waste and Recycling Systems'	2675	3515	6993	6305	21.2	19.4	18.4	17.4	18.5	115
Clean up or Remediation of Soil and Water'	72	87	159	159	0.6	0.5	0.4	0.4	0.5	100
Renewable Energy Plant'	2242	3719	7639	7502	17.8	20.6	20.1	20.6	20.1	154
Heat and Energy Management'	291	368	751	644	2.3	2.0	2.0	1.8	2.0	112
Waste Water Management and Potable Water Treatment'	4016	5566	14198	13789	31.9	30.8	37.3	38.0	35.8	192
Environmentally Preferable Products, Based on End Use/Disposal Characteristics	4	4	5	2	0.0	0.0	0.0	0.0	0.0	-7
Cleaner and more Resource Efficient Technologies and Products'	230	306	443	493	1.8	1.7	1.2	1.4	1.4	75
Natural Risk Management'	59	145	176	165	0.5	0.8	0.5	0.5	0.5	68
Natural Resources Protection'	29	43	69	65	0.2	0.2	0.2	0.2	0.2	86
Noise and Vibration Abatement'	623	945	1301	1119	4.9	5.2	3.4	3.1	3.8	54
Environmental Monitoring, Analysis and Assessment Equipment'	776	1328	2140	2242	6.2	7.3	5.6	6.2	6.2	108
TOTAL imports of EG from the EU	**12593**	**18086**	**38051**	**36332**	**100**	**100**	**100**	**100**	**100**	**142**

Main SMC players and individual country trade in EG

When looking at the SMC trade with the EU, the biggest importers of EGs from the EU (in USD) are Algeria, Egypt, Morocco and Tunisia. These 4 countries purchased virtually almost all imports of EGs in the six SMC from the EU (91%). The data may reflect the size of the countries. If we look at the trade in EGs as % of GDP to consider this comment, Tunisia stands out, followed by Algeria and Morocco and then Jordan.

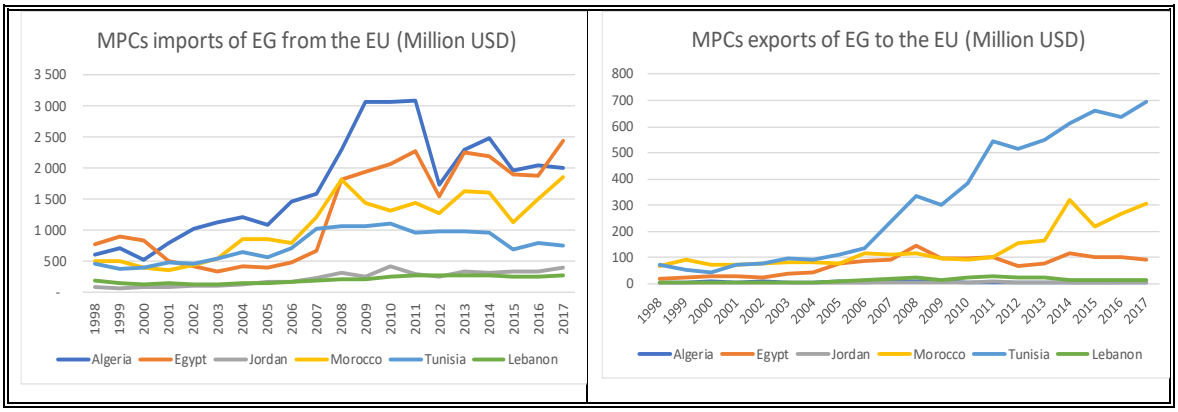
From 2011 to 2017, imports of EGs from the EU show slow growth or slow decline, depending on the SMC concerned (see graphs below the table in Figure 5.764), whereas the export side is contrasted. While all the SMCs are virtually only importers of EGs, Tunisia, and to a lesser extent Morocco and Egypt, stand out by exporting EGs to the EU. In Tunisia, our hypothesis is that the increase of the local production of EGs may also explain the decrease of imports.

Algeria is almost only an importer of EGs, whereas Tunisia, Morocco and Egypt are also exporters. However, only in Tunisia, the share of EGs in total exports is significant (7%), with exports mainly in renewable energy and heat and energy management products. The share of environmental goods in the total imports from the EU ranges between 7 and 10% in all the countries except in Lebanon (4%). The trade in EGs of Tunisia and Morocco is very interlinked with the EU; these two countries trade around 70% of their EGs with the EU. For other countries, the EU supplies only 41 to 47% of all EGs imported.

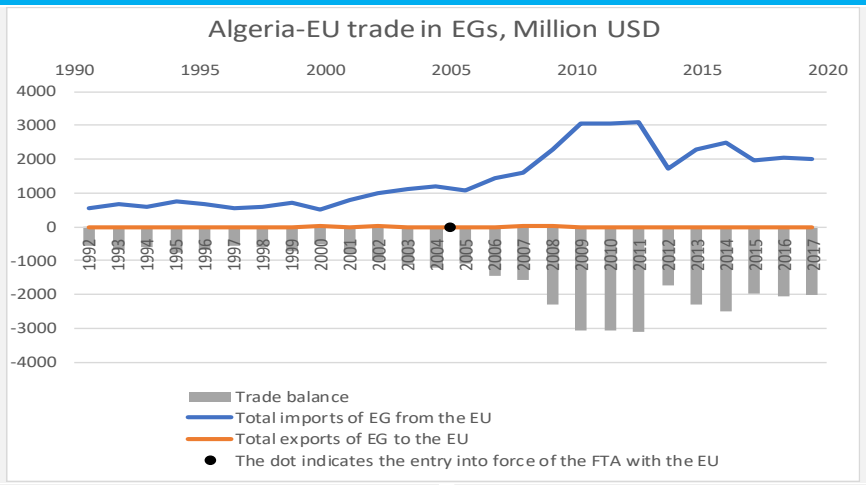
Figure 5.76 Trade in EGs with the EU by individual SMC

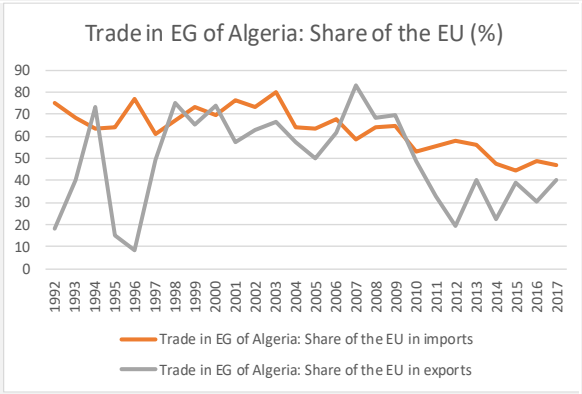
	Million USD				% share of each SMC				Trade as % of GDP*			
	EG Imports from EU		EG Exports to EU		In total SMC EG Imports from EU		In total SMC Exports to EU		Imports		Exports	
	1998/2007	2008/2017	1998/2007	2008/2017	1998/2007	2008/2017	1998/2007	2008/2017	1998/2007	2008/2017	1998/2007	2008/2017
Algeria	10110	24065	58	29	33	32	2	0	13	13	0	0
Egypt	5719	20310	442	993	19	27	18	12	6	8	0	0
Jordan	1213	3201	9	27	4	4	0	0	11	10	0	0
Morocco	6469	15009	846	1841	21	20	35	22	12	15	2	2
Tunisia	5667	9331	992	5222	18	13	41	63	21	21	4	12
Lebanon	1501	2467	64	180	5	3	3	2	8	6	0	0
6-SMC	30680	74384	2412	8293	100	100	100	100				

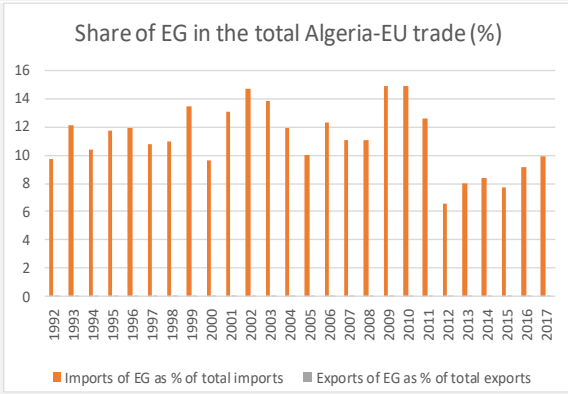
*Average of current price GDP in USD for the periods 97-2007 and 2008-2017 calculated form WDI World Bank database.

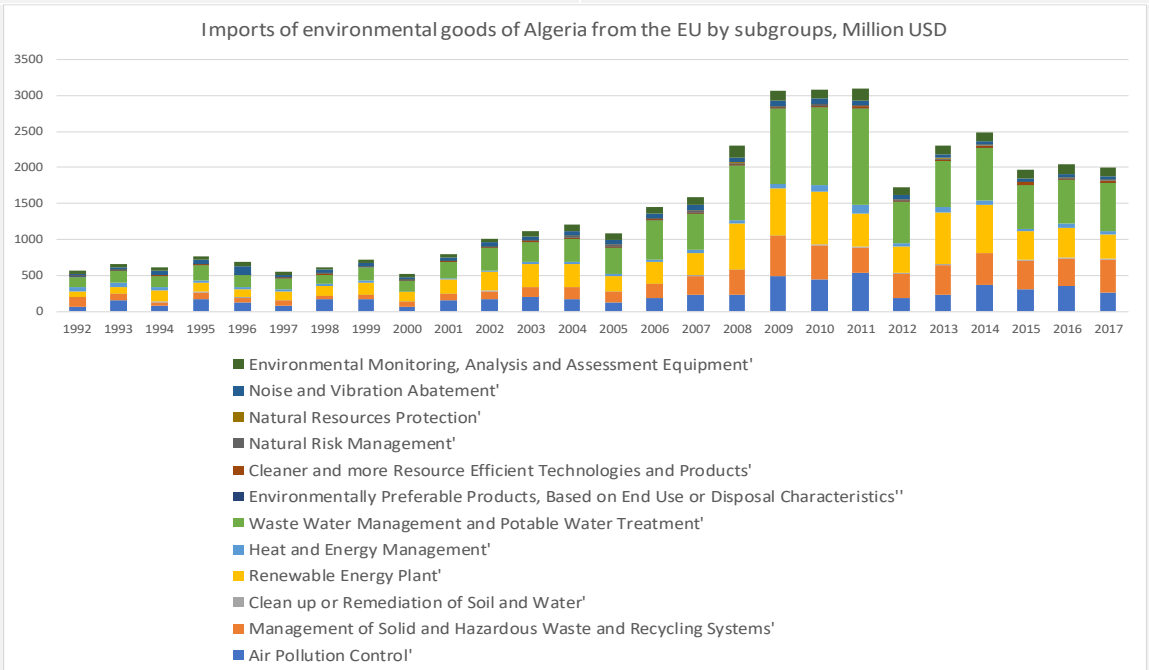


Algeria-EU trade in EGs

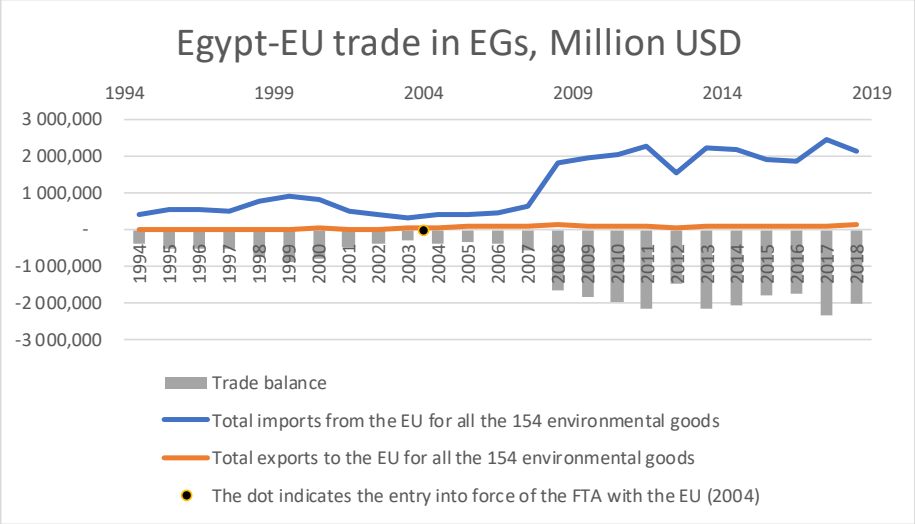


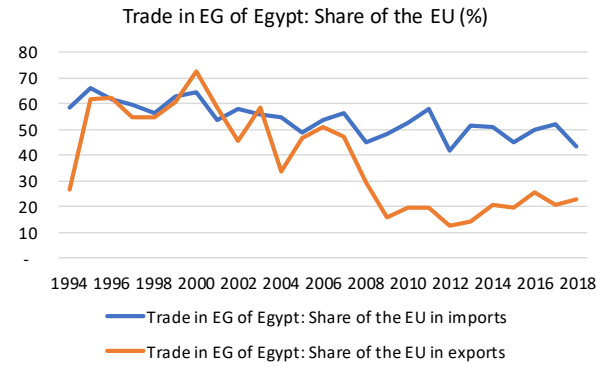


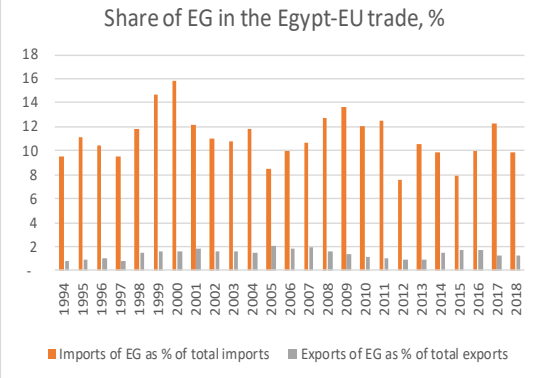


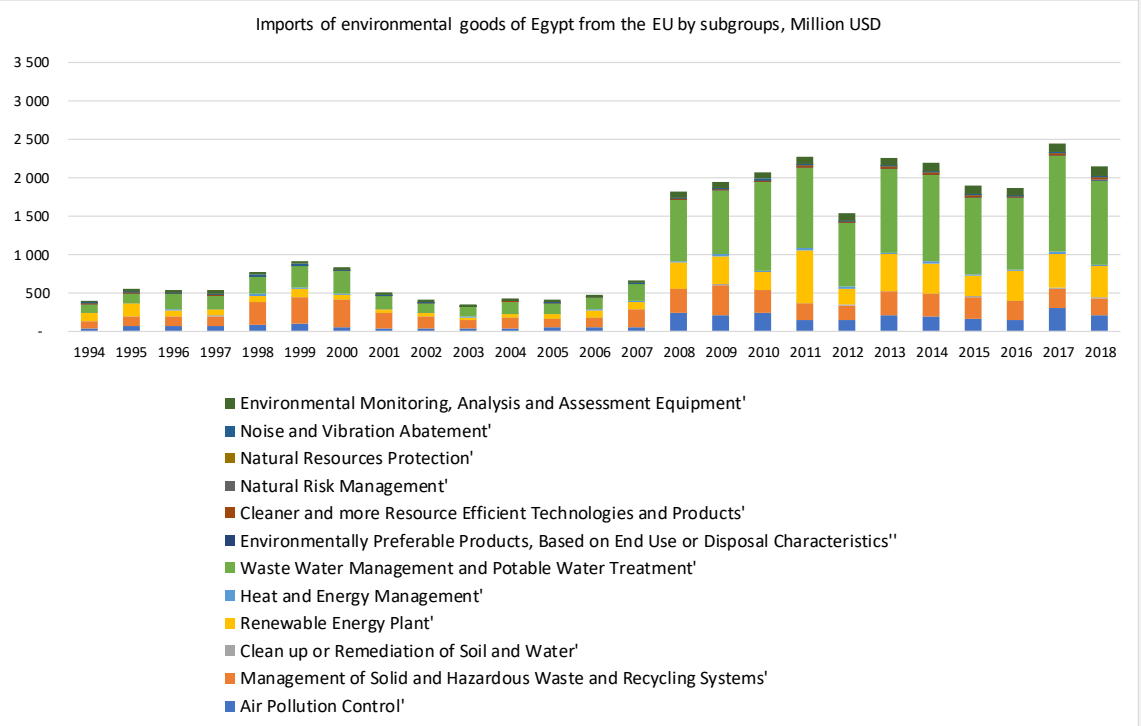


Egypt-EU trade in EGs

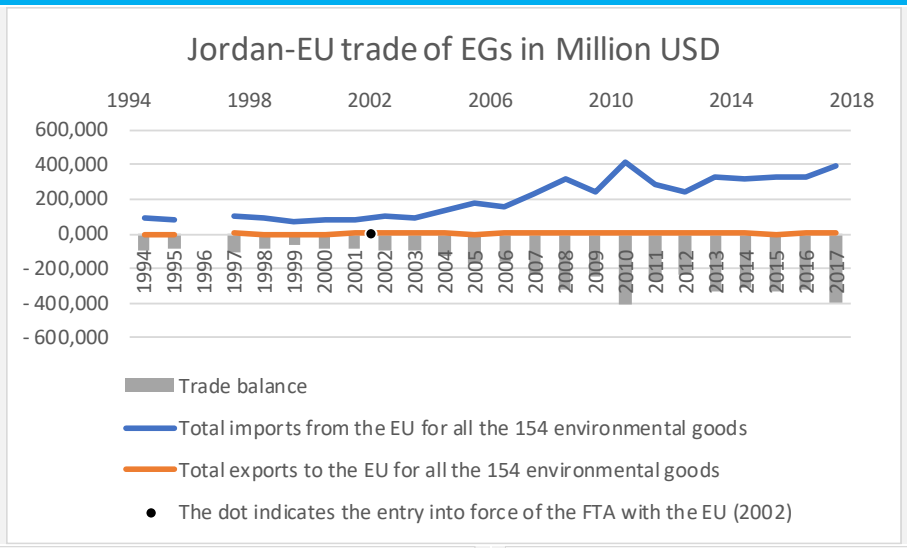


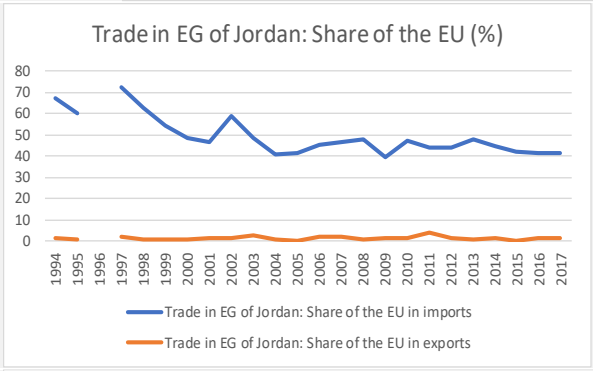


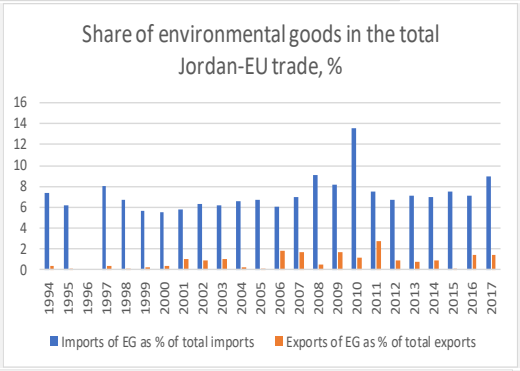


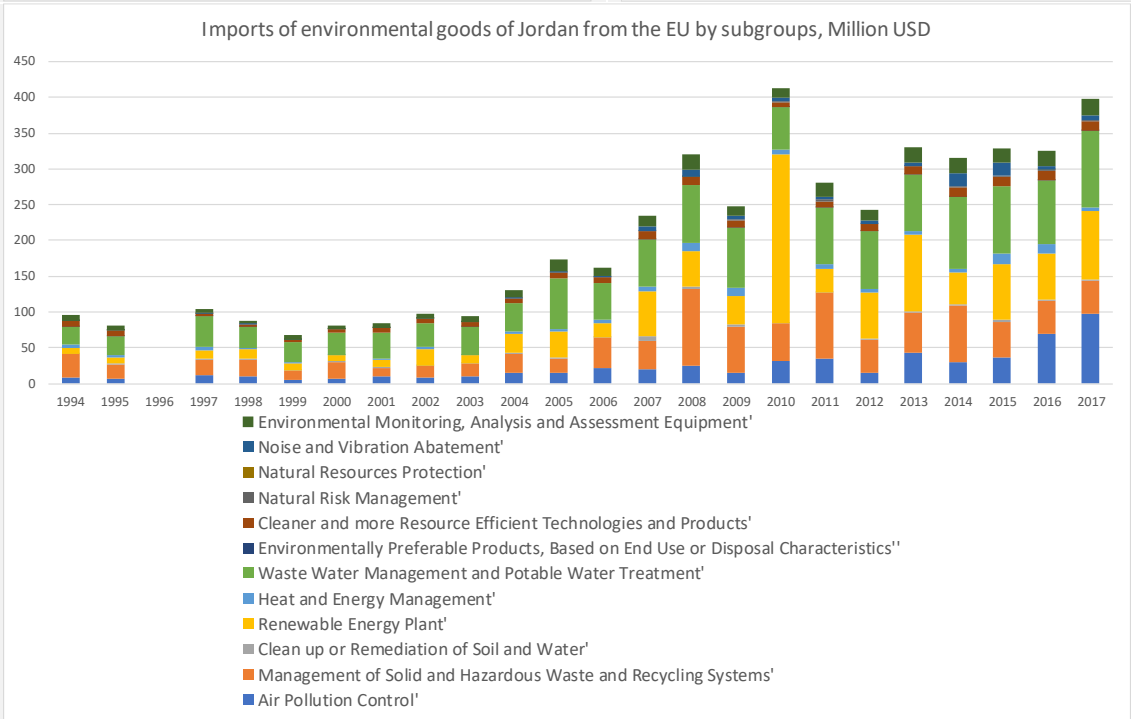


Jordan-EU trade in Egs

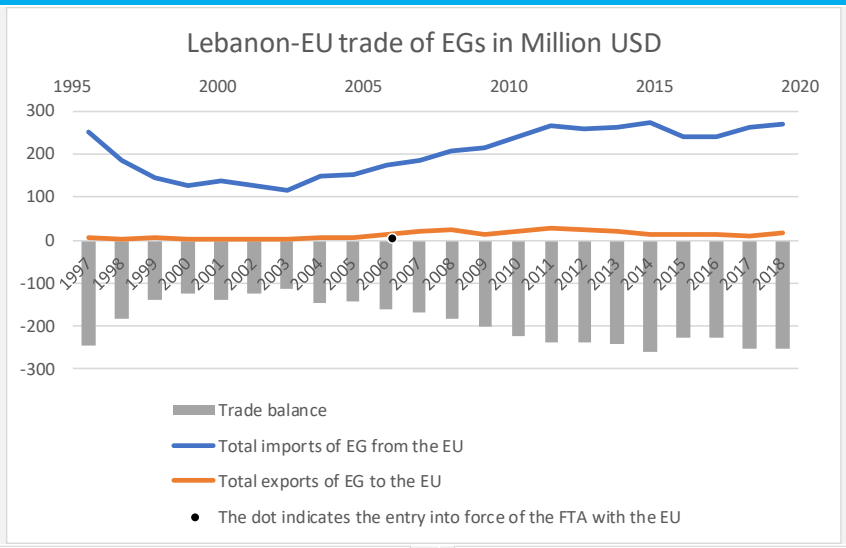


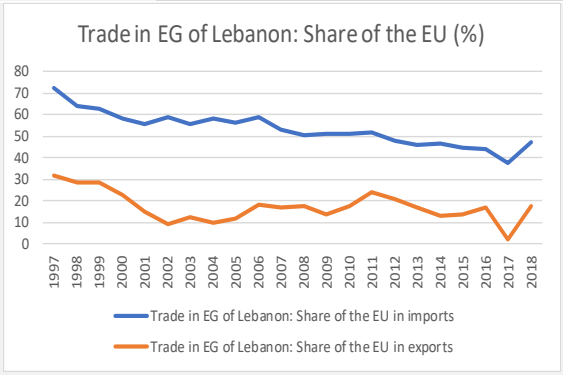


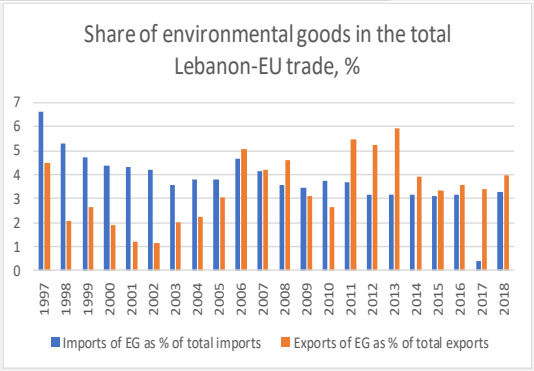


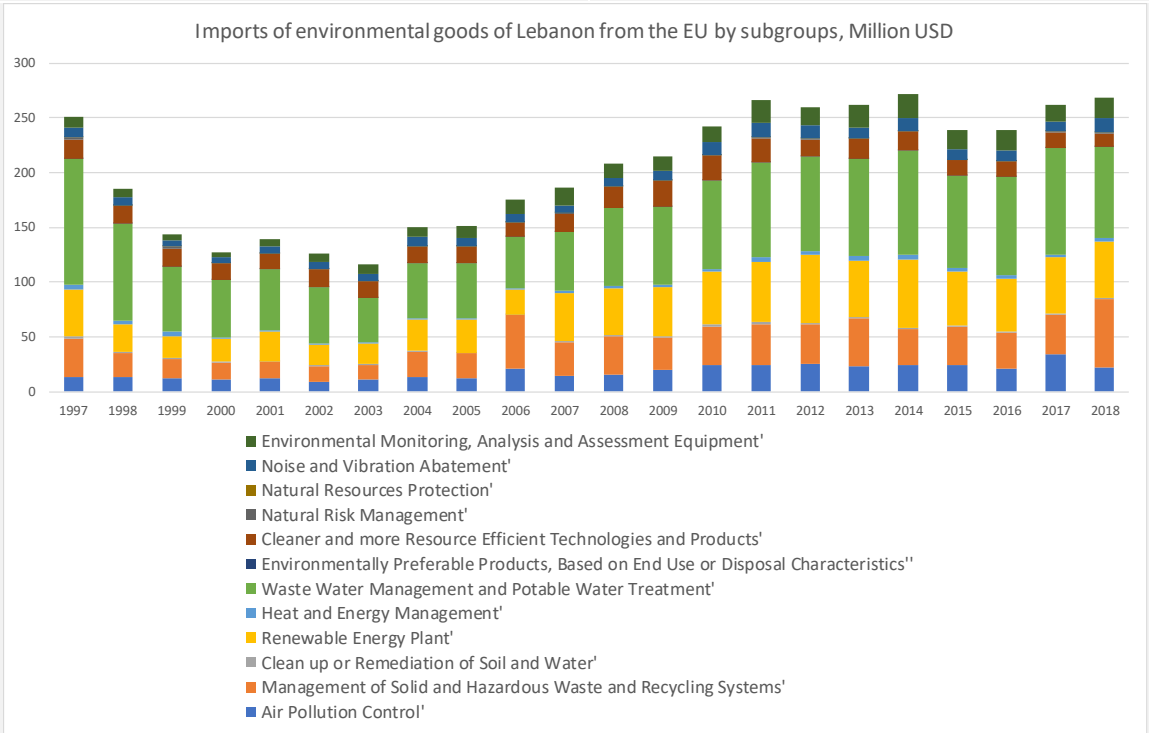


Lebanon-EU trade in EGs

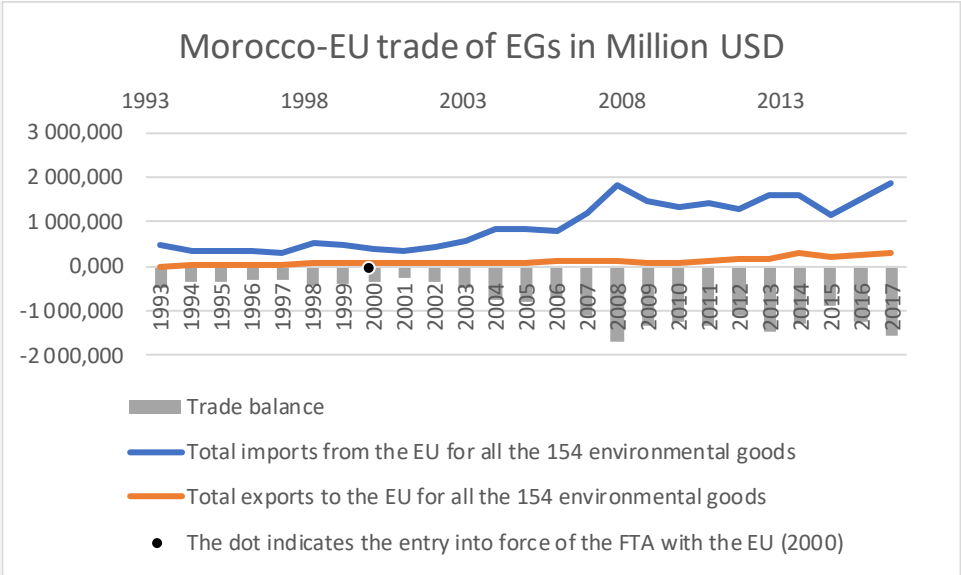


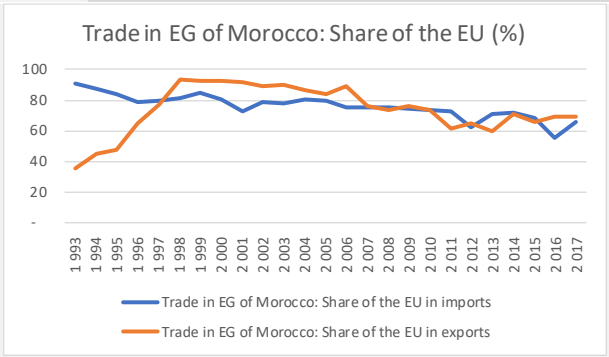


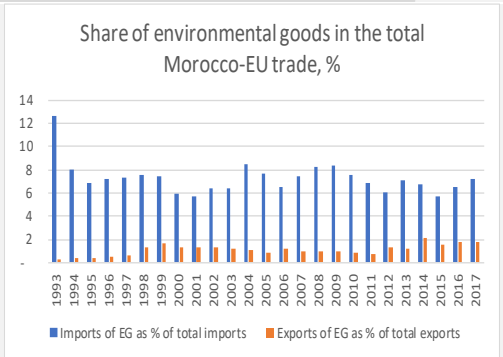


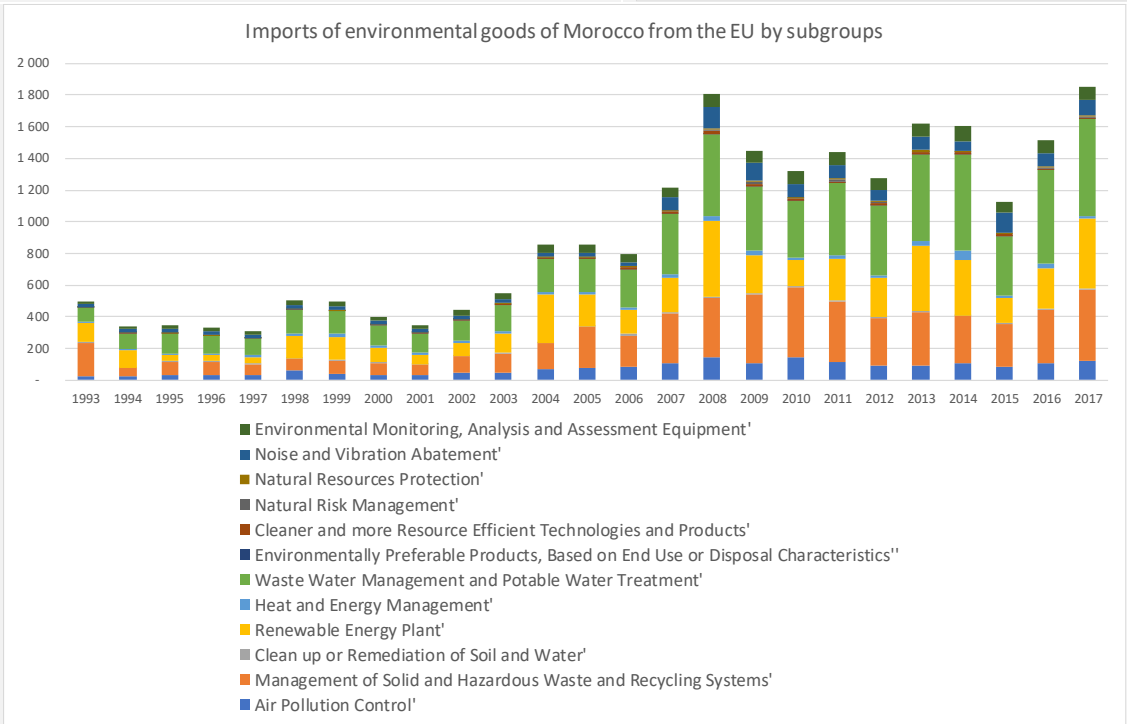


Morocco-EU trade in EGs

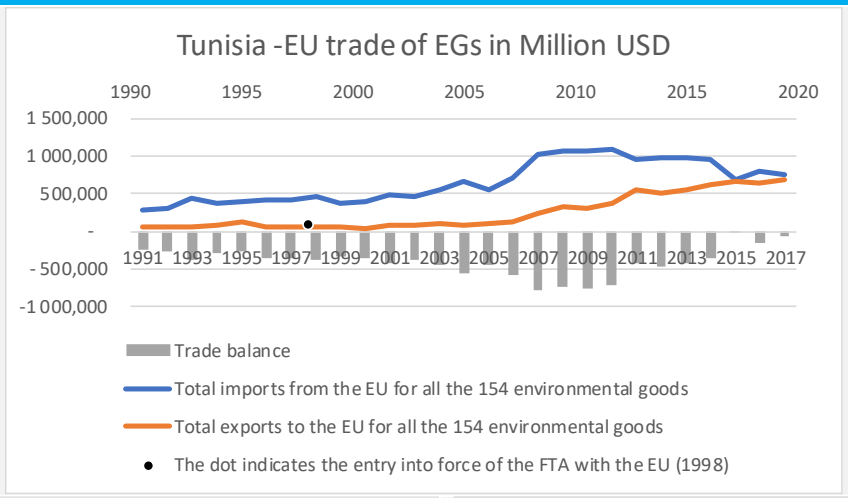


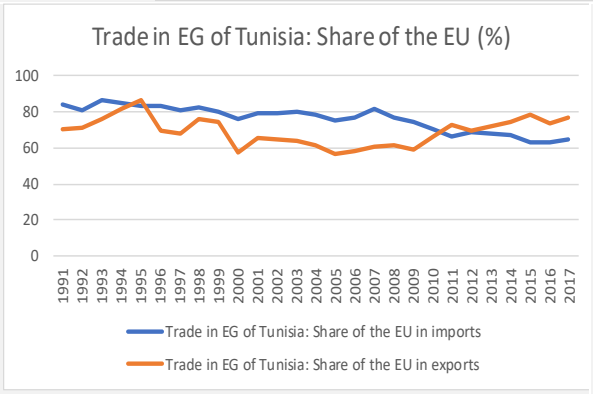


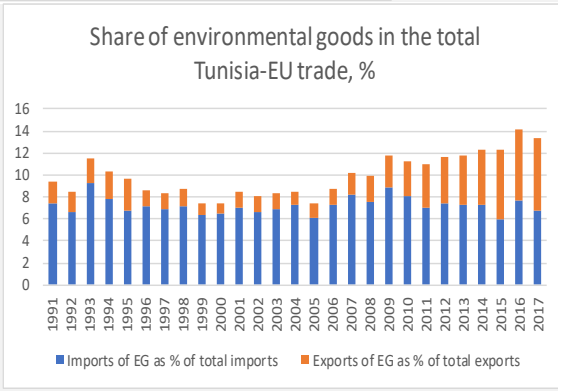


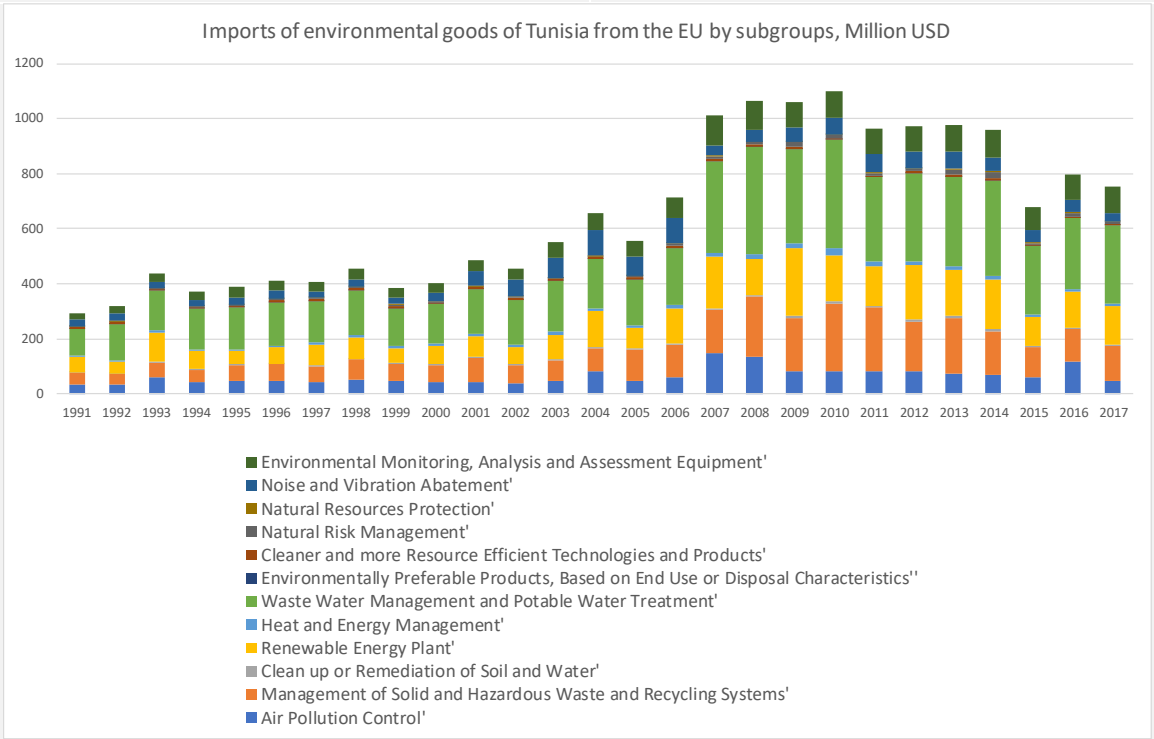


Tunisia-EU trade in EGs









The role of the FTA and other drivers of trade in environmental goods

In the first section of this part, we analyse the trend and pattern of trade in EGs. The next step is to assess to what extent this increase in EG trade can be attributed to the FTA. The main channel of impact of the FTA is through the reduction of tariff levels. However, tariffs levels are not the only factor explaining trade in these goods. We therefore analyse in successive sections of this part other main economic and political factors suggested by the literature in light of the specific context of the SMCs and of the FTA with the EU, namely:

- Other economic factors influencing the trade in EGs: Trade in environmental services, GDP level, FDIs, industrialisation, technical cooperation;
- The political relevance of environmental issues and environmental regulations development.

Tariff levels on environmental goods

In analysing the effects of the Trade chapter of the AAs, it is essential to take into account the extent and evolution of trade barriers. The table below provides an overview of the tariff profile of the Euro-Mediterranean region for the specific environmental goods included in the WTO list.

Several observations can be made:

- All aggregated together, the mean of average tariffs applied by the six SMCs on EG - imports have constantly decreased since the beginning of the 1990s;
- Although the customs duties applied by the six SMCs on imports from the EU are generally lower than the tariffs on imports from the rest of the world, the 6 SMCs (with the exception of Algeria) have significantly reduced their customs duties for all countries. Tariffs applied by Algeria are nevertheless higher than those applied by other SMCs;
- One striking observation is the decrease to zero tariffs applied on imports of EG from the EU in the last 5 years in all the SMC except Algeria (and recently Tunisia for which tariffs decreased to 0 in 2013 but became positive again since 2016). Consequently, the gap of the average tariff applied by the SMC on the rest of the world and the average tariff applied on EU imports have enlarged;
- Considering the average tariffs, the customs duties applied by the EU on EGs imports from the SMCs were already low or nil at the time of entry into force of the FTA in each country.

Figure 5.77 Average tariffs applied by the EU on EG imported from the six SMCs

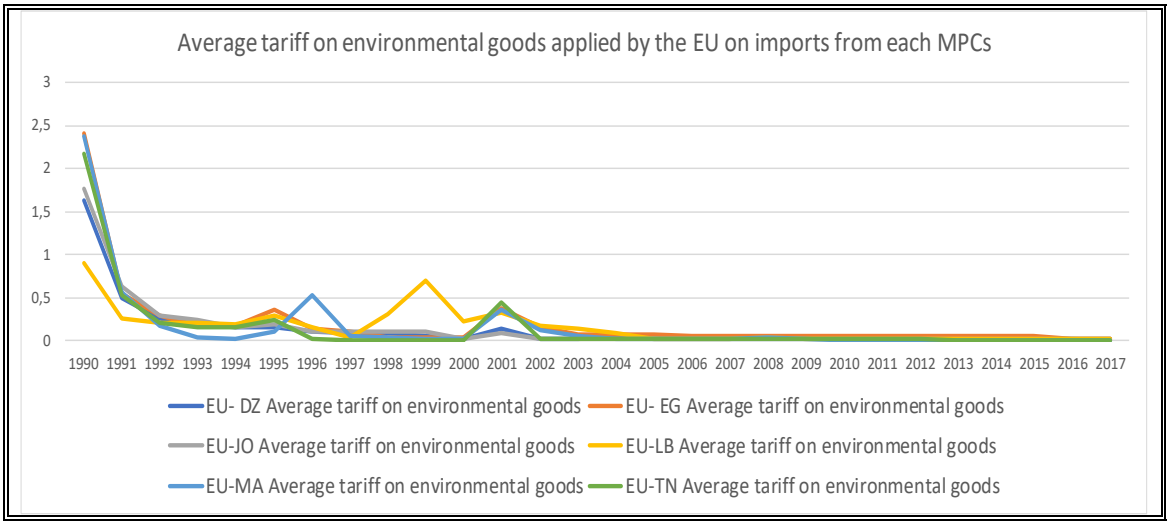
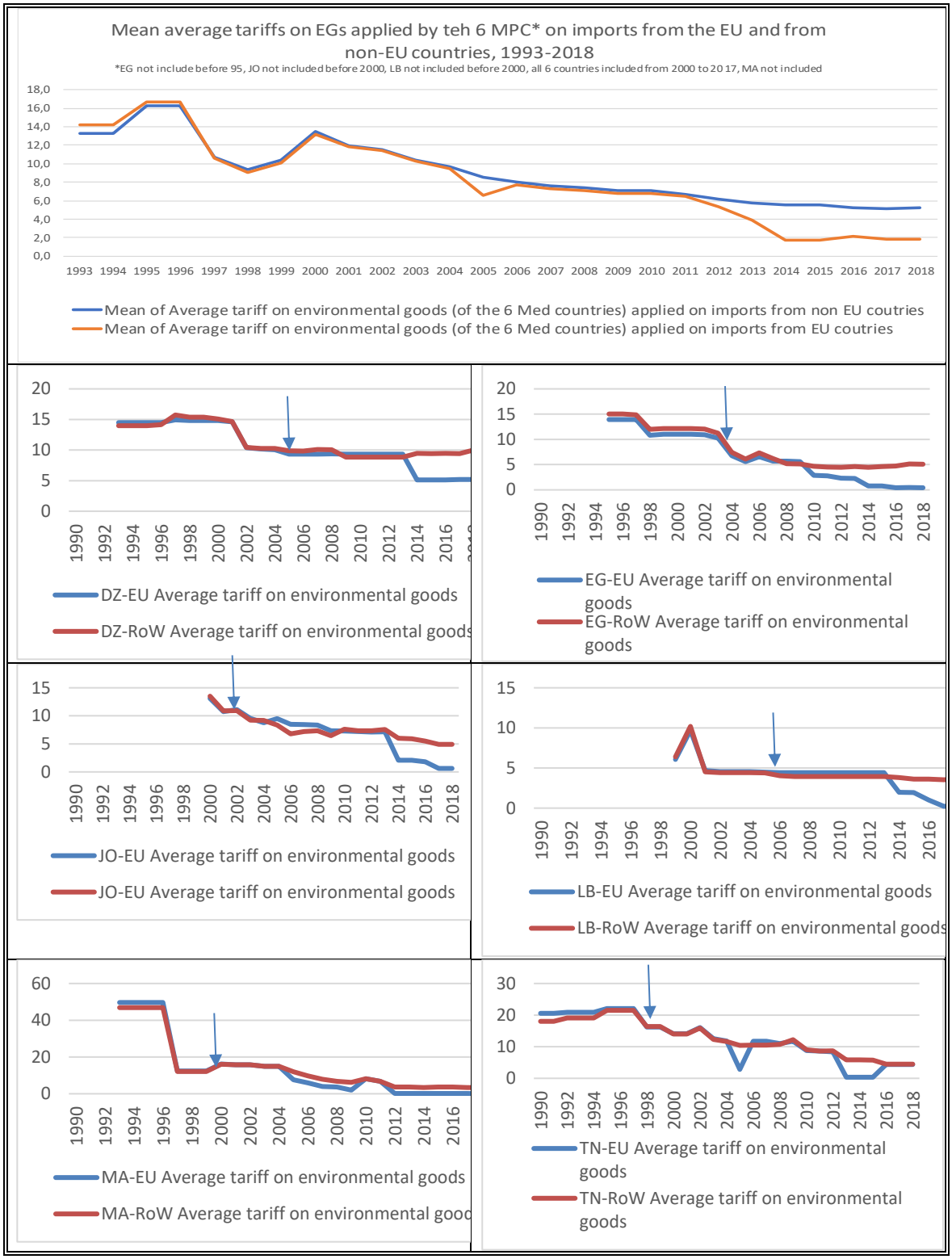
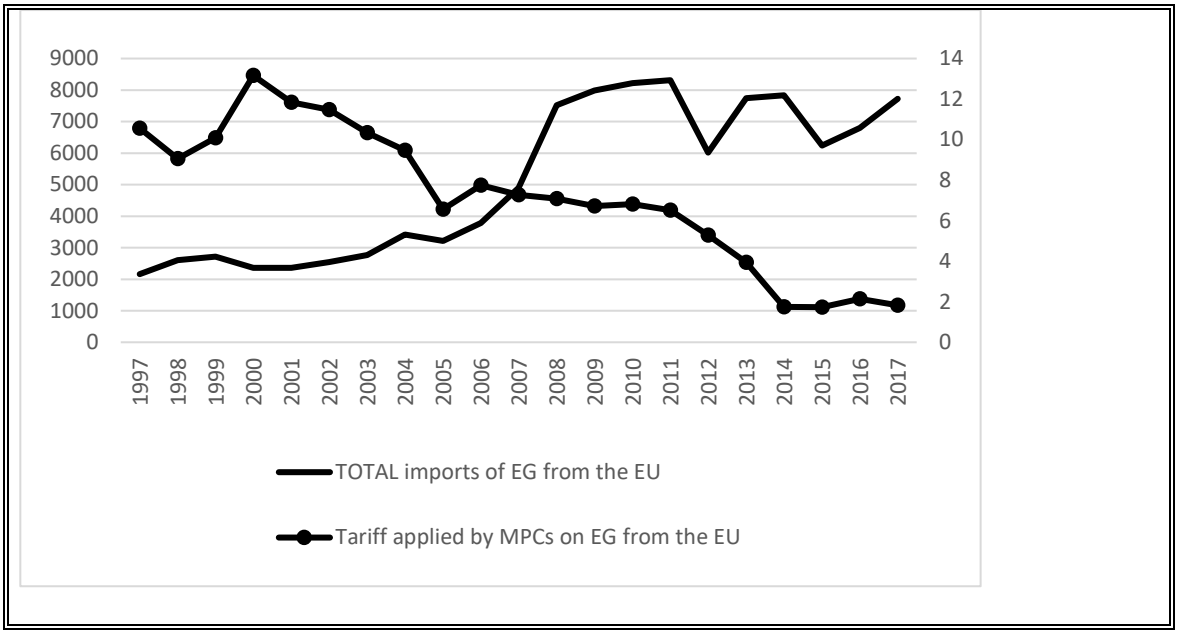


Figure 5.78 Average tariffs applied on imports of EG by the 6 SMC* (from the EU and from the rest of the world (RoW)



*Note: Standard ISO country code are used in this figure; Country code/country name correspondences are: DZ: Algeria, EG: Egypt, JO: Jordan, MA: Morocco and TN: Tunisia.

Figure 5.79 SMC imports of EG from the EU (Mio USD) (left axis) and mean of average tariff applied (right axis)

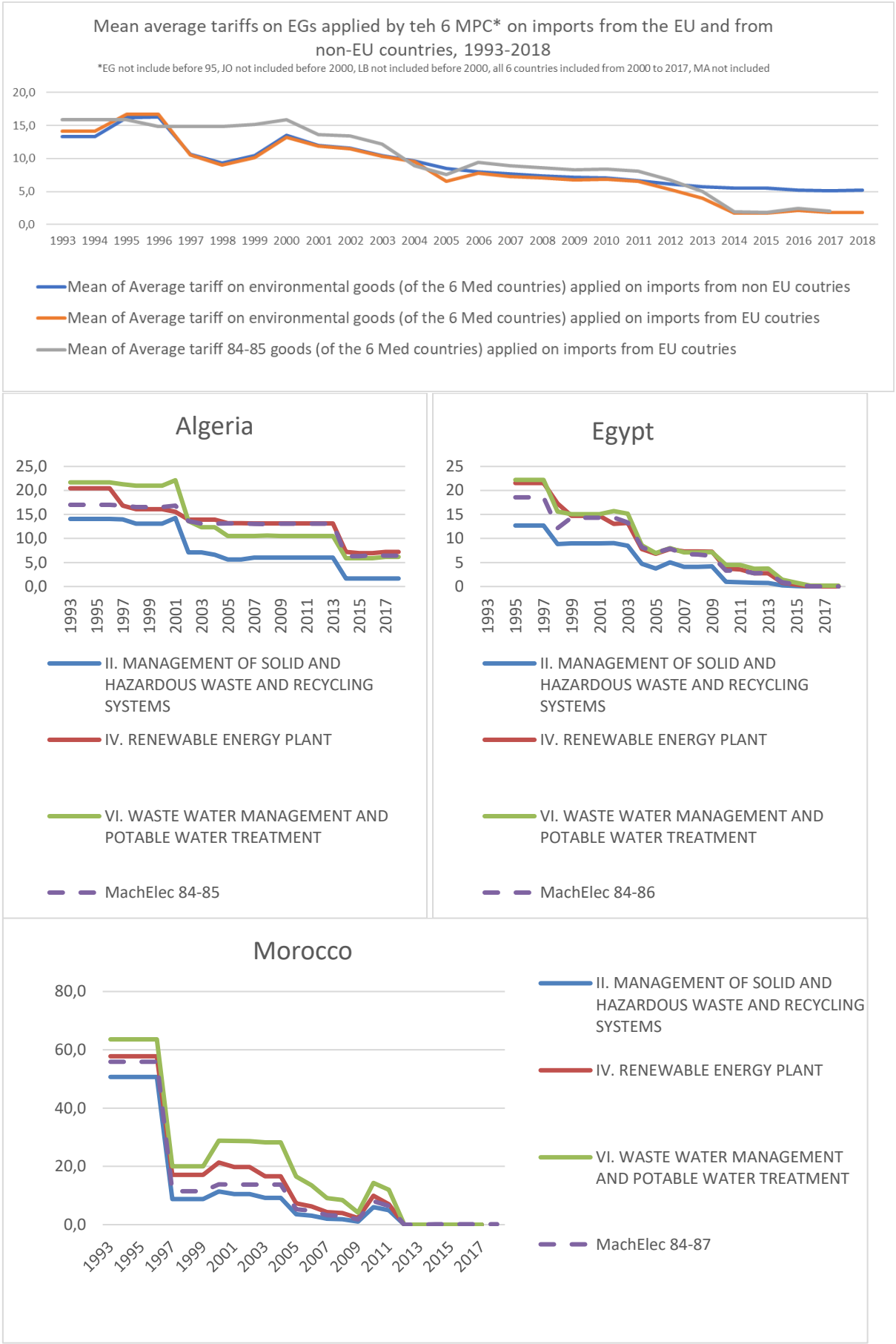


In principle, trade liberalisation by lowering the costs of EGs allows consumers (industries and/or households) to purchase them. This should also increase their imports and exports. Looking at the trade between the EU and the SMCs, while comparing trends in tariffs and trends in imports of EGs at the same time, it appears clearly that while tariffs decreased, imports increased.

This observation would support the idea that trade liberalisation is a direct factor of EGs imports (and possibly of greening of SMCs economies). Therefore, it is interesting to compare the development of imports of environmental goods with similar, non-environmental goods, namely (electric) machinery and mechanical appliances and electronic equipment (HS codes 84 and 85). We observe that, imports of the main environmental goods (renewable energy, waste water treatment equipment and Management of Solid waste products) increased often faster than the total import of product group 84-85.

For all countries except Algeria, the tariffs for the industrial goods 84-85 have decreased to close to 0 in 2017. We found a very similar trend when comparing the tariffs for environmental goods and the tariffs on goods 84-85. However, before 2014, the tariffs applied to 84-85 were always a little higher than those for environmental goods.

Figure 5.80 Evolution of selected environmental goods and the machinery sector



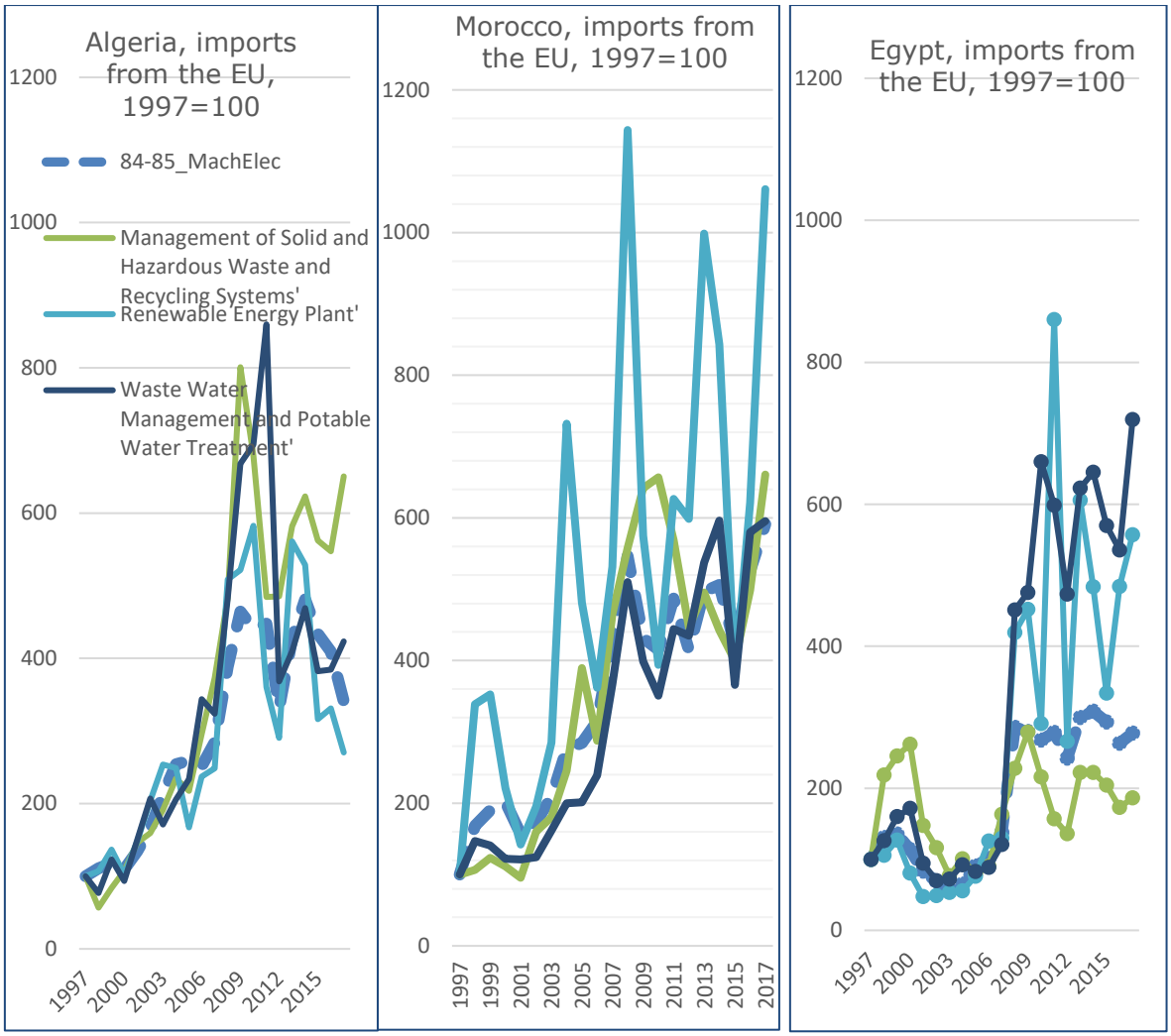
The following environmental goods sub-groups are composed mostly of goods belonging to the groups 84-85: "Air Pollution Control", "Management of Solid and Hazardous Waste and Recycling Systems", "Clean up or Remediation of Soil and Water", "Renewable Energy Plant", "Waste Water Management and Potable Water Treatment". We compared the trend in import of group 84-85 with the most important environmental goods (EG) groups cited above (namely "VI. Waste water management […], "IV. Renewable energy plant" and "II. Management of solid Waste […]) in Algeria (where the tariffs decreased the least), Morocco and Tunisia (where tariff lines decreased the most)[640].

The intuition would say that environmental goods imports from the EU of groups 84-85 goods should develop faster than the entire group 84-85 since the initial tariffs applied on the former are a little lower, at least up to 2014. At a little more disaggregated level, the intuition would say: (i) In all the three countries, trade in EG "II Management of solid Waste" should grow faster than the total of group 84-85; (ii) in Algeria, trade in EG "VI. Waste water management" should also be in this situation; (iii) whereas imports of other EG (including renewable energy plant in the three countries and Waste water management products in Morocco and Egypt) should grow lower than imports of total group 84-85.

Measured as an index (1997=100), a common trend observed is that imports of environmental products increased faster after 2006. However, this is based on averages. We note that depending on products and country, differences appear. Trade in renewable energy products has grown faster than the product groups 84-85 as a whole in Egypt and Morocco. In Egypt, the same is observed for Waste Water products, but not in Morocco. In Algeria, imports of products related to Management of solid waste increased faster than the total imports of group 84-85; the opposite is observed in Egypt. These observations are only partially in line with the intuition. There is no systematic faster increase of imports in a particular EG when tariffs are lower than the average tariffs for the entire 84-85 group of products. For instance, Morocco imported a lot of renewable energy plants (RE plants) before 2013, at a time where tariff on RE plant were higher than the average tariff on group 84-85, the same is observed in Egypt (and the same is observed in both countries for Waste water management products). In Algeria, the trends observed look more consistent with the intuition but not over the entire period (e.g. RE plant imports have decreased since 2014 whereas tariffs on these products have never been as low).

[640] Data on the total trade in products groups 84-85 and tariff applied to these groups are the same than the one used in the economic analysis.

Figure 5.81 Evolution of selected environmental goods and the machinery sector



The role of tariffs is therefore clearly not the only determining factor. This is in line with the literature focusing on trade in EGs, which highlights the fact that the tariff levels may not influence significantly the trade in EG. Jha, Veena (2008) found for example that tariffs in most of the top ten developing country importers (Morocco ranks tenth in this list) tend to be high, suggesting that tariffs may not be a significant factor influencing imports of EG. Lota et al. (2016) also conclude that removing tariff barriers for EGs will have a modest impact.

The results of our analysis above seem to support this. Moreover, data show that the trade in EGs increased faster with non-EU countries in the recent years, despite the fact that the tariffs applied to non-EU countries are higher than those applied to EU countries. In addition, import of EGs in Algeria accounts for the same % (even a little higher) of the GDP as in Morocco and Tunisia, whereas tariffs are nil in Morocco and positive in Algeria. Therefore, it is very likely that other factors are also influencing the demand for EGs[641]. We analyse in the next paragraph key economic and political drivers.

Other economic factors influencing trade in EGs

Environmental services

It is contended by several authors that the drivers for environmental services and goods may be interlinked (Steenblik et al 2006; Vikhlyaev 2003), that trade in environmental services is closely integrated with trade in EGs (UNEP, 2018), and that greater gains should come from liberalising both trade in goods and trade in services (compared to liberalisation of only one of

[641] As highlighted in CNUCED (2003), Veena (2008), UNEP (2013), OECD (2006), UNEP (2018), and ITCD (2008).

the two) (OECD, 2005). However, the lack of data on trade and the disputes around the definition of environmental services (Sauvage and Timiliotis, 2017) are still a constraint to any analysis. Available information shows a fast development and growing interest in trade in environmental services. According to UNEP (2018), the trade in environmental services (Waste treatment and de-pollution, agricultural and mining services) of 33 countries (developed countries plus Russia and Colombia) has grown by over 700% between 2006 and 2014 – larger than the growth of trade in environmental goods for the same period.

In the SMCs, the trade in environmental services has been liberalised (although not yet proceeding with full privatisation in the environmental services sectors) unilaterally in Mashreq countries through service and management contracts with foreign firms, and through contracts with multinational joint-ventures twinning foreign and national firms. Mashreq countries' activity in these areas is particularly strong in Egypt and Jordan. Maghreb countries in the Arab region are also active in this area, particularly Morocco and Tunisia (ESCWA, 2007). It is also worth mentioning that France, Italy, Belgium, Germany, the Netherland, the UK are among the top 10 world exporters of environmental services (UNEP 2018) and that Western Europe exports 4,3% of total its environmental services to the Middle East[642] (against 2,8% and 2,6% for Asia and North America).

Accurate data on trade in services between the EU and the SMCs is missing but based on the sketchy evidence it seems that it is increasing. It is therefore difficult to conclude strictly on whether or not insufficient trade in services is a barrier to trade in EGs between the EU and the SMCs and whether it has or not ultimately limited the greening of the SMCs economies.

GDP level, FDIs, industrialisation and technical cooperation
In the literature, several economic factors are found that also influence the trade in EGs:

- The economic size of the countries and their respective GDP level. As stated, Yandle, Vijayaraghavan and Bhattarai (2002): "GDP growth creates the conditions for environmental improvement by raising the demand for improved environmental quality and makes the resources available for supplying it". It is well established that the demand for environmental assets is correlated with the level of income per capita. On this subject, before the AA came into force, the GDPs of Egypt, Jordan, Lebanon and Morocco were on a slight upward trend. After the AA came into force, these countries experienced a sharp rise in their GDP. However, this correlation could be due to other factors that changed during the same period of time. Overall, the increase of GDP which may result from the FTA is modest based on the modelling results;
- The degree of industrialisation looks equally important in determining trade in EGs. When it comes to positioning SMCs in terms of degree of industrialisation, a recent FEMISE report[643] places Tunisia on top of the list, followed by Egypt and finally Morocco; while in terms of export diversification, both Egypt performed better than the other two countries. It is also interesting that these 3 countries are also the one standing out when analysing the data in trade in EGs. The same report also concludes that industrial policies of the SMCs are moving away from sectoral targeting towards regional incentives and, in particular, to include more "horizontal" mechanisms such as support to R&D, environmental protection and incentives to SMEs. These factors are all expected to play a positive role in importing EGs;
- According to the literature, FDIs influence the demand for EGs since, as surveys have shown, FDI is more likely to be more environmentally friendly than domestic investments (OECD 1996; UNCTAD 2003a). Even if the literature often discusses the fact that the SMCs attract less FDIs than other countries in transition, an upward trend in FDI inflow is observed over the last 20 years (World Bank data) and since the AA/FTA entered into force;

[642] The Middle East includes Golf countries where trade in environmental services is pretty developed. These countries have deregulated and privatised their water, energy and solid waste management sectors. While trade liberalisation has thus far been affected on a unilateral basis, several Gulf countries (Qatar, Oman, Saudi Arabia and UAE) have opened up their water and solid waste management sectors to foreign investment multilaterally under the GATS. These developments have attracted significant investments from domestic and foreign investors (ESCWA 2007).
[643] FEMISE (2015), Structural Transformation and Industrial Policy: A Comparative Analysis of Egypt, Morocco, Tunisia and Turkey and Case Studies.

- Finally, the literature also identifies technical assistance projects as an influencing factor of demand for environmental goods. This is an important factor in our specific context since the EU AAs with each of the six partner countries include a commitment of cooperation in various environmental topics (e.g.: water, energy)[644]. In the area of environment, there is a long history of co-operation between the EU and the SMCs[645]. The environmental component of the Euro-med partnership (1995-2005) was followed by the environmental strategy for the Mediterranean ('Horizon 2020'[646]) to tackle the top sources of Mediterranean pollution by the year 2020 was signed in 2005. The latter is a key component of the European Commission environmental strategy for the Mediterranean which aims to (i) Reduce pollution levels across the region, (ii) Promote sustainable use of the sea and its coastline, (iii) Encourage neighbouring countries to cooperate on environmental issues, (iv) Assist partner countries in developing effective institutions and policies to protect the environment and (v) Involve NGOs and the public in environmental decisions affecting them. Although environmental issues are considered to have received little concern in the Euro-Med Partnership and the cooperation in environmental fields is not enough developed compared to the challenges ahead, financial assistance and grants (e.g.: EIB/FEMIP trust fund), strengthened dialogue with the region's representatives, improved coordination with other organisations and partners, sharing of EU experience in dealing with the problems of the Mediterranean and other regions have been deployed over the last 30 years. Technical cooperation with the SMCs is consistent with the priority set in the AA in terms of environmental cooperation. The technical cooperation in the specific context of the SMC has with no doubt indirectly contributed to the observed rising demand in EGs.

Urgency and political relevance of environmental issues

The urgency and political relevance of environmental issues is also a determinant of environmental trade: the bigger the environmental challenges, the higher the political relevance, and the more environmental goods are likely to be purchased. The environmental performance of the FTA partner countries has been described at the start of the environmental section.

As shown in the trade of EGs analysis, the bulk of imports in EGs from the EU is related to the environmental challenges in the SMCs, notably wastewater management and potable water access, before renewable energy plants (which can be associated to the issue of air pollution) and solid waste management. Additionally, if we look at the cost of environmental degradation, costs from water, air and waste (in particular in Jordan and Morocco) all together account for a very high share of the total costs. This clearly supports the assumption that in the SMCs, the urgency of environmental issues (and its high economic impacts) is a key driver of demand for environmental goods.

Environmental policy and regulation

Already before the entry into force of the EU FTA, the six SMCs faced several environmental issues specific to their context. In the 1980s, environmental legislation developed targeting initially the protection of specific environmental assets (water, forest, particular area). Legislations related to the control of polluting emissions came as a second wave of legislation developed soon after. Over the period at stake in this assessment (1990s to present), global and local environmental pressures increased rapidly and significantly and the responses in terms of policies and strategies gradually developed toward a more integrated approach of both environmental and developmental considerations. The greening of the economy is now among policy priorities.

[644] While this assistance is part of the AA, it is not part of the FTA.
[645] See https://ec.europa.eu/environment/enlarg/med_neighbours.htm.
[646] The Mediterranean strategy fleshes out the detail of Horizon 2020, grouping activities under four headings:
- Projects to reduce the most significant sources of pollution. Focus is on industrial emissions, municipal waste and urban wastewater, which are responsible for up to 80% of Mediterranean Sea pollution;
- Capacity-building measures to help neighbouring countries create national environmental administrations that are able to develop and police environmental laws;
- Using the Commission's research budget to develop greater knowledge of environmental issues relevant to the Mediterranean and ensure this is shared;
- Developing indicators to monitor the success of Horizon 2020.

The development of environmental regulation

The development of environmental legislation and of integrated development strategies as responses to environmental issues in the six SMCs and the highly sophisticated legal environment in the EU (and its industry of EG and services) are very likely key factors influencing the trade in EGs between the EU and the six partners. This hypothesis is supported by the results of Sauvage (2014) who shows that the compliance of private actors with environmental regulations designed to change the behaviour of actors (e.g.: internalising externalities) generates in return a "*growing market for environmental goods and services that is increasingly international in scope as more countries tighten their environmental regulations*".

As a response to the environmental urgency described before, the governments individually and at regional level have gradually defined several environmental and development policies, strategies and legal framework to combat environmental degradations. At regional level, one can mention the Barcelona convention for the protection of the Mediterranean Sea (1975) and its various successive specific Protocols. At the national level, development is marked by the adoption of environmental framework legislations[647] in the 90s and beginning of the 21st century; the Rio Conference (1992) played an important role as an international political impetus to environment/development issues from the Agenda 21 and the Rio Declaration (1992).

However, Blue Plan (2005) assesses that up to the beginning of the 2000s, and despite considerable efforts to strengthen environmental administrations and legislation, it was extremely difficult to prevent environmental degradation by means of effective upstream action on the development process of the Mediterranean partners. The first Mediterranean Strategy for Sustainable Development (MSSD 2005) appears then as a clear regional answer to this last comment. The MSSD 2005 is indeed clearly oriented toward a decoupling of environmental pressures from economic growth and offers to the Mediterranean partners a framework strategy from which they can derive national strategies. Implementation of decoupling principles at national level is however very challenging and requires quite deep changes in management. In particular the silo approach should be complemented by a transversal and integrated approach requiring reforms and changes of habits[648].

The trend toward more integration of environment and development observed since the first decade of the 21st century is definitively continuing in the recent years; the MSSD 2005 has been revised and replaced by the MSSD 2016-2025 (2016). Transition towards a green, blue, low carbon and circular economy is clearly at the heart of this document which, in addition, clearly implies an enhanced participation of the private sector. National developments also go the same direction and in the 2017 assessment of the MSSD 2016-2025, the UN Env/MAP considers that Morocco and Tunisia get recent and good overall green development strategies and road maps whereas Egypt strategies were outdated. Algeria and Lebanon are in an intermediary situation.[649] The six SMCs are also involved in climate change policies in the

[647] In Lebanon the draft National Code for the Environment was put before parliament in 1999 but has not yet been promulgated. In Egypt, Law 4/1994 for the Environment enlarged the EEAA mandate and provided an array of implementation instruments including regulatory standards, inspection, enforcement, the review of environmental impact assessments and the implementation of economic instruments. In Algeria a new environmental protection law was passed in 2003, based on the principles emerging from the Rio Summit (prevention and precaution, polluter-pays, integration and participation) and lays down the foundations of integrated pollution control. Morocco passed an umbrella law in 2003 for protecting the environment; it includes the polluter-pays principle while adding that of the user-pays, legislates on polluting facilities, institutes an environmental protection fund, and defines a regime of civil liability for actions harmful to the environment (Source: Blue Plan (2005).

[648] Difficulties can be illustrated by the comment of the 2009, the EEA/UNEP report on the state of the environment in the Mediterranean: "despite undeniable progress over the recent years in terms of marine pollution and biodiversity conservation, considerable efforts are still required to anticipate the impacts of climate change, to better manage rare natural resources, in particular water and energy, support regional dynamics and promote genuinely cleaner modes of consumption and production."

[649] Sources: UNEP/MAP (2005) MSSD, Blue Plan (2005) Blue Plan Outlook, UNEP/MAP (2009) State of the Environment and Development in the Mediterranean, EEA/UNEP MAP (2014) Horizon 2020 Mediterranean report - Toward shared environmental information systems, UNEP/MAP (MSSD 2015), UN Env MAP/Blue Plan (2017) Monitoring report of the MSSD. Towards a Green Economy in the Mediterranean (2016)

framework of the UNFCC (Paris Agreement) and have specific actions plans associated to their Nationally Determined Contributions (CDN).

The effective application of environmental policies

Positive results have been achieved in terms of development of environmental regulations frameworks and policy integration in the six SMC since the entry into force of the FTA. This was demonstrated at the start of the environmental section, with the development of the Environmental Performance Index and progresses on several indicators. A synthetic quantitative information showing the trend of the state of the environment is difficult to compile with the available data. Expert judgements however converge to consider that the state of the environment continues to deteriorate albeit at a slower pace, thanks to all efforts in place.[650]

Nevertheless, significant and tangible progress is still needed. Indeed, a recent (2018) evaluation by the EC[651] found that regulatory reforms capacity building in the SMCs gave limited results so far. This fact *"may be attributed to the lack of political will to address sensitive environmental issues and the limited resources available by the administrations concerned. Both are linked, according to the evaluation team, to the hesitation of politician and policy-makers to give enough resources and power to the environment sector under the perception that the environment is a cost only that do little to support economic development."* The same study also suggests that *"a more forceful approach backed by stronger political will at the national and regional level may become a necessity. This may include among others more frequent Ministerial meetings and, importantly, the political will to change ministerial 'declaration' into 'decision' which carry more weight for following through and implementation at the national level."*

New environmental challenges also become more stringent. The plastic and waste-related issues show that existing legislation (such as the International Convention for the Prevention of Pollution from Ships (MARPOL) legislation which bans throwing plastic into the sea) does not cover the entire chain of the issue (the Mediterranean countries are more polluted with plastic from their own terrestrial inputs than from maritime transport[652]). Another example is that key actors in the environmental action may be neglected, in particular at local level. According to the Mediterranean Association of National Agencies for Energy Management (2018), the participation and contribution of Local and Regional Authorities (LRAs) to the development of policies tackling energy transition is still treated as an accessory, whereas the Paris agreement officially recognise the key role of local actors in combating climate change.

Overall, environmental policy development in the SMCs have very likely contributed to the trade in EGs between the EU and the SMCs. However, development of environmental goods and services sector and trade is also influenced by the effective application, monitoring and enforcement of relevant requirements (ESCWA 2007). Without compliance mechanisms, legislation to protect water, air and soil resources in the region will have a minimal positive effect. Environmental policies not fully applied may therefore have slowdown the development of trade in EGs.

It is difficult to isolate the effect of the FTA completely. However, we can assume that the AA has probably played a role, since the technical cooperation to support the production of information and knowledge to inform policy making in the area of environment and the support to design legislation and policies are parts of the technical cooperation package between the EU and the SMCs. It is also recognised that the work carried out at regional level (in particular in the framework of the Barcelona Convention for the Protection of the Mediterranean Sea, the UNEP/MAP and other regional cooperation programmes supported by the EU) influences and supports national development.

Assessment of National Green Economy and Sustainable Development Strategies in Mediterranean Countries.

[650] Evaluation of the EU support provided at regional and bilateral level in the field of environment in the Neighbourhood South countries (2010-2017) Final Report Project No. 2017/388075 - Version 1.1.

[651] Evaluation of the EU support provided at regional and bilateral level in the field of environment in the Neighbourhood South countries (2010-2017) Final Report Project No. 2017/388075 - Version 1.1.

[652] Liubartseva S., Coppini G., Lecci R., Clementi E. (2018), Tracking plastics in the Mediterranean: 2D Lagrangian model, Marine Pollution Bulletin, Volume 129, Issue 1, Pages 151-162, ISSN 0025-326X, DOI: 10.1016/j.marpolbul.2018.02.019.

Conclusions

Tariff reductions stemming from the Euro-Med FTAs seem to have contributed positively to increased imports of environmental goods in the SMCs. This may have in turn participated in greening their economies. One could argue that the FTA has therefore also contributed to the global expansion of the EGs markets and to the decrease of the price of EGs. It may also have stimulated environmental goods manufacturing (e.g. in Tunisia and Morocco).

That being said, the role of the FTA seems relatively small in the expansion of environmental goods. Other factors have very likely played a more important role in this. In the context of the SMCs, we do note that some other factors are connected to the other parts of the AA and, in particular, to the environmental commitments included in particular on topics like water resources, energy, waste or coastal protection.

5.4.2. Impact on natural resource: land use and biodiversity

In terms of natural resources, changes in trade and production as a result of the FTA are likely to have an impact on the use of natural resources as well. The results of the CGE model contains output changes of primary sectors, which provide an indication of environmental pressure, in terms of land use and biodiversity. This environmental pressure can either increase or decrease, depending on the direction of the change. It should be kept in mind that differences between sectors cannot be fully compared by looking at change in value, as this value does not necessarily reflect the size of environmental pressure.

Table 5.44 CGE results: output changes in the primary sectors in Egypt

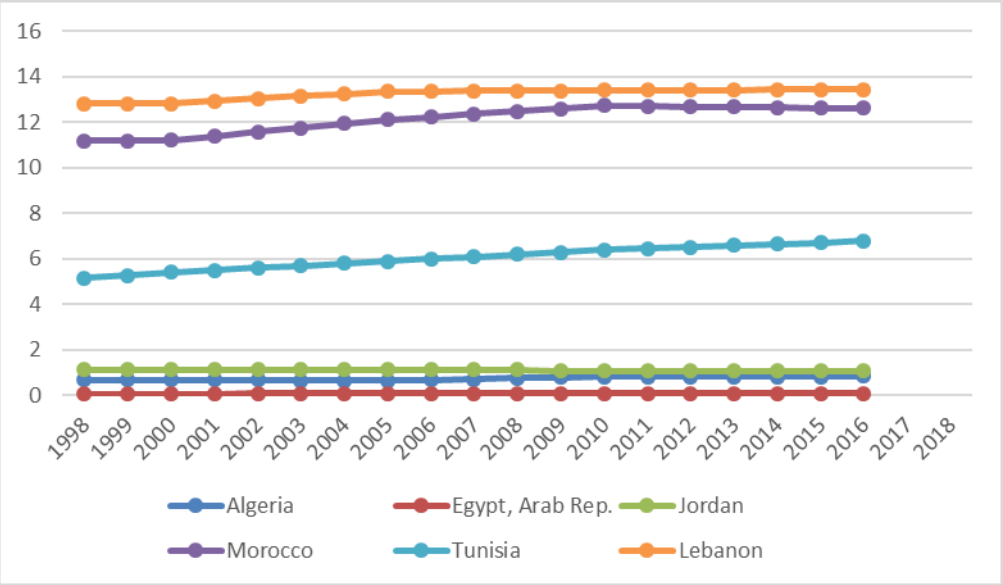
Sector	Egypt		Jordan		Morocco		Tunisia	
	Change in output, %	Change in output, €m	Change in output, %	Change in output,€m	Change in output, %	Change in output	Change in output, %	Change in output
Live ruminants and horses	0.0%	0	0.5%	2	-2.5%	-32	-1.7%	-3
Vegetables, fruit and nuts	0.0%	2	0.3%	3	3.3%	145	-1.2%	-22
Wheat	-0.5%	-18	1.4%	1	-0.3%	-15	-5.3%	-30
Other Cereals	-0.2%	-18	0.7%	1	-0.9%	-18	-2.6%	-2
Fishery and Forestry	0.0%	-1	0.0%	0	-0.1%	-1	0.1%	0
Fossil fuels	-0.4%	-168	-0.3%	-9	-2.3%	-213	-1.3%	-44
Minerals	-0.3%	-30	-0.3%	-6	-2.6%	-270	-2.5%	-52

Source: EC CGE modelling results.

The results of the CGE model suggest that in Egypt, Morocco and Tunisia most primary sectors see a contraction in output, the only exceptions being vegetables, fruits and nuts in Egypt and Morocco and of fishery and forestry in Tunisia. Based on the overall results across sectors, the model therefore suggests that environmental pressure in terms of land use and biodiversity is more likely to have been reduced than increased as a result of the FTA in these countries, notably in Tunisia. In Jordan, there are several primary sectors that are estimated to have increased as a result of the FTA, and in this country, the environmental pressure in terms of land use and biodiversity may have gone up. At the same time, it should be noted that for most countries and sectors the changes are relatively small.

Developments over time in the forest area in the different countries show that the forest area as share of land area has not decreased, and for some countries even slightly increased. At the same time, it should be noted that forest areas have always been relatively small in the SMCs.

Figure 5.82 Forest area (% of land area)



Source: World Development Indicators, WB.

In the consultations, some participants highlighted the reduced use of pesticides, which is due at least partly from strict EU regulations in this area. This has a positive effect on natural resources.

In the EU, the FTAs are estimated to have reduced the output in the agricultural sector, but the output of fossil fuels and minerals expands. The net effects on land use is therefore unclear. This picture is largely similar for each of the four individual FTAs. In relative terms, the changes are smaller in the EU than in the SMCs.

Table 5.45 CGE results: output changes in the primary sectors in the EU (results stemming from the FTAs with Egypt, Jordan, Morocco and Tunisia combined)

Sector	Change in output, €m	Change in output, %
Live ruminants and horses	-0.02%	-9
Vegetables, fruit and nuts	-0.46%	-401
Wheat	-0.04%	-15
Other Cereals	-0.06%	-28
Fishery and Forestry	-0.01%	-7
Fossil fuels	0.03%	280
Minerals	0.06%	214

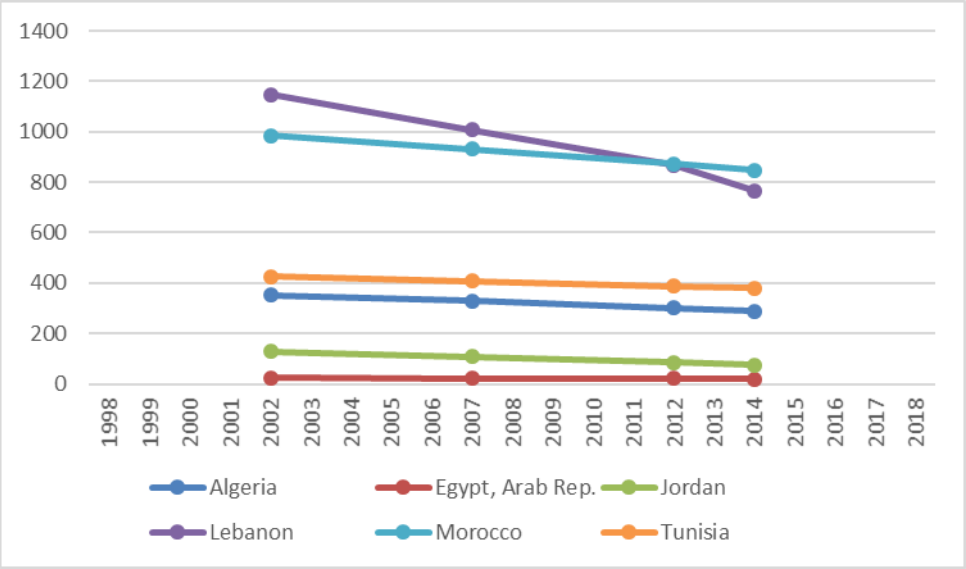
Source: EC CGE modelling results.

5.4.3. Impacts in other environmental areas

As noted at the start of the section on environmental impact, water scarcity is an important challenge in the SMCs. The FTA seems to have mixed effects on water. On the hand, with the estimated increased in output, water use is likely to have increased as a result of the FTA. On the other hand, there are also shifts in production that can have a positive effect. For example, in agriculture, fruit and vegetable production have expanded, while that of cereals has decreased. The latter is however more water-intensive and therefore this change is positive from the perspective of water use. On the other hand, within the fruits and vegetables sector, water use can also differ depending on the specific product. In Morocco, one stakeholder indicated that some of the products this country specialises in (oranges, water melons) are using relatively more water. A full assessment of the effect on water use based on an analysis at sectoral level or even product level is unfortunately not within the scope of this evaluation, and therefore a conclusion is difficult to draw.

Data show that renewable internal freshwater resources flows (internal river flows and groundwater from rainfall) per capita have decreased in the SMCs between 2002 and 2014. While the decrease is generally small, in Morocco and especially Lebanon the decrease is more significant. Based on data available, this trend seems to be gradual, and not linked to specific events.

Figure 5.83 Renewable internal freshwater resources per capita (cubic meters)



Source: World Development Indicators, WB.

With respect to waste, while it is an issue in many of the SMCs, stakeholder inputs on the FTA effects on this were mixed. Some pointed to the increased activity and transport, resulting in more waste, and others pointing to the increased focus on waste reduction, not only for environmental purposes but also for efficiency reasons. Trade in waste is also relevant to mention. Egypt was the third largest non-OECD destinations for EU exports of non-hazardous waste in 2014.[653] The volume of trade has gone up quite drastically after China stopped importing waste. In fact, Eurostat data show that between 2004 and 2018 EU waste exports to Egypt increased by 225% to 1.7m tonnes in 2018. [654] These waste exports to countries like Egypt are said to be for recycling purposes, but the recycling capacity in MENA countries is very low. The capacity issues with respect to waste management are confirmed by the development support provided in this area.[655]

One point that was brought up in the stakeholder consultations is the impact of the FTA on animal welfare. EU exports of live animals have increased after the FTA was concluded. Notably the EU exports of sheep, chicken, turkey and bovine show an increase to the SMCs. The Eurogroup for animals[656] point to the poor conditions for these animals during transport, live and slaughter and indicate that OIE standards for slaughter are often not respected in these countries.

5.5. Impact on third countries and LDCs

As shown in previous sections, the FTA would lead to increased trade between the EU and the six SMCs. These increased trade flows could lead to trade diversion. On the other hand, increased economic activity can also lead to an increase in trade flows of third countries. From a sustainability perspective, it is important to assess the impact of the FTA on developing countries and least-developed countries (LDCs).

While one could analyse trade flows with developing countries and LDCs, these trade flows are dependent on so many factors that isolating the effect of the FTA is impossible. Therefore, in this section we base our analysis mainly on the CGE modelling results and on the extant literature. In addition, we assess the four sectors selected for in-depth study how trade flows in

[653] Source: https://ec.europa.eu/trade/import-and-export-rules/export-from-eu/waste-shipment/.
[654] Eurostat (2019) Turkey and China main destinations for EU's waste. Available at: https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20190311-2?inheritRedirect=true.
[655] There are for example ongoing projects of the EBRD/EU (see https://www.ebrd.com/news/2018/ebrd-and-eu-to-help-reduce-pollution-in-egypt.html) and GIZ (see https://www.giz.de/en/worldwide/22230.html).
[656] Eurogroup for animals (2019) The detrimental impact of the absence of animal welfare provisions in Euro-Med FTAs, Briefing.

these sectors with LDCs has developed over time. Results of the stakeholder consultations also feeds into this analysis.

5.5.1. Results from the literature review

With respect to impacts on third countries, there is theoretical and empirical literature on the effects on trade creation and trade diversion, although this literature does not focus specifically on the Euro-Med region. According to Freund (2010), there is no evidence that implementation of regional agreements is associated with trade diversion from third countries to regional members. Another effect identified in the literature on third countries is the contagion effect: FTAs lead to new FTAs, as countries not included in the original FTA intend to reduce discrimination created by the existing FTAs (see e.g. Baldwin and Jaimovich (2012)).

5.5.2. Results from the CGE model

With respect to the CGE modelling results, results are only available for Egypt, Jordan, Morocco and Tunisia. In the interpretation of the results, we note that the results presented compare the situation with and without the country-specific FTA with the EU in place, while FTAs between other partners are kept untouched. This also includes the Agadir Agreement, which can explain why an FTA with the EU for a specific SMC would have an impact on imports from the other three Southern Mediterranean partners.

The available third countries/regions are defined by the country grouping of the CGE model, with many of them developing countries. In terms of definitions, the region "rest of North Africa" comprises Libya, Algeria and Western Sahara, whereas the "rest of West Asia" includes Iraq, Lebanon, Palestinian Territory, the Syrian Arab Republic (Syria) and Yemen.

5.5.3. Impacts on LDCs

As shown in Table 5.46, imports from LDCs show a decrease, but for most SMCs, this decrease is very small. Only in Egypt is the decrease in imports somewhat significant. In the EU, given the size of trade flows, the decrease is largest, with €139m fewer exports from LDCs to the EU. In relative terms, this is a decrease of 0.03%. The largest impact on LDCs exports to the EU stems from the FTAs with Tunisia and Morocco (together accounting for over 95% of the total effect), while the FTA with Jordan has a positive impact on LDC exports to the EU (+ 7m).

Table 5.46 Impact of the FTAs in the SMCs and EU on their imports from LDCs

FTA partner	Change in FTA partner's imports from LDCs, €m
Egypt	-22
Jordan	-2
Morocco	-4
Tunisia	-6
EU (impact from four FTAs combined)	-139

Source: CGE Modelling results, EC.

Next to the direct effect on exports, LDCs can also be affected by changes in imports, as well as more indirect effects. Table 5.47 presents the impact of the FTAs on selected macroeconomic indicators in the LDCs. This shows that while there is a small effect on trade of LDCs with the FTA partner countries, on indicators other than trade, the impact is negligible (all impacts below 0.05%).

Table 5.47 Impact of the four Euro-Med FTAs on selected macro-economic indicators in LDCs

Variable		Egypt FTA	Jordan FTA	Morocco FTA	Tunisia FTA	Total
GDP	%	0.00%	0.00%	0.00%	0.00%	**-0.01%**
	€m	-12	-1	-24	-21	**-58**
Welfare	%	0.00%	0.00%	-0.01%	0.00%	**-0.01%**
	€m	-18	-2	-33	-26	**-79**
Wages	low skilled	-0.01%	0.00%	-0.01%	-0.01%	**-0.03%**
	high skilled	-0.01%	0.00%	-0.01%	-0.01%	**-0.03%**
CPI	%	0.00%	0.00%	-0.01%	-0.01%	**-0.02%**
Exports to the four	%	-1.9%	-0.2%	-0.4%	-0.6%	**-3.1%**
Southern Mediterranean countries	€m	-22	-3	-4	-6	**-35**
Imports from the four	%	0.7%	0.1%	0.7%	0.7%	**2.2%**
Southern Mediterranean countries	€m	22	3	21	20	**65**
Exports to the	%	0.0%	0.0%	-0.1%	-0.2%	**-0.3%**
EU	€m	-12	7	-66	-69	**-139**
Imports from	%	-0.1%	0.0%	-0.1%	-0.1%	**-0.3%**
the EU	€m	-43	-9	-47	-39	**-138**

Source: CGE Modelling results, EC.

5.5.4. Impacts on other third countries

In the next tables, we present the impacts of the FTAs on imports from other countries/regions as specified in the model, for each of the FTA partner countries.

Egypt

Table 5.48 the impact of the FTA on Egypt's imports from third countries

Trade partner	Change in Egypt's imports, €m
Jordan	-6
Morocco	-9
Tunisia	-8
Turkey	-235
Rest of Northern Africa	-30
Rest of Western Asia	-34
Israel	-6
Gulf countries	-304
China	-744
Rest of the world	-1,407

Source: CGE Modelling results, EC.

These results show that imports from third countries into Egypt decrease as a result of the FTA. Changes in trade with the EU are estimated to lower imports from Turkey and China.

Jordan

Table 5.49 the impact of the FTA on Jordan's imports from third countries

Trade partner	Change in Jordan's imports, €m
Egypt	-29
Morocco	-2
Tunisia	-1
Turkey	-38
Rest of Northern Africa	-1
Rest of Western Asia	-35
Israel	-8
Gulf countries	0
China	-177

Rest of the world	-289

Source: CGE Modelling results, EC.

According to the modelling done by the Commission, it appears that imports from third countries into Jordan overall decrease as a result of the FTA. Changes in trade with the EU are estimated to lower imports from Turkey and China, as well as Western Asia. Unlike other countries under examination here, there is no change in imports from Gulf countries.

Morocco

Table 5.50 shows the impact of the FTA on Morocco's imports from third countries.

Trade partner	Change in Morocco's imports, €m
gypt	-59
Jordan	-1
Tunisia	-34
Turkey	-194
Rest of Northern Africa	-139
Rest of Western Asia	-181
Israel	0
Gulf countries	-285
China	-455
Rest of the world	-1155

Source: CGE Modelling results, EC.

The CGE model shows that imports from these countries into Morocco decrease substantially as a result of the FTA. Changes in trade with the EU are estimated to lower imports in particular from China, the Gulf countries and Tukey. But other countries in the region also see their exports to Morocco decline.

Tunisia

Table 5.51 the impact of the FTA on Tunisia's imports from third countries

Trade partner	Change in Tunisia's imports, €m
Egypt	-26
Jordan	-3
Morocco	-20
Turkey	-333
Rest of Northern Africa	-61
Rest of Western Asia	-8
Israel	0
Gulf countries	-56
China	-443
Rest of the world	-739

Source: CGE Modelling results, EC.

These results show that imports from third countries into Tunisia are expected to decrease as a result of the FTA. Changes in trade with the EU are estimated to lower imports in particular from Turkey and China, although imports from countries from the rest of Northern Africa and from the Gulf countries are also estimated to decrease as a result of the FTA.

Regional summary- SMCs

For all four countries, the imports from China decrease the most in absolute terms as a result of the FTA. In addition, Turkey appears to export less to the four SMCs than it would without the FTAs in place. This can partially be explained by the fact that Jordan is the only of the four countries which does not have an FTA in place with Turkey. Geographical proximity also plays a role, e.g. the North African region is more affected by the FTAs of Tunisia and Morocco, while the FTA with Egypt has larger effect on the Gulf countries.

5.5.1. Trade with LDCs in the selected sectors

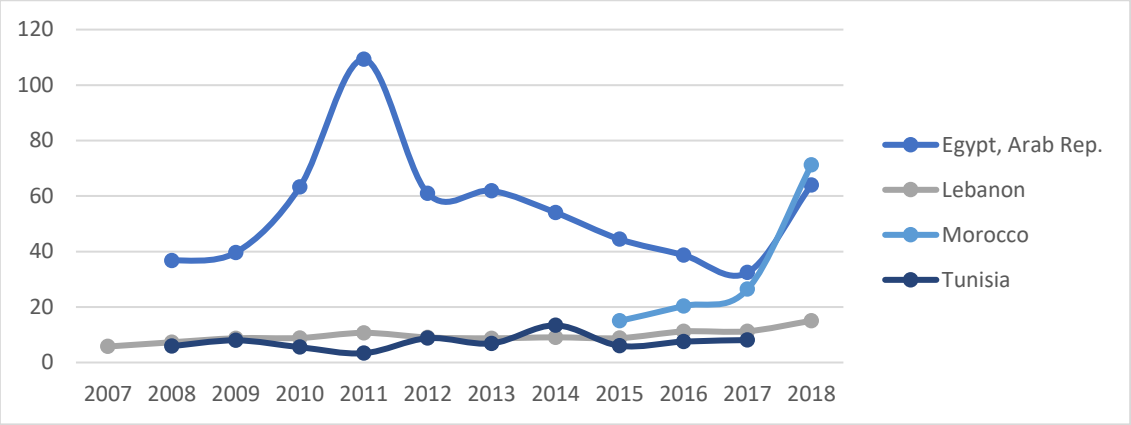
Sectoral trade data helps to further understand the impact of third countries, and here we look specifically into the changes in trade between the six partner countries and LDCs for the four sectors selected for the sector case studies: agriculture, chemicals, machinery and transport equipment, and textiles and clothing. As explained in chapter 5, these sector studies each have different country coverage.

It should be noted that the developments presented in this section cannot automatically be related to the FTAs assessed in this ex-post evaluation. Wherever we have insights from the consultations that allow to make a link to the FTA this is added.

Agriculture

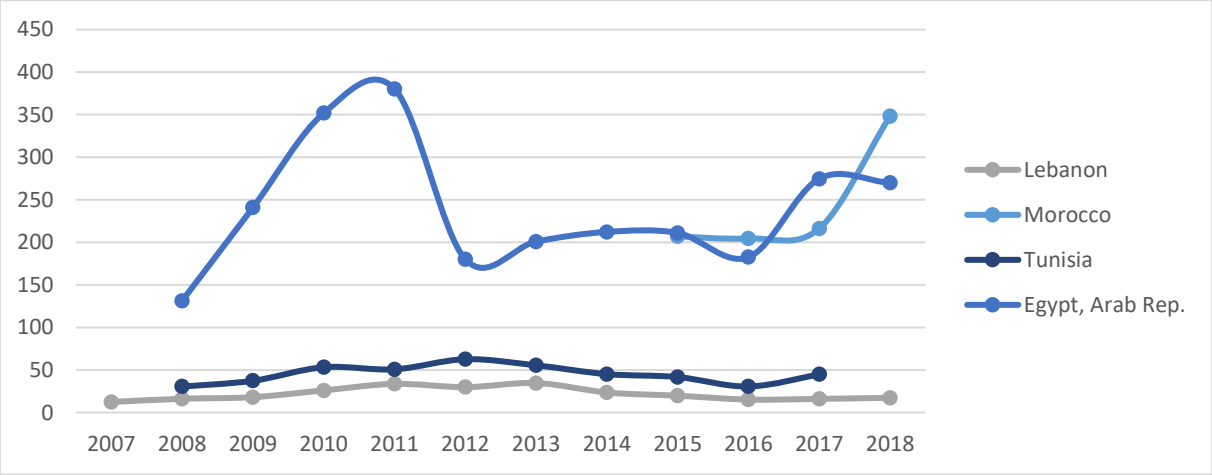
The trade flows in the agriculture sector are further explored in Egypt, Lebanon, Morocco and Tunisia. Egypt trades relatively much agricultural products with LDCs compared to the other three SMCs, although Morocco's trade with LDCs seems to be growing. Egypt exports mostly to sub-Saharan LDCs, such as Eritrea, Madagascar, Sudan, Somalia and Uganda and Ethiopia, whereas it mainly imports agricultural products from two LDCs, Sudan and Malawi. Morocco, in turn, exports agricultural products to Mauritania, Senegal, Angola, Benin and Guinea, whereas it imports from Uganda. The data is however inconclusive about any trends in relation to LDCs.

Figure 5.84 Imports of agriculture products from LDCs, €m, 2007-2018



Source: WITS Database (2019).

Figure 5.85 Exports of agriculture products to LDCs, €m, 2007-2018

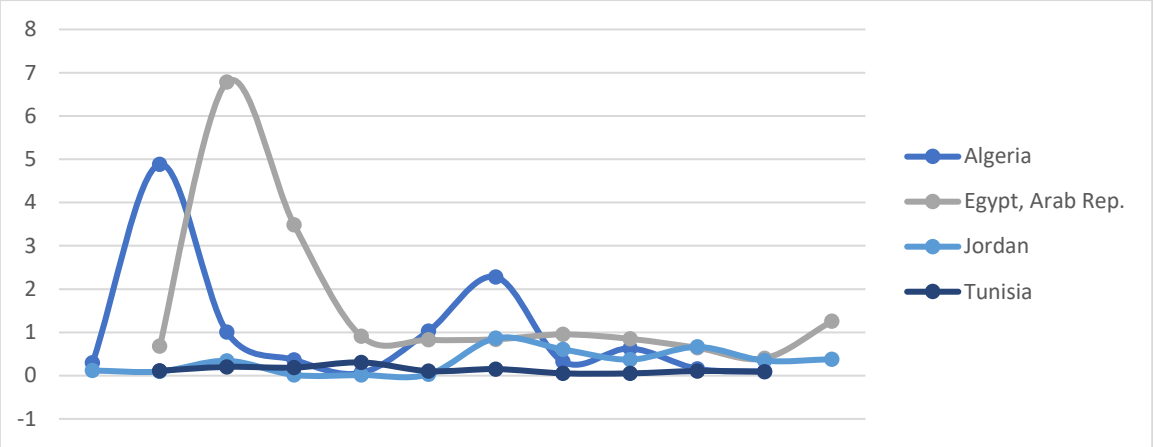


Source: WITS Database (2019).

Chemicals

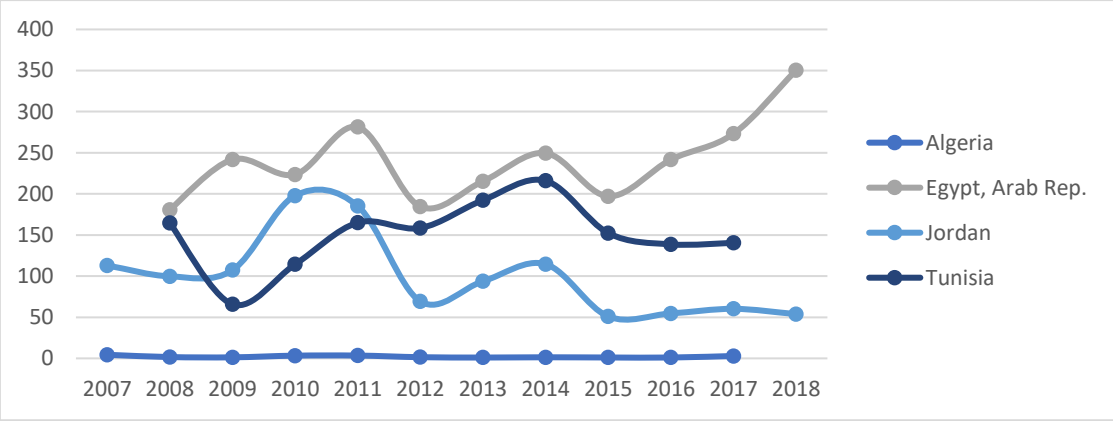
The chemicals sector is studied in-depth in Algeria, Egypt, Jordan and Tunisia. In general, imports from these LDCs into the SMCs are very limited, especially in comparison with exports to the LDCs (Figure 5.86 and 5.87). Exports to the LDCs show a fluctuating pattern, with Egypt increasing these exports relatively more in recent years.

Figure 5.86 Imports of chemicals from LDCs, €m, 2007-2018



Source: WITS Database (2019).

Figure 5.87 Exports of chemicals to LDCs, €m, 2007-2018

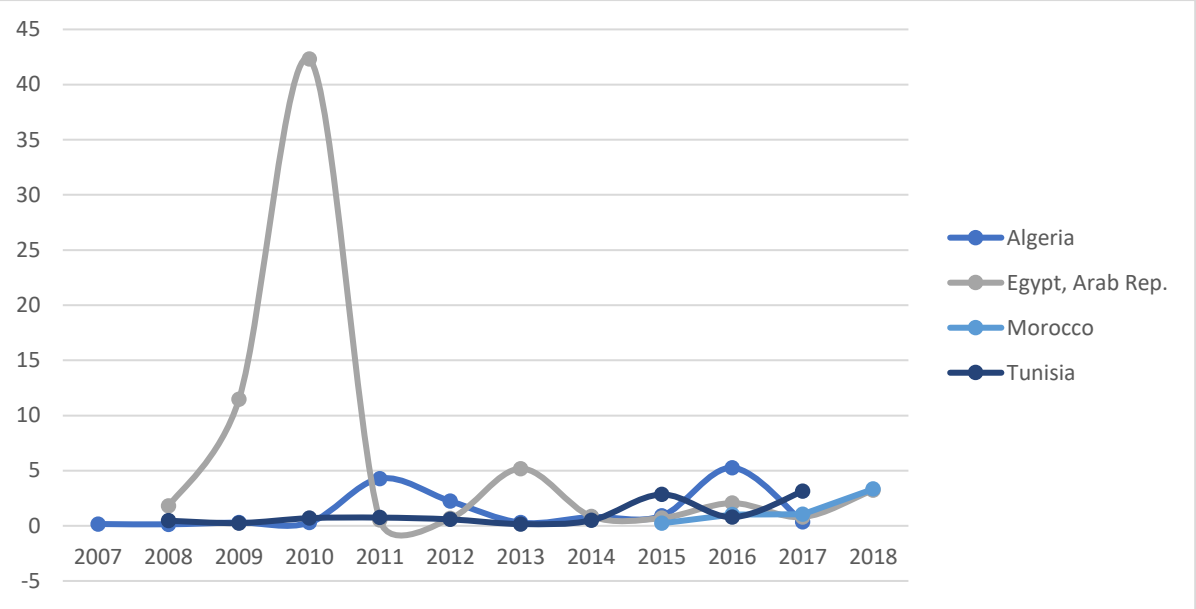


Source: WITS Database (2019).

Machinery and transport equipment

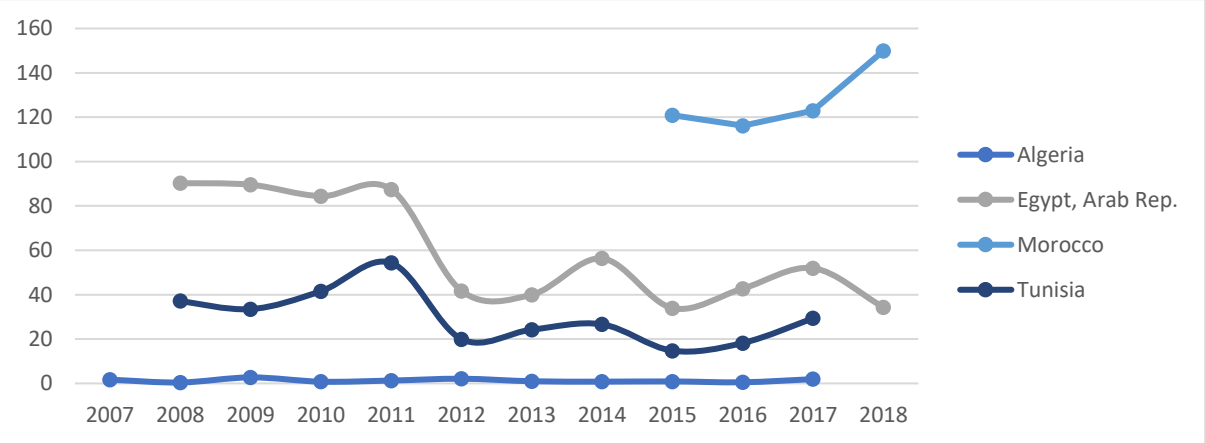
The machinery and transport equipment sector is studied in Algeria, Egypt, Morocco and Tunisia. Imports from the LDCs are low, with the exception of Egypt in 2010 (Figure 5.88). Given the low trade values, it seems likely that any exceptions are led by large, one-time deals. Exports to these LDCs are slightly more substantial, but continue to remain low (Figure 5.89). Morocco's exports to LDCs are mainly directed towards Mauritania, Mali, Burkina Faso, and Senegal.

Figure 5.88 Imports of transport and machinery equipment from LDCs, €m, 2007-2018



Source: WITS Database (2019).

Figure 5.89 Exports of transport and machinery equipment to LDCs, €m, 2007-2018



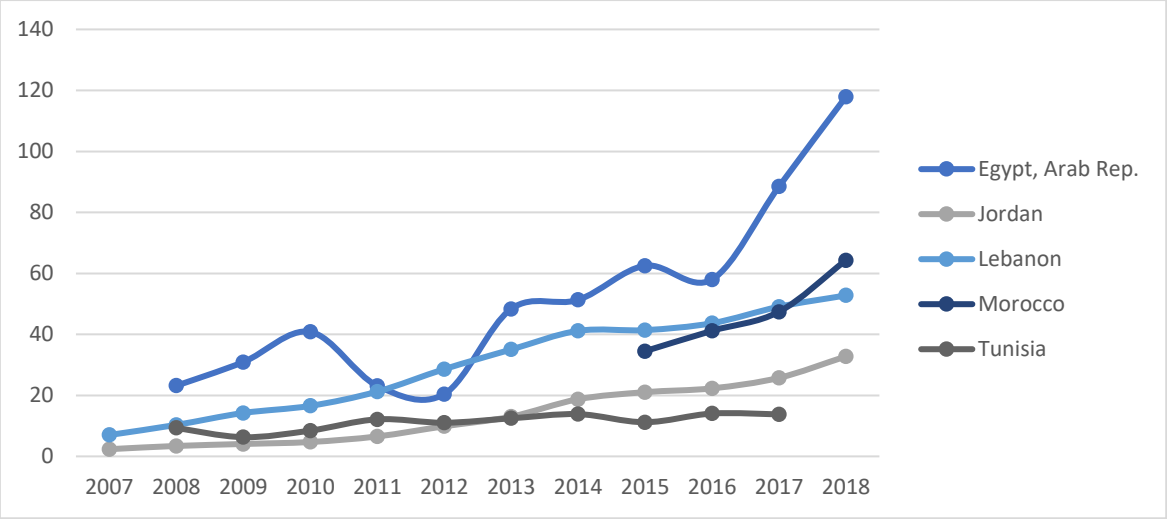
Source: WITS Database (2019).

Textiles and clothing

The textiles and clothing sector is studied in Egypt, Jordan, Lebanon, Morocco and Tunisia. Strikingly, imports from the LDCs are larger than exports. Moreover, imports from the LDCs into the SMCs are steadily growing (Figure 5.90), while exports to the LDCs fluctuate somewhat.

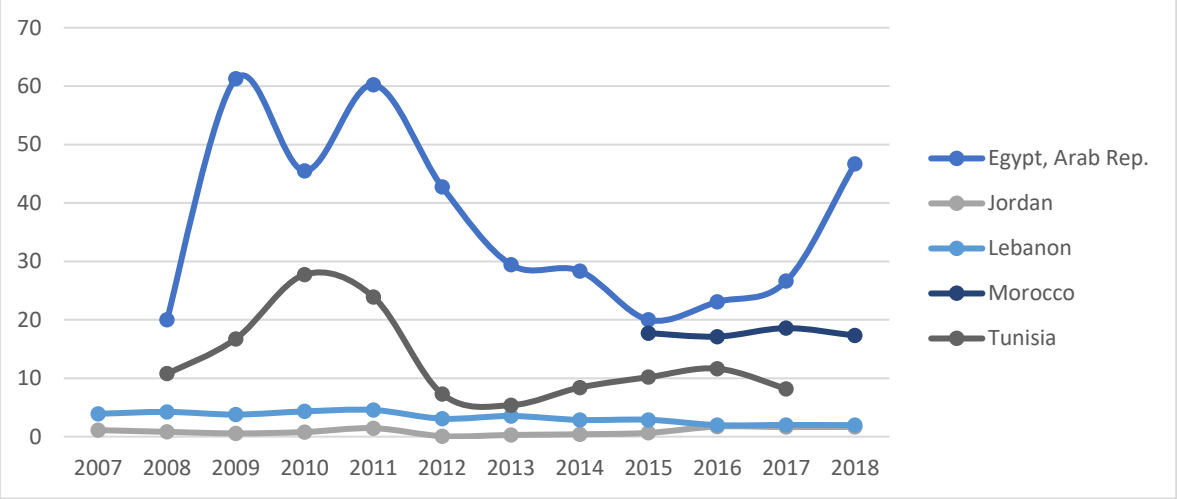
Bangladesh is the most important trade partner in textiles and clothing among the LDCs for the five SMCs. While Jordan and Lebanon almost exclusively import ready-made garments from Bangladesh, Egypt, Morocco and Tunisia also import yarn and fibres. Egypt also imports cotton from Burkina Faso and Benin. In the stakeholder consultations, it was clarified that Bangladesh is a very competitive world market player in this sector, and imports from this country also help to make the SMCs competitive, including on the EU market. It shows that if countries are very competitive in a sector, the FTA does not have to affect its trade with the LDC countries negatively.

Figure 5.90 Imports of textiles and clothing from LDCs, €m, 2007-2018



Source: WITS Database (2019).

Figure 5.91 Exports of textiles and clothing to LDCs, €m, 2007-2018



Source: WITS Database (2019).

5.5.2. Concluding remarks

Based on an analysis of trade flows and the CGE results, impacts on LDCs seem negligible. Also, from the consultations for the sector case studies, these markets are of relative minor importance in terms of competition and sales markets, and LDCs are also not an important player in the value chains. The only exception is the textile and clothing sector, where imports from LDCs (notably Bangladesh) show a clear growth pattern and also the stakeholder consultations confirmed the importance of imports from this country (and other Asian countries), to remain competitive.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1. Overall findings of the study

In this section, we provide answers to the evaluation questions that have guided the analysis of the previous chapters. The first two questions relate to effectiveness, while the next questions relate to efficiency, coherence and relevance.

6.1.1. EQ1: To what extent have the objectives of the EU FTAs with the six partner countries (SMCs) been achieved? What are the factors influencing the achievement of those objectives? To what extent are those factors linked to the EU intervention?

Answering this evaluation question involves answering three separate sub-questions:

- **Have the Euro-Med FTAs generated the intended market access improvements for the EU and the SMCs? (EQ1.a)** Posing this question is important because the main objective of the Euro-Med FTAs was the liberalisation of bilateral trade between the EU and SMCs through liberalisation of the remaining bilateral import tariffs. Enforcement and implementation of the agreed FTAs are key for the achievement of their objectives and for the realisation of trade benefits, but the implementation status varies from one Euro-Med FTA to another (*Chapter 2*). The bilateral tariffs were reduced from different levels in different countries and sectors, and these reductions followed different implementation schedules. Most importantly, they occurred in the context of liberalisation, by both the SMCs and the EU, of tariffs on imports including from third countries. The latter played a crucial role in shaping the effective preferential tariff margins[657], which capture real improvements in market access and cannot be easily deduced just from the schedules of tariff reductions specified in the texts of the Euro-Med FTAs;
- **Have the market access improvements associated with the Euro-Med FTAs resulted in increased trade exchanges and the associated wider economic effects? (EQ1.b)** Posing this question follows straightforwardly from EQ1.a as it asks whether there is evidence that the market-access improvements related to the Euro-Med FTAs resulted in increased trade flows, which were expected to be the main source of economic gains from these FTAs;
- **What are the factors influencing the achievement of those objectives? To what extent are those factors linked to the EU intervention? (EQ1.c)** In case the achievement of the trade liberalisation objective was impeded answering these two questions helps us to determine why the trading partners may have been unable to take full advantage of the market access improvements stipulated by the texts of the Euro-Med FTAs, and to what extent this was related to the scope and nature of these agreements? (EQ1.c)

Before we examine the expansion of trade, we need to establish the extent to which market access has been increased. While economic effects beyond trade are not mentioned explicitly in the objectives of the FTAs, we have summarised the resulting main economic impacts here.

Improved market access

In terms of improved market access, it is important to keep in mind that on the eve of signing the Euro-Med FTAs, the EU was already granting duty-free access on a wide range of tariff lines to the SMCs (see Chapter 2). **Nevertheless, there was still scope for further gains by the SMCs from the additional liberalisation committed to by the EU.** Given the already low tariffs in the EU, the main additional effects were expected from the reduction of SMCs' import duties, which had been relatively high. Since the conclusion of the Euro-Med FTAs various changes in preferences available to other countries have been made, such as in the EU GSP scheme, or conclusion of other FTAs. This implies that even if access to the EU market has improved for SMCs in absolute terms, it is not necessarily the case relative to other countries. Our analysis in section 3.3 shows how the evolution of effective preferential tariff margins varies across the SMCs – on average they have decreased for exporters from Tunisia, Morocco and

[657] For a given product, these are calculated as differences between import tariffs imposed on imports of this product from third countries and tariffs imposed on imports of this products form a given bilateral trade partner.

Algeria, while they have increased for Egypt and Jordan and remained unchanged for Lebanon. EU exporters saw significant rises in effective preferential tariff margins in Algeria, Egypt, Jordan, Lebanon and Morocco and a smaller increase in Tunisia. These findings generally hold when tariffs at individual broad product categories are considered, but there are some important product and country specificities.

A further development is the improved market-access conditions that SMCs faced in third countries over the course of the evaluation period as a result of tariff-lowering in other countries.

In sum, the analysis showed that while the effective preferential tariff margins associated with the Euro-Med FTAs remain positive, their evolution varies among SMC exporters. EU exporters saw increasing effective preferential tariff margins in all six SMCs and these positive changes were an order of magnitude larger than those observed for SMC exporters in the EU market. However, the goal of the agreement was, both, expanding the trade relationship and safeguarding existing market access for the SMCs to the EU, which would have been lost without the agreements. Taking this into account, the picture is more positive.

Increased trade exchanges
Regarding EU-SMC trade:

A first objective of the FTAs was to promote trade between the EU and each of the six SMCs.

To verify the extent to which this was achieved, as a first step, a *statistical analysis* of the observed differences in historical changes in the Euro-Med trade growth rates was performed in this evaluation (see Section 3.3). It showed that **the observed changes in effective preferential tariff margins were only weakly correlated with changes in trade flows.** For instance, both Egypt and Lebanon increased the growth rates of their exports to and imports from the EU by a greater rate than for corresponding trade flows with the rest of the world. This is in line with the increase in effective preferential tariff margins for these two countries. In Morocco and Tunisia, the growth of exports to the EU decelerated after the entry into force of the FTA, while exports to the rest of the world accelerated. For Tunisia the developments correlate with developments in effective preferential margins, but this is not the case for Morocco, which experienced an increase in effective preferential margins to the EU market (see section 3.3.1 for a full overview).

The limits to the degree of correlation between effective preferential tariff margins and trade flows demonstrate that there are **other factors influencing the trade flows, such as reforms in the business environment, supporting policies, political instability but also developments outside the markets (global market developments)**.

As a second step of the analysis, in order to more clearly separate the effects of the Euro-Med FTAs from the other potentially confounding factors, and to have a more complete view of the different micro and macro-economic effects of the Euro-Med FTAs, the Directorate General for Trade (DG Trade) of the European Commission performed a series of *economic model simulations* using **the computable general equilibrium (CGE) and partial equilibrium (PE) models** (see *Section 3.4* and *Annex B* of thisl report for a detailed description of these models). As with all economic models, these tools are based on certain assumptions, but they provide consistent frameworks for separating out the effects strictly related to trade policy changes such as the FTAs from other developments, i.e. they allow **quantification the impact of Euro-Med FTA tariff preferences**.

According to the CGE and PE results, the Euro-Med **FTAs foster trade between the EU and the SMCs. I**mports and exports are positively impacted, both in relative and value terms and, with the exception of Lebanon, the estimated impact on SMCs' imports from the EU is greater (by 30% on average across the six SMCs) than the impact on exports (16% on average).[658] However, impacts vary considerably across the SMCs: imports from the EU increased from 1% in Algeria to 57% in Tunisia, while exports to the EU increased from 3% in Jordan to 25% in Tunisia.

[658] These yields deteriorating bilateral trade balances for SMCs which also discussed under EQ2.

Overall, the pattern of predicted sectoral changes suggested by the modelling exercises indicates a **deepening of trade exchange along the existing comparative advantage patterns**, suggesting benefits in terms of incomes and welfare. This is revealed by the results referring to overall economic welfare, GDP and other variables which suggest that **all SMCs gain in terms of welfare and income from the Euro-Med FTA preferences, and they gain relatively more than the EU**, **even though** the considered trade liberalisation under the FTA is asymmetric in favour of the EU. Indeed, **SMC income effects are at least an order of magnitude higher than those for the EU** ranging from 0.4% of GDP (0.4% of welfare) in Egypt to, respectively, 0.6 and 1.5% of GDP (0.4 and 1.5% of welfare) in Morocco and Tunisia. The larger estimated GDP and welfare effects for the latter two countries are because the CGE analysis combines the effects of both increased exports and imports and that the EU accounts for higher shares of trade in these countries.

Finally, even though these effects can be seen as small in absolute terms, they only capture effects of relative price changes and reallocation of resources across the economy. **In reality, income and welfare gains are likely to be larger due to a range of effects concerning competition, economies of scale and other productivity increases**.

Next to the impact of the FTAs on trade, the evaluation assessed the possible impact of the Euro-Med FTAs on diversification and economic complexity (see *Section 3.5.6*). This is interesting to analyse, as access to *technology* and *know-how* and innovative methods of value creation in today's complex GVCs have become some of the key drivers of economic development. The results of the analysis showed that economic complexity has increased to varying degrees in all SMCs, except Algeria where it decreased. Still, despite these positive developments, **SMC exports directed towards the EU remain less diversified and less complex than SMC exports that are destined to other countries**. This means that the **EU, which records much higher diversification and complexity scores, remains a challenging export market for SMCs**.

Regarding intra-SMC trade (see *Section 3.4*):
A second core objective, next to fostering EU-SMC trade, was to encourage intraregional integration by promoting trade and cooperation both within the region and between it and the Community and its Member States, which we refer to in this evaluation as **promotion of intra-Med trade.** The agreements did not contain provisions to lower trade barriers among SMCs, however, as the most tangible liberalisation brought about by the Euro-Med FTAs was the reduction of bilateral tariffs between the EU and each SMC. Therefore, the impacts in intra-Med trade could not have reasonably been expected to be major and this is confirmed by the empirical findings presented below (EQ1.b). The Euro-Med FTAs have resulted in redirection of some of the intra-SM trade towards the EU and trade among SMCs was somewhat reduced (on average by 3.4%). The latter changes are, however, relatively small and are expected given the bilateral nature of these trade agreements between the EU and the SMCs. They still show that the tariff reductions associated with the Euro-Med FTAs were not as effective in advancing the objective of promotion of intra-Med trade as they were in advancing the Euro-Med trade.

Nevertheless, as already discussed, the Barcelona Declaration also included a commitment to establish a free-trade area across the entire Euro-Med region by 2010. Regional agreements, such as the Agadir Agreement, which entered into force in 2007, contain formal references to the Association Agreements and are seen as building blocks in this process. The PEM Convention, signed in 2011 and ratified by all SMCs[659], was another step in promoting greater harmonisation and simplification of rules of origin (RoO) in the region (also see below EQ1.c). Earlier the six SMCs, together with 11 other countries from the region, concluded the Pan-Arab Free Trade Area (or Greater Arab Free Trade Area, GAFTA), which entered into force in 2005. These regional agreements, which were inspired by the Euro-Med FTAs, were building blocks in the process of promoting intra-Med trade.

While fostering bilateral trade and trade within the SM region were the primary objectives of the FTAs, the Barcelona Declaration and the FTAs also referred to **other objectives:**

- **Fostering harmonious economic and social relations** was one of the objectives of the FTAs but these concepts are not further defined in the agreements, and their

[659] Consilium, Regional Convention on Pan-Euro-Mediterranean Preferential Rules of Origin, overview of available at https://www.consilium.europa.eu/en/documents-publications/treaties-agreements/agreement/?id=2010035&DocLanguage=en (accessed 2 July 2019).

realisation is therefore difficult to assess precisely. It can be argued, however, that on the one hand, the increases in commercial exchanges between the partners documented below help to strengthen economic relations. On the other hand, disappointment and discussions over remaining trade and investment barriers limit the level of harmony in relations. We have therefore focussed on core trade and other economic impacts and discussed the associated social (and environmental) aspects wherever relevant;

- Another objective was **establishing the conditions for the gradual liberalization of trade in goods, services, and capital between the EU and the SMCs** and the agreements contain broad provisions for further liberalisation in certain areas (see below). Overall, the analysis concludes that only limited further liberalisation has been achieved. While Egypt, Jordan and Morocco have concluded additional protocols on agriculture no further tangible liberalisation has been achieved on other goods, services and capital. As already mentioned, Tunisia and Morocco started negotiations for a modernisation of the current FTAs in 2013, for so-called Deep and Comprehensive Free Trade Agreements, although the negotiations with Morocco are currently on hold. Negotiations with Egypt and Jordan have not yet been launched. For Algeria and Lebanon, there are currently no plans to change the existing FTAs with the EU.

Conclusion on evaluation question EQ1.b about increased trade exchanges and economic impacts:

All this suggests that **the main objective of the FTAs in terms of increased trade exchange between the EU and each of the SMCs has been largely achieved**. Also, the effects on GDP and welfare, as quantified by the CGE and PE model simulations, have been positive and benefitted SMCs proportionally more than they did the EU. However, these changes are not very large, especially compared with the annual growth rates of these indicators in these countries. The **tariff reductions associated with the bilateral Euro-Med FTAs were not as effective in advancing the objective of promotion of intra-Med trade as they were in advancing the Euro-Med trade.** However, **the regional** agreements such as the Agadir Agreement and the Regional Convention on pan-Euro-Mediterranean preferential rules of origin, which was a step in promoting greater harmonisation and simplification of rules of origin (RoO) in the region, **were inspired by the Euro-Med FTAs and supported by the EU, and were building blocks in the process of promoting intra-Med trade.**

There is also evidence that the impacts on trade and other economic indicators **could have been more significant if bilateral trade was not impeded by other factors**. As the answers to the next evaluation question show, **some of these other factors were related to the policy intervention at hand and some were not**. The empirical evidence on these factors is discussed in the answers to the next evaluation sub-question.

Factors affecting the achievement of the objectives

The extent to which the trading partners could take advantage of the market access improvements varies by country and sector. The comparison of the CGE and PE results, which indicate clear trade-creation effects for trade between the EU and SMC (as well as some trade diversion effects among SMCs, see above), with the results from the analysis of historical developments in trade, which are less conclusive, suggests that **taking advantage of the newly created market access opportunities was impeded by other, non-tariff, factors**. Also, the feedback from the stakeholders suggests that, overall, the SMCs have not taken as much advantage of these opportunities as expected. There have been various factors at play that have made it difficult to seize these opportunities. As per the evaluation questions, **the evaluation divided them into aspects of the EU intervention (the scope of the Euro-Med FTAs) and other factors**.

Role of the Euro-Med FTA in seizing the opportunities of improved market access (see Section 3.5)

The results of this evaluation suggest that that the FTAs have affected the extent to which SMCs could take advantage of the market access opportunities, in three ways:

- ***Remaining barriers***. As the FTAs focused on tariff reductions, many non-tariff measures were not addressed in the agreement, while our analysis on economic impacts shows that these **NTMs can be more important for market access than tariffs**. NTMs, because of their lesser transparency and potentially higher trade restrictiveness, are still a major factor constraining the realisation of gains from the Euro-Med tariff liberalisation (*Chapter 3*). Additionally, other factors related closely to trade in goods such as **services and FDI have only be covered to a limited extent**;

- ***Limited effectiveness with which the institutional structures of the FTAs were able to address the remaining or arising concerns.*** While the EU and the SMCs' governments meet on a bilateral basis to discuss barriers (both barriers that violate the agreement (e.g. the recent import tariff increase in Algeria) or are outside of the strict provisions of the agreement (e.g. a registry of EU exporters in Egypt), the problems are often not easily solved;
- ***The rules of origin***. Rules of origin (RoO) are an integral part of FTAs, to determine under which conditions a product can be considered as being produced in the FTA partner country. This evaluation found limited evidence for this element being a major barrier for SMC exports. The double-transformation rule applicable in the textiles and clothing sector was flagged by several regional industry representatives during the consultations. They claimed it undermined their competitiveness in the EU market *vis-à-vis* third country producers, notably from Asia, which can use cheaper inputs. It should be noted that it is difficult to assess how much this affects their competitiveness, as a single transformation method could have other implications (e.g. it could potentially lead to a decrease of EU investment in the SMCs).

Other factors limiting the opportunities of increased market access (see Section 3.5)
While aspects of the FTAs play a role in seizing the opportunities stemming from the increased market access to the EU, many other factors are at play outside of the agreement, including:

- ***Increased access of third countries to the EU market*** (see also discussion under EQ1.a above). This has been an issue in the textile and clothing sector, as some countries that are generally more competitive in the sector have also received improved market access conditions. This is the case for China (after the abolition of the multi-fibre and subsequent textiles & clothing agreement) and Bangladesh (with the Everything but Arms (EBA) Agreement). These countries have some competitive advantages over the SMCs, reflected in lower production costs, which are a result of, for example, lower wages and economies of scale and the improving conditions of accessing the EU markets making it difficult for SMCs to maintain or increase their market shares;
- ***Constraints in the business environment as barrier to structural adjustment and trade***. Because of the higher starting levels of import tariffs, SMCs undertook deeper liberalisation of market access and the main trade creation effects and other associated economic gains (income, welfare) were therefore expected from SMCs' own liberalisation. Together with the large differences in economic sizes and productivity between the EU and SMCs, the significant lowering of import tariffs by SMCs meant also a potentially much more pronounced trade-related structural adjustment in SMCs (see Chapter 3). But institutional development and the functioning of product and factor (labour and capital) markets in SMCs lag behind the EU as well as other countries with comparable levels of per capita income. The literature suggests that this has a significant impact on the ability to take advantage of changes implied by trade liberalisation, to attract FDI and the ability to integrate with international supply chains;
- ***Entrepreneurship and competitiveness.*** In the end, the private sector needs to take advantage of the opportunities. Although they may be affected by the above factors, it also requires certain skills (e.g. related to marketing and sales, networking skills, management skills) and attitudes (e.g. risk-taking, persistence). A lack of entrepreneurship could, therefore, also be a factor affecting the extent to which opportunities are seized. While we heard some examples of this (differences in entrepreneurial attitude between countries, or successful companies while in general exports to the EU in the sector is low), the role and importance of this factor is more difficult to assess. Nevertheless, selected measures of competitiveness considered in this ex-post evaluation suggest that it has stagnated or even worsened over time in some SMCs, which is also related to the business environment discussed above. Competitiveness and business environment performance tend to be more directly influenced by the individual policy choices made by national governments to reform their economies, these developmental and institutional challenges determine SMCs' structural adjustment abilities. These challenges may also explain why the gains from trade may not materialise or take much time;
- ***Opportunities in other markets****.* The consultations and sector case studies also showed that exporters look for the best opportunities. Entering a new market comes with costs, and these costs are weighed against the expected benefits. Several business representatives considered the costs of entering the EU market as relatively high given the high standards and technical requirements (NTMs). Others pointed to a fragmented nature of the EU market (and thus relatively high costs of entering and remaining in the market) because of the differences in rules and regulations but also business culture

between different Member States. These elements can make other countries (including the domestic market) relatively more attractive. For example, the textiles and clothing - sector case study shows that the US market has become one of the main export destinations for Egypt and Jordan since companies with factories located in Qualified Industrial Zones (QIZs) have received special preferential access to the US.

Conclusion on evaluation question EQ1.c about factors having affected the achievement of the objectives of the FTAs:

Overall, the relatively narrow scope of the Euro-Med FTAs has to some extent affected the degree to which SMCs could take advantage of the new market access opportunities. There were, however, other factors at play outside of the agreements that influenced the achievement of their objectives.

6.1.2. EQ2: Have the EU FTAs with the Euro-Med countries (the six SMCs) given rise to other (including unintended) consequences? If so, which ones?

As we have seen in answers to EQ1, the Euro-Med FTAs did not affect the individual SMCs in the same way. They also have distributional impacts within the SMCs, as some sectors will benefit more than others, and to the extent the sectors use different production factors differently (land, capital, different type of labour) this will also generate unequal impacts on returns to these factors (wages, land and capital rentals). **Thus, as certain sectors or subsectors expand or contract due to the impact of the FTAs, this can also have effects in other areas.**

Our evaluation investigated the social, human rights and environmental impacts of the FTAs, as well as their effects on Least Developed Countries (LDCs) and developing countries. Sustainable growth was one of the main objectives of the Barcelona Declaration. The Euro-Med FTAs themselves subscribe to these objectives though they do not have specific commitments on social, human rights, environmental issues.. Social and environmental issues are dealt with in the other chapters of the Association Agreements, especially in terms of co-operation on these topics, but these parts of the agreements are not evaluated within the scope of this study. The way this evaluation approached sustainability effects was therefore as 'accompanying' effects of the FTAs, where special focus was placed on detecting any unintended negative effects of the FTAs.

The results of our analysis (see chapter 5) generally find that the impacts in these areas have been limited. The detailed case studies conducted as part of the sustainability analysis showed that the role of the FTAs in developments in these areas was very small compared with other factors.

In terms of social and human rights impacts (see Section 5.3), the CGE modelling results show the FTAs have had a positive impact with respect to the indicators on income and consumer prices, both in the EU and the SMCs, with higher welfare, higher wages for both low-skilled and high-skilled labour, and lower consumer prices. However, the impacts have been modest. With respect to employment and labour conditions, no strong conclusion on the direction of effects could be drawn, but the impact is estimated to be very small. With respect to food security, the FTAs on the one hand provide better access to some staple foods (especially cereals), but on the other hand they have increased import-dependency for these products. In other areas, no clear evidence on a link with the FTAs was found.

In terms of environmental impacts (see Section 5.4), the CGE modelling results show that the FTAs reduced CO2 emissions, mainly because some sectors with higher emission levels contracted. The case study on air emissions finds that the FTAs contributed to a reduction in some air pollutants and to an increase in others, depending on the country and the pollutant. In general, the changes are small in relation to overall emission levels, with only Morocco showing a more significant reduction. Emissions associated with transport are likely to have increased as a result of the FTAs. A case study on environmental goods showed that the FTAs have played a small but facilitating role for trade in these goods, thereby contributing to the greening of the economies. With respect to water and waste, the SMCs clearly face challenges, but based on stakeholder consultations the effect of the FTAs is mixed. On land use and biodiversity, no strong conclusions could be drawn. Some stakeholders pointed to negative impacts of the FTAs on animal welfare as a result of increased EU exports of live animals, which face poor conditions when transported, on farms and in abattoirs across the SMCs.

With respect to impacts on LDCs and developing countries (see Section 5.5), the CGE modelling results show that imports from LDCs decreased in both the EU and SMCs, but this decrease is small (reduction of € 35m of exports to SMCs (-3.1%), and a reduction of € 139m of exports to the EU (-0.3%), for all four FTAs combined) compared with the effects on other trade partners. Only in Egypt is the decrease in imports significant. The sector studies also did not identify a major impact on LDCs. In terms of effects on other third countries, exports from China and Turkey are affected most in absolute terms. Geographical proximity plays a role in the extent to which third countries are affected, with the North African region more affected by the FTAs of Tunisia and Morocco and the Gulf region by the FTA with Egypt.

To summarise, the FTAs have had impacts on the social, human rights and environmental issues, as well as on developing countries and LDCs, but our analysis suggests that unintended, negative consequences of the FTAs have been limited.

6.1.3. EQ3: To what extent have the EU FTAs with the six partner countries been efficient in achieving their objectives?

EQ3 is not limited to the question in the heading, but includes two main questions:

- To what extent are the costs associated with the FTAs proportionate to the benefits they have generated? What factors influence those costs and benefits? How proportionate were those costs borne by different stakeholder groups, taking into account the distribution of benefits?
- What are the main inefficiencies and unnecessary regulatory costs (including administrative burden)? What is the potential for simplification?

We answer these two sub-questions below.

EQ3.a To what extent are the costs associated with the FTAs proportionate to the benefits they have generated? What factors influence those costs and benefits? How proportionate were those costs borne by different stakeholder groups, taking into account the distribution of benefits?

Direct costs of compliance
There are several indications that ***direct costs of compliance*** of these first-generation trade agreements (e.g. adjusting the collected import duty rates) have not been large and are not a major issue currently. The preference utilisation rates, for example, are usually taken as an indication of costs of compliance (including complying with RoO) and these show that the take up of preferences by SMCs exporters is widespread and has generally grown over the last decade. Utilisation rates of Euro-Med FTA tariff preferences used by EU exporters when accessing SMC markets are lower but have also grown (see section 3.5.1).

Structural adjustment costs: reallocations or labour and capital across sectors
The economic literature strongly suggests that lowering trade barriers generate economic benefits but it also suggests these gains depend on adjustment to the new economic environment, which may generate costs. Some groups may have been negatively affected (i.e., people who lost their jobs as a result of increased competition from EU firms). Some of these effects may be only temporary (i.e., people find other jobs) but costs might rise if the lack of adjustment persists.

Our qualitative analysis and consultations **have not identified specific (vulnerable) groups that have been clearly negatively affected by such unequal impacts**. Nevertheless, the CGE and PE simulations conducted within this evaluation show that some sectors, such as textiles and wearing apparel, expanded their output while others, including chemical, rubber and plastics, and other manufactures, contracted in SMCs. In countries that gain the most from the FTAs, such as Morocco and Tunisia, these differences across sectors are quite pronounced and this was also reflected in the feedback of the local industries during the consultations. This suggests that the FTAs worked through **non-negligible labour and capital reallocations across some of the sectors**, indicating a higher degree of trade-related structural adjustment associated with the Euro-Med FTAs in these countries. The extent of such adjustment however increased with the size of the gains for the country. These cases illustrate that more productive allocation of productive resources is associated with costs that are, however, related to the overall size of the gains for the country.

The issue of **costs related to the unequal distribution of impacts** also links to the discussion of the **role of the national government support and the business environment in facilitating such adjustment** discussed under EQ1.c. Adjustment and the role of SMC governments in facilitating such adjustments were frequently raised during the stakeholder consultations. The general picture that emerges is that **business representatives would have liked to see more state involvement in facilitating trade-related adjustments**, although there were also positive accounts of actions taken by governments, for example in Morocco.

Indirect economic costs: trade balance and tariff revenues
Stakeholders frequently pointed to the trade deficits SMCs have with the EU, which have widened (as discussed under EQ1). The question is whether these deteriorating trade balances can be considered as economic costs. It should be noted that in the economic literature, bilateral trade balances are broadly not seen as a meaningful indicator of balance of payment issues. Fiscal, monetary and structural policies are considered their primary policy levers as they shape national saving-investment relations, especially in a world economy characterised by triangular trade relationships in GVCs where bilateral deficits with one particular partner may reflect surpluses with another partner. **Historical trade data show that in the cases of Egypt, Jordan, Lebanon, Morocco and Tunisia, while the overall trade balances have deteriorated, bilateral balances with the EU either improved or deteriorated less rapidly since the entry into force of the Euro-Med FTAs, suggesting that trade with the EU might have been a mitigating factor** (see *Section 3.3.1.2*).

The loss of tariff revenues could be considered as another type of economic cost. **Long-term impacts of the FTAs on SMCs' import tariff revenue** suggest that in countries such as Morocco and Tunisia, which have relatively high shares of trade with the EU, the tariff reduction due to the FTAs would mean an effective termination of this source of government revenue in SMCs. The effects on other SMCs range from 43 to 63% of annual customs and other import duty revenue [660, 661] (for more detail see *Section 3.4.4.6*). **These revenue impacts nevertheless have to be considered in the context of a relatively small share of customs and other import duties in overall tax revenue in SMCs** ranged from 7% in Egypt to 9% in Jordan.[662] We also note that revenue collection systems have been restructured in the SMCs and have helped the overall ratio of tax revenue to GDP to remain stable or even increase, despite the reduction of the share of customs and other import duties in tax revenues throughout the investigated period. For the EU, the impacts are smaller in both absolute and relative terms. The impact of tariff reductions associated with the Euro-Med FTAs on the EU budget, of which customs duties collected on all dutiable EU imports accounted for 13%, is estimated to amount to the equivalent of 5% of the EU's customs duties collected in 2011 and less than 1% of the overall EU budget[663] when all Euro-Med FTAs are taken into account. The effects on the EU are smaller, for two principal reasons: (i) SMCs account for a smaller share of

[660] These revenue change estimates are taken from the CGE and PE models which are typically interpreted to provide meaningful estimates of medium to long-term impacts. Thus, the estimated revenue loss, although it is calculated on the basis of annual data to which the CGE and PE models are calibrated, would not occur immediately in any given year after the entry into force of the FTA but should be interpreted as a long term reduction in annual tariff revenue, which would be observed when all adjustments within the economy will have taken place (i.e. typically after 5 to 10 years after the policy changes occurs).
[661] The comparison year for the revenue data is 2011 as is this is both the year of the base data used for the CGE analysis (the base year for PE analysis is 2019) and the only year for which comparable customs revenue statistics were available in the World Bank Development Indicators database. The only country missing in this comparison is Algeria for which data on customs revenue are also unavailable from the national statistical sources.
[662] This data is for 2011 which is the only year for which such a comparison can be done across five out of the six SMCs. Note thatthese shares are however still higher than the average of 4% estimated by Kowalski (2006) for the countries in the low and middle income grouping and than the average of 1% for the high income grouping in the period 1995-2000.
[663] EU customs duties collected on all dutiable EU imports accounted for 13% in 2011 (to be able to comoare them with data for SMCs). Note that the share of customs and other import tariffs in the EU budget is not comparable with such shares in other countries because of its different nature. In the EU, the EU Members have their national budgets where revenue is collected from, among others, income and value added taxes. In the EU budget, the majority of revenues are income based on member contributions which depend on Gross National Incomes (GNI) as well as some value added tax sources. Customs duties collected by the member States do not contribute to national budgets but to the EU budget, where they account for a relatively large share. See e.g.: https://ec.europa.eu/taxation_customs/facts-figures/customs-duties-mean-revenue_en.

EU's total imports; and (ii) EU import tariffs were already close to zero on most items at the time of entry into force of the Euro-Med FTAs.

Sustainability-related costs
The preceding discussion of effects in the areas of social and human rights, environment and the impacts on LDCs and other developing countries shows that the FTAs have generated both positive and negative impacts in these areas (see EQ2 above). As these costs and benefits vary in nature, they are not easily compared, but our analysis suggests that overall, these effects are small.

EQ 3.b What are the main inefficiencies and unnecessary regulatory costs (including administrative burden)? What is the potential for simplification?
As we have demonstrated above (see EQ1), there are inefficiencies and outstanding regulatory costs in areas covered only partially by the FTAs at hand. These mainly stem from remaining barriers and some estimates in the economic literature suggest these costs may be larger in terms of their negative impact on trade than the effects of tariff liberalisation brought about by the FTAs. For example, as elaborated in *Section 3.5*, the estimated *ad-valorem* tariff equivalents of regulatory NTMs can easily exceed 20%. Next to NTMs, there are remaining barriers related to FDI, services trade as well as other obstacles in the institutional environment.

6.1.4. EQ4: To what extent have the EU FTAs with the six SMCs been coherent with the European Neighbourhood Policy (ENP), Association Agreements, action plans and Partnership Priorities and current EU trade policy?

Coherence with other parts of the Association Agreements
As already elaborated in more detail in *Chapter 2*, the Declaration and the Association Agreements Euro-Med FTAs were signed with political, security, cultural, and human partnerships in mind, in addition to wider economic and financial partnerships. The **Euro-Med FTAs**, being the trade chapters of these Association Agreements and following the EU model of integration where strong emphasis is put on economic liberalisation, integration and reforms, **were the main instruments to the implement the Barcelona Declaration**. It could be thus equally argued that a real question is to what extent the implementation of other non-strictly trade-focused parts of the Association Agreements was coherent with the Euro-Med FTAs although this is beyond the scope of this evaluation.

Indeed, the analysis of texts of the Association Agreements suggests that the **provisions of trade chapters** (i.e. the Euro-Med FTAs) **contain much more elaborated and binding provisions than the other titles** on *Political Dialogue*, *Economic Co-operation*, *Co-operation in Social and Cultural Matters*, *Financial Co-operation*, and *Institutional, General and Final Provisions*). These non-strictly trade-focused titles state important broader objectives, some of which can be aided by the achievement of the objectives of the trade chapters. The achievement of other objectives nevertheless cannot be so easily aided by strengthening commercial relationships.

It can thus be argued that the Euro-Med FTAs **have been the most coherent with the following wider objectives of the Association Agreements**:

- *political dialogue* (to the extent that stronger commercial relations facilitate political co-operation);
- *regional co-operation*, especially on issues related to fostering intra-Med trade and on *customs matters* (e.g. in the area of RoO, see EQ1.c above);
- *development of economic infrastructure* (e.g. through the FTAs' effects on trade and FDI);
- *research in science and technology*, *education and training* and *scientific and technological co-operation* (to the extent that this is fostered through trade and FDI-related knowledge technology transfer and supported by trade-related technical assistance, see also EQ1.b);
- *environment* (e.g. through trade in environmental goods, reductions in emissions (see EQ2) and co-operation on environmental matters);
- *cooperation in standardisation and conformity assessment*, development of *regional institutions and the establishment of common or harmonised programmes and policies;* and *approximation of legislation* (to the extent that trade fosters the incentives to do so, for example in the area of co-operation on NTMs and other regulations, see EQ1.c);
- co-operation in the areas of *Agriculture and fisheries*; *Transport; Telecommunications and information technology; Energy* and *Tourism* (also to the extent that commercial

exchanges in these areas are fostered through trade and FDI and trade-related knowledge technology transfer).

Similarly, to the extent commercial exchange fosters co-operation, the **Euro-Med FTAs are also broadly coherent with other objectives of the Associations Agreements**, for example in the areas of *Cooperation in Social and Cultural Matters* as well as *Financial* and other *Institutional, General and Final Provisions,* but the impacts are arguably less direct.

Importantly, however, as revealed by several interventions during our consultations, stakeholders in several SMCs have complained about **the lack of relevant wider policies that should accompany tariff liberalisation**, of which many falls outside of the scope of the trade chapters of the AAs but are covered in other parts of the AAs. This suggests that, if resources permit, it may be indeed worthwhile also assessing the impact of implementation of these wider provisions on the functioning of the Euro-Med FTAs.

Coherence with the Neighbourhood Policy and Action Plans
As also already foreshadowed *Chapter 2***,** in addition to the Euro-Med FTAs, as part of the EU's Neighbourhood Policies, the EU **had developed *Action Plans* for the cooperation with its partners in the Mediterranean region**. The Action Plans are political documents providing the strategic objectives of the cooperation between the Mediterranean countries and the EU. A number of Actions Plans were adopted in 2005 and covered a five-year timeframe and they were later updated periodically. **Most recently, the EU has focused on the definition of *Partnership Priorities* with the Euro-Med countries for the period from 2017 to 2020** (these are summarised in *Chapter 2* of the full report).[664] The new *Partnership Priorities* were defined by mutual agreement in the context of the revised EU Neighbourhood Policy and the EU Global Strategy for foreign and security policy. The specific Partnership Priorities are different for each SMC (see Chapter 2) although they are concentrated around a number of common broad themes such as:

- political dialogue, governance, the rule of law and the promotion of fundamental human rights;
- cooperation, socio-economic development, including trade and access to the European single market;
- energy, the environment and sustainable development, employment, including employment of youth;
- enhancing stability and strategic and security dialogue, as co-operation in the area of foreign policy, co-operation on counter-terrorism;
- the human dimension, including cultural and inter-religious dialogue, migration and mobility.

As was the case with the wider provisions of the Association Agreements discussed above, **the Euro-Med FTAs are coherent with these priorities because trade relations foster economic co-operation and boost productivity and income** (EQ1.b). The latter generally facilitates the achievement of the wider objectives such as those specified in the EU's Neighbourhood Policy and the associated Partnership Priorities agreed with the SMCs. However, as already discussed, the direction of influence also runs in the other direction: advancing the achievement of the Partnership Priorities facilitates the achievement of objectives of the Euro-Med FTAs. One strong illustration of the latter is the evolution of FDI flows into the region, which grew in the period immediately after the entry into force of the FTAs and then declined and remained subdued when political stability of the region deteriorated in the late 2010s (see also EQ1.c).

Coherence with EU trade policy
The answer to the last part of the evaluation question on *coherence* is provided in the answer to the question on *relevance* which is addressed below.

6.1.5. EQ5: To what extent are the provisions of the EU FTAs with the six SMCs relevant for addressing current trade issues faced by the EU and these partners?

[664] So far, such priorities have been agreed with all countries relevant to this ex-post evaluation, except for Morocco, which is in the process of overhauling its partnership with the EU.

As documented extensively elsewhere in this report, the Euro-Med FTAs were the "first generation" FTAs, designed in the early 1990s and which focused on the removal of import duties on goods trade. Provisions related to other goods-trade costs, as well as FDI and services trade, were very limited and no significant additional liberalisation of barriers have taken place (EQ1 and EQ2).

However, recent work on trade integration across developed and developing regions indicates that **commercial integration and the associated benefits are very much determined by the ability to participate in GVCs**. Such ability is inextricably linked to the **ability to minimise the costs incurred all along the value chain**, including: moving inputs and semi-finished products across different locations (which sometimes involves crossing borders several times before the product is finished but also moving products within countries' borders); personnel travel; provision of services necessary for smooth operation of production chains (e.g. transport and logistics, telecommunication, postal and courier services); and minimisation of costs associated with administrative procedures.

Since the early 1990s, **advanced countries** and regions, **such as the EU in Europe**, the US in the Americas and Japan and South Korea in Asia, **have been progressively building their position as 'hubs' or 'headquarters' in GVCs**. Through FDI and services trade (including the movement of personnel) these advanced countries **helped establish and co-ordinate the more labour and natural resource-intensive activities in the neighbouring developing regions**. They have also applied their advanced technology in these developing regions to achieve more significant returns on investments.

Overall, while a comprehensive study of GVC participation of SMCs in European supply chains was not possible due to data constraints, our evaluation shows several pieces of evidence indicating that **participation in European supply chains is of growing importance in the SMCs and that it brings about significant gains from trade** (for example in Tunisia and Morocco) (see also *Annex G*).

But import tariffs, the removal of which was the principal element of intervention in the case of the Euro-Med FTAs, **are estimated in the economic literature to be responsible for only up to 10% of trade costs relevant for GVCs globally**. Between 60% and 80% of trade costs relate to indirect costs of trade (e.g. NTMs, procedures, maritime connectivity and services, business environment and other regulatory barriers, availability and use of ICT services, etc. Existing *ad-valorem* estimates of overall bilateral trade costs by trading region show that trade costs within the region are estimated to be about 50% in tariff equivalents while the costs of trading with the EU are estimated at an even higher 76% (see Chapter 3). This strongly indicates that the provisions of the Euro-Med FTAs only partially address trade issues faced by the EU and the trading partners in the SM region.

In this context, remaining NTMs and barriers to FDI and services have become more relevant for bilateral trade and integration into global value chains, but are hardly covered by the agreement. Some important agricultural products are also not covered by the agreement.

In the consultations, those stakeholders directly involved in trade confirmed that the Euro-Med FTA agreements have become less relevant in the sense that they do not address the "newer" challenges in international trade (e.g. services, FDI, non-tariff barriers). Stakeholders not directly involved in trade emphasised the need to have more attention to sustainability objectives.

The request to cover these areas is in line with the current EU trade policy, as they are prioritized in the "Trade for all" strategy. This is also reflected in **the EU's newer FTAs** (such as for example the DCFTAs with Georgia, Moldova and Ukraine, or the EU-Canada and EU-Japan FTAs). While these differ from one another, reflecting the specificities of countries with which they are signed, they **are increasingly ambitious when it comes to the deep provisions that aim to reduce costs associated with participation in GVCs. These agreements also pay more attention to regulatory approximation or alignment, as well as to sustainability**.

Conclusion on EQ5:

It can be concluded that, to the extent they remove the costs of trade associated with tariffs **the EU FTAs with the six SMCs are relevant for trade in goods between the EU and**

SMCs. They have played a significant role in fostering Euro-Med trade. This is the case despite the fact that as already discussed under the answers to EQ1, **these tariff advantages (i) are estimated to be smaller than other trade costs and (ii) have now been eroded by liberalisation by both the EU and SMCs with third countries**. However, it is also clear **that given the nature of trade relations in GVCs and the nature and size of the associated costs of trading in GVCs, the Euro-Med FTAs have come less relevant for addressing current trade barriers.**

The limited (or even lack of) coverage of barriers that are relevant for current trade, namely those related to NTMs, services and FDI, and the limited provisions on sustainability, imply that **the FTAs are no longer fully coherent with the current EU trade policy.**

Recommendations

The results of the evaluation lead us to the following recommendations.

Addressing non-tariff measures
Main findings underpinning this recommendation:
Our analysis has shown that while tariffs have largely been eliminated on trade between the EU and the SMCs, still many barriers remain, on both sides, related to non-tariff measures. This is also due to the limited coverage of NTMs in the agreements. Most of the NTM provisions can be described as directional or best endeavour type of provisions; the agreements do not contain specific or enforceable commitments in these areas. As discussed in Section 3.5.2, especially barriers related to Technical Barriers to Trade (TBT) and Sanitary and Phyto-sanitary (SPS) measures come forward as important NTMs.

Recommendation No. 1:
To take advantage of the opportunities offered by the FTAs, all parties should work to reduce the barriers stemming from non-tariff measures, with a focus on the most pressing NTMs (such as non-automatic import licences; unnotified technical regulations, which cause unpredictability and seriously distort local business operations). Given NTMs can have important welfare effects (e.g. ensuring food safety), the focus should be on decreasing the trade-distorting nature of the NTMs. This does not imply reducing the protection level for consumers, workers or the environment, but rather involves considering simpler procedures, agreeing on internationally recognised standards and avoiding unnecessary duplication of conformity assessments or other administrative procedures.

Improving the business environment in SMCs
Main findings underpinning this recommendation:
Our analysis also shows that another barrier to the potential success of FTAs relates to lack of competitiveness due to constraints in the business environment in SMCs. Despite improvements in most of the SMCs over the evaluation period, in the last few years only limited progress seems to have been made (see section 3.5.4). Bureaucracy and lack of transparency have been mentioned as key barriers, but other issues include a lack of access to finance, lack of skills or logistical constraints. These barriers have also limited FDI in the region, as well as technology transfers.

Recommendation No. 2:
The SMC governments should improve the business environment to enhance competitiveness. This could cover measures to reduce bureaucracy and increase transparency, but also policies to encourage foreign and domestic investment. The latter can include the upgrading of skills, increasing access to finance, and improving the environment for technology transfer, etc. The EU could support these policies, e.g. by providing technical assistance and promoting further economic co-operation.[665]

Expanding coverage of the agreements
Main findings underpinning this recommendation:
The coverage of the current FTA is relatively limited, especially when compared with the current generation of EU FTAs. Services and FDI have become more important, also in light of the increasing importance of Global Value Chains (GVCs), but are hardly covered in the current agreement. Agriculture is also only covered more extensively in three countries with the Additional Protocols on Agriculture.

Recommendation No. 3:
The parties should consider expanding the agreement through bilateral trade negotiations, to make the FTAs more relevant for addressing current barriers to trade, in areas such as NTMs, agriculture, services and FDI.

Sustainable development
Main findings underpinning the following recommendations:

[665] The Association Agreements contain a chapter on economic o-operation, which covers co-operation in various fields, e.g. science & technology, ICT, transport, financial services, etc.

This evaluation has found both positive and negative effects on sustainable development, but they were found to be small. Nevertheless, it is clear there are concerns, especially in civil society, on the negative impacts of the agreement.

A case study on gender (female employment in agriculture) showed there are barriers in the SMCs that limit female participation in the labour force. Women's ability to take full advantage of trade opening is limited by various barriers, which are very different in nature and time horizon, both in their resolution and in their potential effects. Only part of these barriers stem from public policy as some are rooted in popular traditions.

Recommendation No. 4:
If the parties would consider an expansion of the current FTAs, a Trade and Sustainable Development chapter should be included as this can be a mitigating factor against potential negative effects.

Recommendation No. 5:
With or without additional trade agreements, both parties should monitor trade and investment flows, and where bigger changes occur, analyse possible further implications of these changes on sustainability dimensions (e.g. impact on employment, poverty, pollution, regional disparities, etc.). This would allow SMCs to respond to potential impacts at an early stage, possibly with support of the EU.

Recommendation No. 6:
To support women's empowerment and allow them to take full advantage of trade liberalisation, SMCs should design a set of flanking policies that remove the barriers faced by women. In particular, these policies should focus on improving in the education and vocational training of girls and women, promoting their access to financial services and distributional networks, limiting discriminatory laws and promoting a change in social norms.

ANNEXES TO THE MAIN REPORT

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ANNEX A: MAPPING OF EVALUATION TASKS

The Terms of Reference present 17 tasks that need to be performed as part of this study.

This Annex provides an overview of when the tasks were performed and where the results of the different tasks can be found.

Tasks 1-6 were carried out in the inception phase. The results are available in the inception report but have also to a large extent been integrated in this report. In the interim phase, important progress has been made on tasks 7-15. In the final phase, tasks 7-15 were completed and the final two tasks 16 and 17 were added.

Table A.1 Overview of tasks of this study

Task	Description	Section of this report
1	Refine intervention hypothesis	1.5 + Annex B
2	Literature review	2, 3, 4, 5, Annex D, Annex E (+Inception Report)
3	Description of the Euro-Med FTAs	2
4	Develop methodological approach	1.5, Annex B (+Inception Report)
5	Create a website	Annex G
6	Develop the consultation strategy	Annex G (+Inception Report)
7	Implement the consultation strategy	1.5
8	Economic and legal analysis, including: • The implementation of FTAs; • Evolution of trade; • Sector case studies.	 2 (legal analysis) 3 (economic analysis) 4 (sectoral analysis)
9	Impact analysis on competitiveness and SMEs	3.5.5, 3.5.7
10	Impact analysis on consumers	3.4.4.3, 3.5.2, 3.5.6
11	Impact analysis on EU budget	3.4.4.6
12	Impact analysis on informal economy	5.3.4
13	Impact analysis on outermost regions	Annex D
14	Impact analysis on social aspects, environmental aspects, human rights and third countries	5
15	Organising local workshops	1.5, Annex G
16	Answering evaluation questions	6 and Synthesis Report
17	Providing conclusions and recommendations	6 and Synthesis Report

ANNEX B: SUMMARY OF APROACH, RESEARCH METHODS AND ANALYTIC MODELS

B.1 Approach and methodology

The ex-post evaluation focuses on the so-called first-generation FTAs that principally entail reductions of import tariff on goods. However, these FTAs have been introduced at different points in time, had different starting points (in terms of initial barriers) and differently phased implementation periods. They have also influenced tariffs on different products in different SMCs to a different degree. It is thus crucial to carefully define the actual trade liberalisation we are studying.

In addition to establishing the actual parameters of trade liberalisation, the main challenge for this ex-post evaluation is to assess to what extent the observed changes over each given time period can be attributed to the FTA. The objective is to separate FTA-induced effects from the effects of other concurrent processes, such as for example trade propelled by the economic growth (inspired by changes in other non-trade sources) of respective trading partners. This disentangling becomes a challenge, especially when we attempt to assess more indirect effects of the FTA (e.g. sustainability impacts).

For all the impacts we observe, there needs to be an understanding on how the FTA may have led to the obtained results, e.g. was it related to specific provisions or to the way it has been implemented (or not). This is why this evaluation has adopted an evaluation framework which utilises a mix of methods. For example, we use computable general equilibrium (CGE) and partial equilibrium (PE) techniques in this study to attribute the observed variation in trade to a host of driving factors posited by economic theory. This analysis is complemented with quantitative and qualitative methods to verify the modelling results and to deepen the understanding of the mechanisms at work.

Our overall approach to this ex-post evaluation consisted of 17 different tasks as presented in Annex A, which we have divided into four inter-related work packages. These are the following:
Work package 1 – Evaluation framework
Work package 2 – Consultations
Work package 3 – Economic Analysis
Work Package 4 – Sustainability Analysis

In the next section, these work packages are described in more detail. A more elaborate description is available in the inception report. While the progress on each of these work packages is reflected in the respective chapters of this report, the progress on consultations in included in Section 2.2.

B.2 Work package 1 – Evaluation Framework

The cross-cutting *Work Package 1 – Evaluation Framework* is based on the specific evaluation questions from the Terms of Reference (ToR). This framework has been developed in the inception phase of this study and was an important guidepost in all evaluation activities during implementation.

The evaluation framework for this evaluation was defined by four elements:
- the scope of the evaluation;
- the definition of the baseline scenario;
- the intervention logic; and
- the evaluation matrix.

The scope of the ex-post evaluation identifies what is evaluated, over what period and for which geographical area. This is based on the ToR of the study and presented in Chapter 1 of the report.[666]

[666] The ToR foresees, for example, an analysis according to the evaluation criteria effectiveness, efficiency, coherence and relevance. An analysis of 'EU added value' for the six trade agreements was considered as not necessary, due to *EU exclusive competence* for trade agreements set out in the EU treaties.

The baseline or counterfactual scenario is the situation if the FTA under examination was not actually in place. This scenario thus defines the baseline against which all results which have been actually observed may be assessed, in order to tease out the impact of the FTA. The ToR clearly specify that the baseline scenario would be that bilateral trade would fall under the following regimes: 1) EU exporters would export to SMCs under MFN tariffs and in line with WTO rules; 2) SMCs' exports to the EU would face a similar regime, although where relevant (depending on location, time and product) these exports could also fall under the GSP regime.

In addition to creation of the baseline, an important element of the evaluation framework is the intervention logic: what were the objectives of the six FTAs, and through which channels would the FTAs help to achieve these objectives? Framing the question in this manner allowed us to see an FTA would lead to certain intermediate results, which could then lead to subsequent outcomes and ultimately to the achievement of objectives. Furthermore, the intervention logic (see Annex Figure B.1) includes important implicit assumptions, which were assessed during the study as well. For example, a part of the stakeholder consultations focused on the extent to which barriers to trade have been removed and whether other barriers have persisted. This information helped us understand why the effects of the FTAs materialised or not.

The evaluation matrix, in turn, includes the evaluation questions, grouped under four evaluation criteria: effectiveness, efficiency, coherence and relevance (see Annex Table B.1). These evaluation questions guide the analysis in the study, as these are the questions that ultimately need to be answered. For each of the evaluation questions, we defined information needs that help to answer these questions.

Figure B.1 Intervention logic

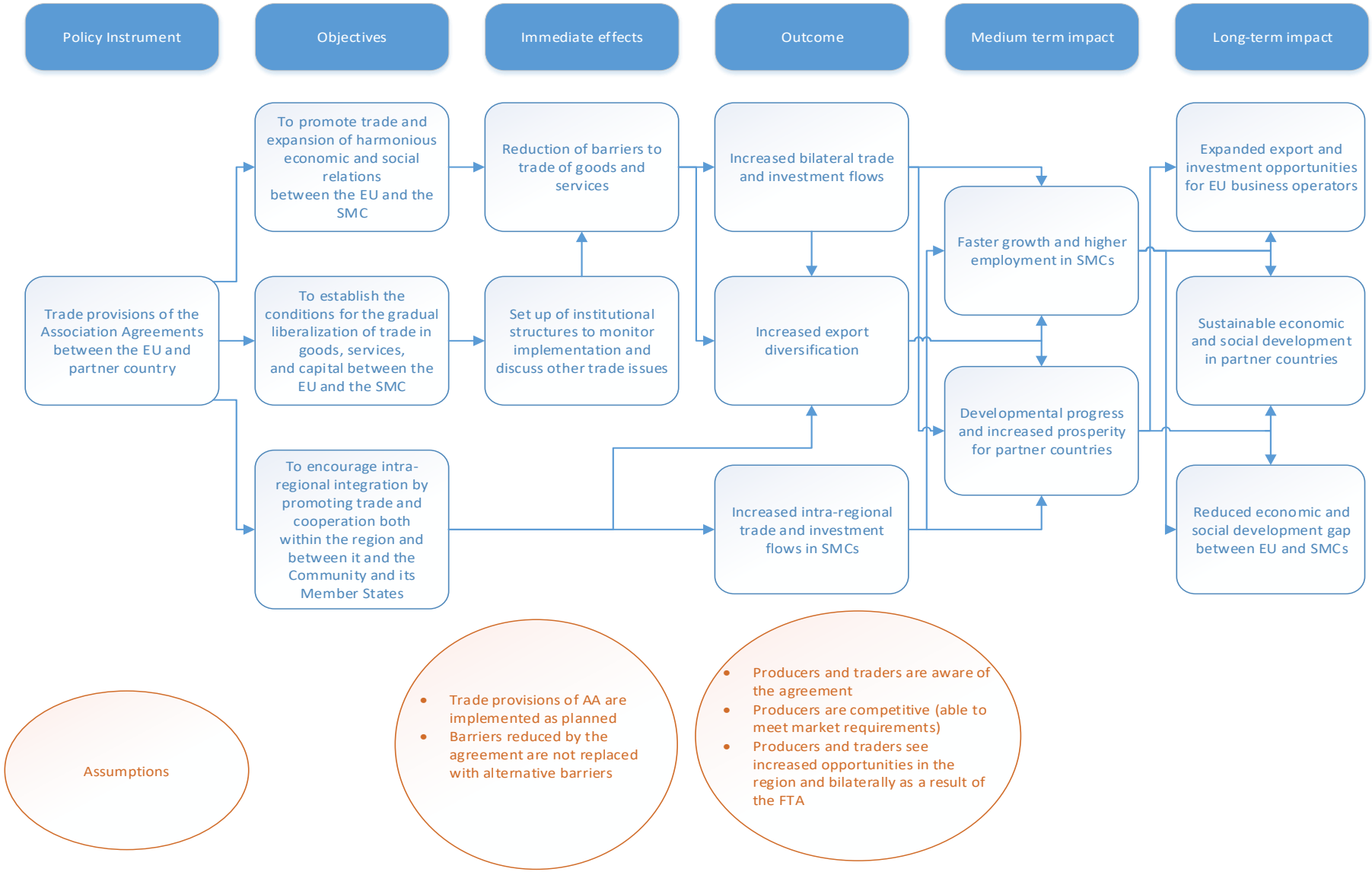


Table B.1 Evaluation matrix

Evaluation questions	Judgement criteria	Example of information needs	Sources/methods
Effectiveness			
• EQ1: To what extent have the objectives of the EU FTAs with the six partner countries (SMCs) been achieved? What are the factors influencing the achievement of those objectives? To what extent are those factors linked to the EU intervention?	• The extent to which trade has expanded between the EU and each of the six FTA partner countries; • The extent to which harmonious economic relations have expanded as a result of the FTAs; • The extent to which harmonious social relations have expanded as a result of the FTAs; • The extent to which the FTAs have established the conditions for the gradual liberalisation of trade in goods, services and capital; • The extent to which the FTAs have increased trade and co-operation in the Euro-Med region; • The extent to which the FTAs have increased trade and co-operation between the Euro-Med region, on the one hand, and the EU and its member states, on the other hand?	• Change in bilateral trade flows, in total, and by sector between the EU and each partner country; • Change in bilateral investment, in total, and by sector between the EU and each partner country; • Trends in introduction/removal of barriers; • Implementation of the FTAs; • Number of trade disputes/ conflicts over the time period examined; • Number of types of additional trade-related agreements (e.g. on agriculture-related products); • Extent to which institutional structures like sub-committees and working groups have been able to address remaining barriers to trade; • Change in bilateral trade and investment flows between each of the six Euro-med partner countries and other Euro-Med partner countries.	• Trade flow analysis; • CGE modelling; • Gravity analysis; • Desk study (e.g. MADB, WTO notifications, implementation reports); • Sectoral analysis; • Interviews; • Survey; • Workshop/CSD/ roundtables; • Case studies.
• EQ2: Have the EU FTAs with the Euro-Med countries (the six SMCs) given rise to unintended consequences? If so, which ones?	• No judgement criteria (descriptive).	• Impact of the FTAs on overall welfare; • Changes in domestic policies as a result of the FTAs; • Identification of unintended economic impacts in the EU and/or partner countries; • Identification of unintended social impacts in the EU and/or partner countries; • Identification of unintended environmental impacts in the EU and/or partner countries; • Identification of unintended human rights impacts in the EU and/or partner countries; • Identification of unintended consequences by stakeholder group (e.g. vulnerable groups, etc.); Identification of unintended economic, social, environmental and human rights impacts in third countries, with focus on developing countries and LDCs.	• CGE modelling; • Case studies under sustainability analysis; • Stakeholder consultations; • Sectoral analysis.
Efficiency			
• EQ3: To what extent have the EU FTAs with the six partner countries been efficient in achieving their objectives?	• Extent to which benefits outweigh the costs, overall and for specific groups;	• Costs related to the implementation of the agreement like required investments and	• Desk study (e.g. ministerial budgets; implementation reports);

Evaluation questions	Judgement criteria	Example of information needs	Sources/methods
• To what extent are the costs associated with the FTAs proportionate to the benefits they have generated? What factors influence those costs and benefits? How proportionate were those costs borne by different stakeholder groups, taking into account the distribution of benefits? • What are the main inefficiencies and unnecessary regulatory costs (including administrative burden)? What is the potential for simplification?	• Extent to which remaining barriers could be reduced.	foregone tariff revenue (impacting authorities); • Costs related to the use of the FTAs (tariff preferences, quota) by companies; • Identification of other (types of) costs and benefits; • Positive impacts and negative impacts compared (cost-benefit analysis) • Distribution of benefits and costs for different stakeholder groups; • The time needed to realise the objectives compared to the original plan; • Remaining inefficiencies and regulatory costs; • The costs of trade promotion and cooperation in relation to the progress made in intra-regional integration both within the Euro-Med region and between it and the EU Community and its MS.	• Survey; • Sectoral studies; • Interviews (e.g. local MAP, business, NGOs); • CGE modelling; • Gravity analysis.
Coherence			
• EQ4: To what extent have the EU FTAs with the six SMCs been coherent with the European Neighbourhood Policy (ENP), Association Agreements, action plans and Partnership Priorities and current EU trade policy?	• Extent to which objectives of EU FTAs align with those of the ENP, Association Agreements, Action plans and Partnership Priorities and current EU trade policy? • Extent to which there are contradictions between the six FTAs and the ENP, Association Agreements, Action plans and Partnership Priorities and with current EU trade policy? • Extent to which there are synergies between the six FTAs and ENP, Association Agreements, Action plans and Partnership Priorities and current EU trade policy?	• Number and type of contradictions; • Number and type of synergies.	• Desk study of relevant documents; • Survey; • Interviews; • Other stakeholder consultations.
• **Relevance**			
• EQ5: To what extent are the provisions of the EU FTAs with the six SMCs relevant for addressing current trade issues faced by the EU and these partners?	• Extent to which current trade issues can be addressed on the basis of the EU FTAs with the six SMCs; • Extent to which new or more ambitious provisions are needed to address current trade issues.	• Identification of current trade barriers (not arising from non-implementation), by sector and type of barrier; • Extent to which tariff preferences or quota are used and what are the problems encountered in their use; • Extent to which current trade barriers could be solved with current and/or more ambitious EU FTA with the six SMCs.	• Desk study (e.g. MADB, MAP, implementation reports); • Gravity analysis; • Sectoral analysis; • Stakeholder consultations.

B.3 Work package 2 – Consultations

Stakeholder consultations were an essential element of this ex-post evaluation and the specific activities and their outcomes are summarised in Annex G.

B.4 Work package 3 – Economic Analysis

The third work package studied in detail the reductions in trade barriers stipulated by the FTAs. It assessed their implementation by first examining the legal aspects and the degree of implementation of the FTAs. It reviewed the existing literature and employed qualitative and quantitative descriptive analyses of historical data. In addition, a number of quantitative methods such as the CGE, partial equilibrium (PE) and descriptive statistics - along with sectoral case studies concerning agriculture, textiles, motor vehicles and chemicals - were used to reconcile changes in trade and other relevant economic aggregates with the FTA-related reductions in tariff barriers.

Organisation of the Economic Analysis work package: The gains from trade

From an economic perspective, similarly to other preferential trade agreements, the Euro-Med FTAs are overall expected to bring about economic and social gains for the following reasons:

- Freer trade results in a better alignment of economic incentives with international price signals. In the context of this report, this allows realisation of SMC economies' and EU's comparative advantage where productive resources are allocated more efficiently across trading economies (also referred to in the literature as 'allocative efficiency'). This results in higher productivity and higher per capita incomes;
- Trade openness also results in greater competition which also translates into higher productivity and higher per capita incomes;
- With access to larger market greater economies of scale can be realised, lowering average costs of production, boosting productivity and per capita incomes;
- Higher productivity stemming from the above effects helps in attracting more domestic investment and FDI as well as labour (i.e., through migration) boosting further productivity and per capita incomes;
- All of the above effects are expected to combine and reinforce each other and create a more creative and innovation-driven economy, which also boosts productivity and per capita incomes in a more sustainable manner.

However, as is the case with other FTAs, a key reality which is often forgotten in economic analysis of trade policy, is that the above-mentioned effects may not materialise if the structural change does not take place or is impeded. Instead, negative effects, including, for example, output or employment reductions, may appear and persist in time. For the positive effects of trade liberalisation to materialise, the economic agents must be able to act and adjust production, employment and investment levels across the economy in response to the new market access conditions. This involves upscaling economic activity in competitive, and downscaling it in uncompetitive, sectors. A host of factors related to the functioning of product and factor markets and institutions, such as the ability to start or close a business, get credit, register and protect property, hire skilled staff, enforce contacts, etc., determine countries' structural adjustment abilities. Other reasons for why trade-related structural adjustment and the gains from trade may fail to materialise include emergence of other barriers which are either not covered or insufficiently so in the agreements. This is sometimes the case with NTMs which are erected under pressure from interest groups to counterbalance the effects of tariff liberalisation.

The fact that the gains from trade are predicated on relative price changes and structural change means that FTAs may also be associated with certain adjustment costs and distributional effects such as:

- Unequal sectoral effects on output, employment and capital stocks which refers to more pronounced reallocations with potentially negative social implications;
- FTAs may have negative or positive distributional effects as well as environmental effects which may require accompanying policies, often from beyond the traditional 'trade policy toolkit'.

Generally, to maximise the chance that trade liberalisation has positive social and environmental effects, relevant labour and environmental standards need to be in place and be effectively enforced. In the context of trade agreements which do not have advanced provisions in these areas, as is the case with the Euro-Med FTAs (see Chapter 2), these standards are necessarily the relevant national standards as well as any international standards the trading partners may have committed to in other contexts (e.g. the international labour standards of the International Labour Organisation (ILO) and related domestic legislation, see also Chapter 5).

The economic impact analysis presented in Chapter 3 builds on this overview of expected effects of the Euro-Med FTAs and combines the following elements:

- Description of the Euro-Med FTAs and assessment of their implementation (Chapter 2 of the main report);
- Review of existing studies and reports (Section 3.2 and Annex D);
- Review of characteristics of Euro-Med FTAs and of subsequent trade developments (Section 3.3);
- Description and interpretation of the computable general equilibrium (CGE) and partial equilibrium (PE) modelling exercises used to discern the trade effects of the Euro-Med FTAs and to assess their broader economic effects (Section 3.4);
- Analysis of factors that can help explain and put in the context the CGE/PE modelling results and as well as factors determining the degree to which SMCs could use the opportunities stemming from the FTAs (Section 3.5), in particular:
  - Rules of orgin (Section 3.5.1);
  - Non-tariff measures (Section 3.5.2);
  - Role of FDI and services trade (Section 3.5.3);
  - Business environment (Section 3.5.4);
  - Competitiveness (Section 3.5.5);
  - Diversification, technology and economic complexity (Section 3.5.6);
  - SMEs (Section 3.5.7).
- Sectoral case studies of enablers and bottlenecks in achieving FTA objectives in specific sectors (Chapter 5).

The remainder of this subsection elaborates on research methods and analytic models used in the evaluation in respective parts of the Economic Analysis - Work Package 3 listed above. More detailed decriptions of these methodologies as well as the interpretations of results stemming from them can be found in respective sections of the report and the associated annexes.

B.4.1 Preferential tariff and trade data used in the review of characteristics of Euro-Med FTAs and of subsequent trade developments

In Section 3.3, the available tariff and trade data from, respectively, UN TRAINS and UN COMTRADE databases, accessed through the World Integrated Trade Solution (WITS) platform, are used to describe the evolution bilateral import tariffs and preferential tariff margins for the aggregate trade and for selected product categories. This is followed by a descriptive analysis of the evolution of the corresponding bilateral trade flows since the beginning of the entry into force of the Euro-Med FTAs in the next subsection.

Three types of tariffs are considered: MFN tariffs which indicate the levels of non-preferential tariff protection can be compared to preferential tariffs (PRF) associated with FTAs and other preferential trade agreements such as for example the GSP, and effectively applied tariffs (AHS) which combine of MFN tariffs with PRF tariffs wherever the latter exist (see also Box B.1). Throughout the section the analysis refers to simple averages calculated for the aggregated product categories across all relevant Harmonised System (HS) tariff lines at the 6-digit level of aggregation which have positive import values. Hence, the observed differences are a combination of different tariff rates and the composition of trade that actually occurs.

Box B.1 Tariff definitions according to the World Integrated Solution (WITS) portal

MFN Tariffs

MNF are the rates actually applied on imports from other members of the WTO according to their WTO MFN commitments (in cases of countries which are members of the WTO, Algeria and Lebanon are not), unless the country is part of a preferential trade agreement (such as a free trade area or customs union). This means that, in practice, MFN rates are the highest (most restrictive) that WTO members charge one another.

Preferential Tariffs (PRF)

These are the tariffs applied in the context of a preferential agreement. The preferences differ between agreements and partners. In certain agreements (customs union or free trade area), the preferential tariff rate is zero on essentially all products. This type of agreements is reciprocal: all parties agree to give each other the benefits of lower tariffs but reciprocity does not necessarily mean that countries give each other the same preferences on the same products. In other agreements the members receive a percentage reduction from the MFN tariff, but not always zero tariffs. Moreover, the latter preferences are not necessarily reciprocal.

Effectively Applied Tariffs (AHS)

The effectively applied tariff (AHS) is obtained by replacing the MFN tariff by the preferential tariff where this one exists. The AHS tariff is therefore the simple average of the tariffs, which are either preferential tariffs or MFN tariffs when there is no preferential tariff on a HS line. Consequently, deviations between preferential tariffs and effectively applied tariffs mean that there are no preferential tariffs for each HS line (or for each disaggregated product category).

Note: Whatever the type of tariff, their level always corresponds to the simple average of the tariff lines for which there is trade, which explains why, for example, the average MFN tariffs applied by the EU on imports from each SMC may not be the same between different EU countries.

B.4.2 Estimating selected trade and other economic effects of the Euro-Med FTAs using a CGE and PE analysis

Computable General Equilibrium (CGE) and partial equilibrium (PE) modelling discused in Section 3.4 of the main report are two related techniques which provide consistent frameworks for separating out the effects strictly related to trade policy changes such as the FTAs from other developments. CGE models have been conceived for studying policy reforms which impact economic relations at the microeconomic level, but which also have economy-wide effects (e.g. an income effect of a trade reform) and have indeed been used extensively for isolating and analysing the effects of tariff changes on trade flows, production, income and welfare. PE models are either separately developed models employing similar methods of analysis to CGE modelling, but focusing on a specific products or markets (e.g. a specific commodity or type of product in a national or global context), or reduced versions of CGE models, where certain simplifying assumptions are made with respect to some economic mechanisms to reduce the complexity or data requirements of the analysis and to focus on a specific market.

As is the case with other economic models, which make simplifying assumptions to clearly show the effects that are deemed of primary importance in a given context, results obtained from CGE and PE models depend on the underlying assumptions. These assumptions can be categorised so as to include:

- the economic theory underpinning the model mechanics, including functional forms assumed for representing different economic relations in the model as well as well as decisions about which variables can be in a given context treated as endogenous (determined within the model) and which can be treated as exogenous (determined outside the model) (i.e. model closure);
- the choice of the underlying data used to calibrate the model;
- elasticities and other parameters determining the magnitudes of adjustments within the model.

A key issue in CGE and PE analysis, and one that is not easily overcome without an extensive sensitivity analysis, is the question which of the assumptions of the model are key for the obtained results and which are not. Such sensitivity analysis can help determine whether the results produced by the model are driven mainly by the nature of the considered policy shock as opposed to model assumptions.

Section 3.4 of the main report presents the simulation analysis of the six agreements with a CGE and a PE model, which has been performed by the Directorate General for Trade of the European Commission. Part of the further research in this study is based on the results obtained here. After a technical description of the modelling tools and a cross-regional summary of the results, the section proceeds with a presentation of the results by model type and country and finishes with a conclusion.

The computable general equilibrium (CGE) model

The CGE model used by the Directorate General for Trade of the European Commission to estimate selected effects of the Euro-Med FTAs for the purposes of this report is the Modelling International Relations in Applied General Equilibrium (MIRAGE) model developed by the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII) (see Decreux and Valin, 2007; Bchir et al., 2002). Since its conception, MIRAGE has been dedicated to trade and related policy analysis and has been used in several trade policy evaluations. The model has been a standard reference for the ex-post and ex-ante evaluations of EU trade policy by the Directorate General for Trade of the European Commission. Modelling results stemming from this model also serve as an important analytical input in the current ex-post evaluation.

MIRAGE is a relatively standard CGE model but, depending on its version, it also incorporates several more advanced features, including elements of dynamics, product differentiation by quality and origin and imperfect competition as well as international capital movements. In here, a static version of MIRAGE with a standard neo-classical closure has been deployed. Capital stocks are assumed as fixed within domestic economies and national labour markets are assumed to clear under the condition of fixed unemployment.[667] The assumption of perfect mobility and capital means that these factors of production are allocated smoothly across the different sectors of the economy in response to changes in relative product prices so as to equilibrate factor prices (wages and returns to capital). The fixed current account closure means that that the exchange rate is assumed to adjusts so that the overall current account of a country remains unchanged. It is also assumed that markets are perfectly competitive with perfectly smooth market entry and exit and existing firms charging prices equal to marginal costs of production.

In terms of policy data, MIRAGE incorporates measures of bilateral trade protection included in CEPII's MacMap database which is part of the GTAP Data Base and which provides exhaustive and consistent measures of tariff protection, encompassing ad valorem tariffs as well as ad valorem equivalents of tariff rate quotas (TRQs). The GTAP database 9.2 has been used and the CGE has been applied for Egypt, Jordan, Morocco and Tunisia, as the database does not cover Algeria and Lebanon individually (for these countries the results of a partial equilibrium model are provided, see the next sub-section).

The base year of the version 9.2 of the GTAP database is 2011 (Aguiar et al., 2016). To reflect some of the important economic changes in the EU and SMCs since 2011 the base year has been updated so that key indicators are in line with projections or, where possible, data for 2018. These base adjustments concern: current account balance; population growth; growth of the labour force; savings rates; sectoral technical progress (for some sectors); energy efficiency; capital stocks as well as GDPs. The Gross Domestic Product (GDP) was also adjusted[668] so as to reflect the GDP figures as reported for 2018 by the IMF World Economic Outlook.

The model is aggregated to 13 regions and 26 sectors shown in the Annex Tables B.3 and B.4 below. A mapping of the sectors to the original 57 sectors in the GTAP database is shown in Annex Table B.5. Note that sector definitions are different from those presented in the tariff and trade analysis presented in Section 4.3.

[667] But capital and labour reallocations to different sectors of the economy occur in response to changes in factor prices.

[668] This was done by adjustments to the parameter concerning the overall technical progress.

Table B.3 Regional aggregation of the CGE model

Model Aggregate	Remarks
EU 28	
Egypt	
Jordan	
Morocco	
Tunisia	
Israel	
Turkey	
Rest of Northern Africa	As defined in the GTAP database
Rest of Western Asia	As defined in the GTAP database
Gulf Countries	
China	
Least Developed Countries (LDC)	
Rest of the World	

Source: Own Compilation by DG Trade.

Table B.4 Sectoral aggregation of the CGE model

CGE sector
Live ruminants and horses
Red Meat
White Meat
Dairy products
Vegetables, fruit and nuts
Vegetable oils
Wheat
Other cereals
Processed food
Beverages and tobacco
Other agri-food products
Fishery and forestry
Fossil fuels
Minerals
Chemical, rubber and plastic products
Textiles
Wearing apparel
Leather products
Metals and metal products
Electronic equipment
Motor vehicles and parts
Other transport equipment
Other Machinery and equipment
Other manufactures
Transport services
Other services

Source: Own Compilation by DG Trade.

Table B.5 Sectoral Aggregation of the CGE model

CGE sector	GTAP sector codes
Live ruminants and horses	ctl
Red Meat	cmt
White Meat	omt
Dairy products	rmk, mil
Vegetables, fruit and nuts	v_f
Vegetable oils	vol
Wheat	wht
Other Cereals	pdr, gro, pcr
Processed food	ofd
Beverages and tobacco	b_t
Other agri-food products	osd, c_b, pfb, ocr, oap, wol, sgr
Fishery and forestry	frs, fsh
Fossil fuels	coa, oil, gas, p_c
Minerals	omn, nmm
Chemical, rubber and plastic products	crp
Textiles	tex
Wearing apparel	wap
Leather products	lea
Metals and metal products	i_s, nfm, fmp
Electronic equipment	ele
Motor vehicles and parts	mvh
Other transport equipment	otn
Other Machinery and equipment	ome
Other manufactures	lum, ppp, omf, ely, gdt
Transport services	otp, wtp, atp
Other services	wtr, cns, trd, cmn, ofi, isr, obs, ros, osg, dwe

Source: compilation by the Directorate General for Trade, European Commission.

For each scenario, each of which considers the policy changes which are associated with a given Euro-Med FTA, simulations using the MIRAGE model yielded the predicted changes. These were changes with respect to different trade flows (total, bilateral by sectors), sectoral outputs, consumer prices, different kinds of country-wide wages (e.g. for skilled and unskilled workers), employment across sectors, impact on tariff revenues, and CO2 emissions. These predicted changes also referred to GDP and economic welfare.

The partial equilibrium (PE) model

The simulation for Algeria and Lebanon, which are not covered as individual countries in the GTAP database, are carried out in a PE model which is an adaption and extension of the basic four equations, perfect competition framework of Balistreri and Rutherford (2013). These equations are (1) an isoelastic[669] export supply function, an isoelastic import demand function, an import price aggregation function and a market clearance function (see Annex Box B.2). The equations have been extended such as to allow classical tariffs as policy instruments.[670] In this partial equilibrium model, the only endogenous variables are bilateral trade flows by sector. The PE model is populated with trade data obtained from importer notifications in the UN COMTRADE database.

[669] Isoelastic means that these functions are governed by the same elasticity over their entire course.
[670] The original code only allows so-called iceberg tariffs, which work differently in that they simulate the cost increase by reducing the quantity shipped on a bilateral link – akin to a melting iceberg – rather than adding a monetary cost as is done here and in most other analyses using classical tariffs.

The model has been aggregated to the three FTA partners (Algeria, Lebanon and the EU) and the rest of the world. Simulations were carried out at the HS6 level.[671] The various parameters of the model (e.g. own-price, Armington, supply elasticities) are based on a World Bank study and on values found in the specialised economic literature (Kee et al, 2008, Laborde and Lakatos, 2012).

Box B.2 Partial Equilibrium Model Equations in GAMS notation

In the model code, variables are put in UPPERCASE and parameters are put in lowercase characters.

Sets:

r,s	Countries or regions
j	Goods

Parameters:

sig	Elasticity of substitution
eta(j,r)	Demand elasticity
mu	Supply elasticity
q0(j,r)	Benchmark demand,
p0(j,r)	Benchmark import price index,
c0(j,r)	Benchmark export cost,
y0(j,r)	Benchmark export supply,
alpha(j,s)	Scale parameter for dual utility function
tau(j,r,s)	Iceberg transport cost factor (always 1 here)
zeta(j,r,s)	Bilateral preference weights
tar(j,r,s)	ad valorem tariff

Variables:

Q(j,r)	Import demand
P(j,r)	Import price index
C(j,r)	Export cost (fob price)
Y(j,r)	Export supply
P_CIF(j,r,s)	Cif price

Model equations:

```
Q(j,r) - exp(log(q0(j,r)) + eta(j,r) * (log(p0(j,r)/P(j,r)))) =g= 0;

alpha(j,s) * sum(r$(zeta(j,r,s)),zeta(j,r,s)**(sig) *exp((1-sig)*log(P_CIF(j,r,s))))**(1/(1-sig)) - P(j,s)
=g= 0;

Y(j,r) - sum(s$(zeta(j,r,s) and q0(j,s)),tau(j,r,s)*Q(j,s)* (zeta(j,r,s)**(sig)*exp((sig)*
log(P(j,s)))/[exp(sig * log(P_CIF(j,r,s)))])) =g= 0;

exp(log(y0(j,r))+ mu *(log(C(j,r)) - log(c0(j,r)))) - Y(j,r) =g= 0;

P_CIF(j,r,s) =E= tau(j,r,s) * C(j,r) * (1+tar(j,r,s));
```

Source: compilation by the Directorate General for Trade, European Commission.

[671] The Harmonized System is an international nomenclature for the classification of products. It allows participating countries to classify traded goods on a common basis for customs purposes. At the international level, the Harmonized System (HS) for classifying goods is a six-digit code system.

The counterfactual scenarios – the 'value' of the Euro-Med preferences

As far as the counterfactual assessment of the FTA's effect is concerned, the CGE and PE modelling considers hypothetical scenarios equivalent to a suspension of the Euro-Med FTAs in 2018.[672] In this counterfactual, the EU is treated as an MFN trading partner by all six countries. This means that the tariff rates are increased to those that would apply if these SMC countries treated the EU as a non-preferential MFN partner rather than an FTA partner).[673]The tariff treatment of SMCs by the EU takes into account their potential eligibility for the GSP treatment. The GSP regulation of 25 October 2012 that applies from 31 December 2013 reformed the then GSP and the beneficiary status was removed for countries that had another preferential trade agreement with the EU in place. This includes the six SMC partners in question. Furthermore, it removed the GSP beneficiary status for upper or upper-middle-income level countries and set strict conditions for the special incentive arrangement for sustainable development and good governance (GSP+).[674] Hence, during the lifetime of the Euro-Med FTAs, the GSP status of these partner countries has evolved but, as explained above, the analysis presented considers how the reformed GSP would apply today as a counterfactual:

- Algeria and Lebanon are both upper-middle-income countries (2019 World Bank update based on 2017 data) and have been so for the last three years, therefore under the current GSP regulation they would not be beneficiaries and would have to export to the EU under MFN terms. The scenarios for Algeria and Lebanon thus consider raising customs tariffs to the MFN level;
- Tunisia, Morocco and Egypt are lower-middle-income countries; and would be able to benefit from the GSP general arrangement. The scenarios for Tunisia, Morocco and Egypt thus consider raising customs tariffs to the GSP level;
- Jordan is an upper-middle-income country based on 2017 data but was a lower-middle-income country in 2016. In order to graduate from GSP, the country would have to be an upper-middle-income country for three consecutive years, which is not the case. Therefore, also for Jordan the scenario considers raising customs tariffs to the GSP level.

As the agreements are legally independent from each other, the simulations are run for each of the FTAs individually. Other trade relations, including those of the Southern Mediterranean partners among each other are left intact. So are the trade relations between the Southern Mediterranean partners and other countries in the region.

Preference margins, which are the differences between the GSP and FTA tariff rates, used in CGE simulations are presented in Annex Table B.6. Although the product aggregation differs from that used for comparisons in the main report's Section 3.4, we see similar patterns: EU enjoys relatively high more evenly spread across sectors margins in SMC markets. These are particularly high in sectors such as Textiles, Wearing Apparel and Leather, but also in some other manufacturing and agricultural sectors, depending of the specific SMC (Panel A). Apart from a few agricultural and food-related products, SMCs enjoy generally lower margins in the EU market. With the exception of Textiles, Wearing Apparel and Leather and Motor Vehicles and Parts (except for Tunisia), margins faced by SMC in manufacturing sectors are low.

[672] While there is the potential for evolution of the preferential tariff margins over time, a dynamic ex-post analysis with an equilibrium model (both partial and general) is conceptually difficult and would force the modelling to focus on more aggregated data. Furthermore, an evaluation of various regimes or years would inflate the number of results and potentially blur their meaning.

[673] Full preference utilization has been assumed.

[674] Countries eligibility for GSP+ depends on a detailed assessment would need to be undertaken of economic vulnerability criteria would as well as of ratification and implementation of 27 international conventions related to human rights and labour rights, environment and good governance, - the outcome of which cannot be prejudged. Moreover, none of the countries benefited from GSP+ before. Therefore, we this scenario is disregarded in the modelling exercise.

Table B.6 Preference margins used in the CGE model

Panel A. Tariff margins faced by EU exporters in SMC markets

sector	Egypt	Jordan	Morocco	Tunisia
Other Cereals	0.01%	0.01%	15.73%	0.00%
Wheat	0.00%	0.00%	0.04%	0.58%
Vegetables, fruit and nuts	11.56%	21.86%	10.76%	0.00%
Other Agri-food products	10.84%	5.75%	2.81%	2.54%
Live ruminants and horses	0.32%	0.05%	24.47%	0.00%
Dairy products	2.71%	3.22%	7.38%	0.00%
Fishery and Forestry	2.11%	3.48%	9.51%	0.03%
Fossil fuels	5.54%	10.77%	6.73%	3.34%
Minerals	11.03%	17.56%	15.25%	15.25%
Red Meat	2.12%	0.29%	11.32%	0.00%
White Meat	11.77%	3.46%	12.02%	0.00%
Vegetable oils	7.50%	13.07%	3.86%	2.04%
Processed food	9.83%	12.70%	10.14%	6.91%
Beverages and tobacco	3.72%	3.11%	27.74%	16.93%
Textiles	10.86%	9.08%	9.01%	13.88%
Wearing apparel	38.21%	19.94%	14.44%	22.65%
Leather products	50.75%	25.47%	13.24%	28.40%
Other manufactures	3.56%	5.03%	7.40%	7.86%
Chemical, rubber and plastic products	14.97%	2.32%	8.61%	12.87%
Metals and metal products	6.06%	10.71%	10.00%	11.94%
Motor vehicles and parts	33.52%	5.27%	8.42%	15.93%
Other transport equipment	5.15%	4.75%	2.65%	3.78%
Electronic equipment	7.54%	7.36%	10.11%	17.74%
Other Machinery and equipment	13.78%	11.43%	12.26%	11.40%

Panel B. Tariff margins faced by SMC exporters in EU markets

sector	Egypt	Jordan	Morocco	Tunisia
Other Cereals	33.28%	25.22%	0.16%	0.00%
Wheat	0.55%	28.40%	18.99%	0.00%
Vegetables, fruit and nuts	9.30%	9.95%	10.43%	2.74%
Other Agri-food products	0.79%	0.68%	0.70%	1.45%
Live ruminants and horses	2.74%	8.00%	-0.11%	0.07%
Dairy products	61.05%	0.00%	59.62%	0.00%
Fishery and Forestry	6.94%	0.00%	6.57%	8.26%
Fossil fuels	0.00%	0.02%	0.00%	0.00%
Minerals	2.66%	2.43%	0.27%	2.21%
Red Meat	0.00%	58.67%	0.03%	5.75%
White Meat	37.93%	27.57%	60.29%	0.00%
Vegetable oils	10.43%	1.32%	24.40%	29.31%
Processed food	10.42%	9.01%	7.29%	4.72%
Beverages and tobacco	13.90%	51.18%	6.47%	8.45%
Textiles	6.37%	9.15%	8.00%	6.90%
Wearing apparel	9.59%	9.58%	9.42%	9.26%
Leather products	3.67%	2.13%	4.30%	3.54%
Other manufactures	0.00%	0.47%	0.45%	0.27%

sector	Egypt	Jordan	Morocco	Tunisia
Chemical, rubber and plastic products	3.22%	0.47%	1.49%	2.47%
Metals and metal products	2.32%	0.72%	0.89%	0.52%
Motor vehicles and parts	5.80%	4.11%	6.08%	0.02%
Other transport equipment	1.08%	1.11%	1.21%	2.02%
Electronic equipment	1.52%	0.72%	2.42%	1.51%
Other Machinery and equipment	0.01%	0.01%	0.00%	0.04%

Source: Own Compilation by DG Trade.

B.4.3 Exploring the incidence of NTMs relevant to the Euro-Med trade relations

In order to complement previous studies and provide a context for the current evaluation of the effects of lowering of tariffs associated with the Euro-Med FTAs, Section 3.5.2 of he main report takes stock of the incidence of the main NTMs in SMCs and the EU. For this purpose, data on NTMs has been extracted from the UNCTAD's TRAINS, the Global Database on Non-Tariff Measures (UNCTAD, 2017) which is currently the most comprehensive source of internationally comparable data on NTMs. Reflecting the current data collection and availability constraints[675], the analysis covers the types of measures in the MAST classification listed in Annex Table B.7.

Table B.7 Correspondence between the measures covered in the current study and those covered in MAST and UNCTAD's Global Database on Non-Tariff Measures

Acronym	Types of measures	MAST Chapter
SPS	**Sanitary and Phytosanitary** Substance restriction measures, hygiene obligations, compliance measures related to food safety (certification, testing, inspection and quarantine), measures to prevent the concealment of diseases.	**A**
TBT	**Technical Barriers to Trade** (non-SPS) Labelling measures and all other environmental protection and compliance measures (certification, testing and inspection).	**B**
INSP	**Pre-shipment Inspection and other formalities** Measures related to pre-shipment controls in the country of export.	**C**
CTMP	**Contingent Trade-Protective Measures** Measures to counteract the adverse effects of imports on the domestic market caused by unfair trading practices.	**D**
QC	**Non-automatic licences, quotas and other quantity measures** (not SPS or TBT related). The aim of these measures is to limit the quantities traded.	**E**
PC	**Price Control measures** Measures put in place to control (or modify) the prices of imported goods or to support domestic goods when the prices of imported goods are too low or to protect the domestic market from international price fluctuations or to increase/preserve tax revenues. Thus, fiscal measures other than customs duties are also included.	**F**
EXP	**Export measures** This chapter includes measures that a country applies to its exports. These can be taxes, quotas or bans.	**P**
OTH	**Other measures** This category includes measures in 3 chapters: Chapter G: Measures related to trade finance that may restrict the payment of imports, such as access (and the cost of access) to foreign exchange. Chapter H: It concerns measures that affect competition (exclusive agreement, preferences or privileges granted to one or a limited group of operators. Chapter I: Set of measures that limits trade related to foreign investment by requiring local content or by requiring investment to be linked to exports to balance imports.	**G, H et I**

Source: authors' elaboration based on UNCTAD (2018).

[675] Currently, the data on measures falling within chapters J through O in the MAST classification (Table X.1) are not collected by UNCTAD (except for a few countries). The data are thus available for Chapters from A to I, and Chapter P.

UNCTAD TRAINS data is based on official sources, i.e. publicly available legal official texts that represent the enforced regulation of a country. It includes all requirements, not only those that are assumed to be a problem or imply a high cost, currently imposed by the country that affect domestic and imported[676] products. NTM data is collected and reported at the tariff line level (HS 6-digit is the most disaggregated level of product classification).

Sums of all NTMs and frequencies by NTM category were valculated for broad type of product at the HS 1-digit (i.e. HS section) level. The majority of measures are applied to imports from all partners. Thus, there is no real bilateral 'dimension' of NTM data that would correspond to the bilateral nature of tariff concessions in the FTAs at hand and this reflects the nature of NTMs which are usually not imposed to target imports from a specific source country. Nevertheless, NTMs may have bilateral effects in the sense that the distribution of NTMs across the broad sectors and measure types is specific to each importing country and usually not uniform across products. This may affect bilateral trade relationship as trade partners also tend to specialise in different products. In this sense, a country's NTM regime, even though it is applied on non-discriminatory, multilateral, basis can have different effects on different trading partners, depending on structure of their exports. This is a 'bilateral dimension' of NTMs that is considered in the context of the Euro-Med FTAs in Section 3.5.2.

B.4.4 Measuring regulatory restrictiveness of FDI

FDI

In addition to the worldwide FDI trends and the possible effects of the FTAs which are discussed in Section 3.5.3, there are also country-specific features which can help explain the trends in FDI in the region and their relation to the effects of the FTAs. First there are the domestic regulations that determine how easy it is to invest. These can be compared across countries or countries or groups of countries in a rigorous manner using the OECD data on FDI restrictiveness which collects qualitative data on different regulations relevant to FDI and 'quantifies' it in a form of quantitative index of regulatory restrictiveness (i.e. the OECD FDI Regulatory Restrictiveness Index[677]). It must be noted at the outset however that, some, although not all, of changes in countries' FDI regulations recorded in the OECD data, may reflect the effects of provisions on FDI included in the GATS and the bilateral FTAs between the SMCs and the EU. This can be for example the case for restrictive regulations which may have differentiated between investors from different countries before the entry into force of the MFN provisions of the Euro-med FTAs[678], or for regulations which were made less restrictive as a result of FDI-related commitments in the Euro-Med FTAs. As discussed in Section 3.5.3, the specific provisions of Euro-Med FTAs in the area of FDI were limited and where exactly they may have contributed to the lesser restrictiveness of the FDI regimes in the EU and SMC would require a specific historic and legal analysis of legislation which goes beyond the scope of this evaluation. Instead, in Section 3.5.3 we used the OECD data on regulations applied on a multilateral basis to establish broad trends and the extent and distribution of the remaining restrictive measures across the four SMCs covered in the OECD data (Egypt, Jordan, Morocco and Tunisia, SMC4 in the remainder of this sub-section). As far as interpretation is concerned, index with a value of 1 means the most restrictive policy stance and 0 means the least restrictive stance.

Services

SMCs are not covered well by the existing databases on restrictions to services trade. The OECD Services Trade Restrictiveness Index database, which is a methodological reference in this area, does not include any of the SMCs and the WTO-World Bank's I-TIP Services database has data[679] only for Egypt and Tunisia in 2016 (see also Bochert et al., 2019). This complicates any categorical comparisons across the SM region and an assessment of evolution over time. The WTO- World Bank Services Trade Restrictions Index (STRI) index of services trade restrictiveness was computed on the basis of the WTO-World Bank's I-TIP Services database as documented in Bochert et al. (2019) for five broad services. The index is a measure of the restrictiveness of an economy's regulatory and policy framework with respect to trade in services and is computed in the basis of information on around 115 regulations for several. It provides comparable information on services trade policies under three out of the four modes of supply in the GATS, namely cross-border supply (mode 1), commercial presence (mode 3) and presence of natural persons (mode 4). The index

[676] NTMs in Chapter P of the MAST classification apply to exports.

[677] Data and methodology can be consulted here: https://www.oecd.org/investment/fdiindex.htm.

[678] In practice, most domestic regulations are applied on a multilateral basis. It can be argued that this applies to, for example, foreign equity restrictions or FDI screening and approval regulations. However, certain regulations related to temporary movement of personnel or business travel may be specified and applied on a bilateral basis.

[679] Available on-line at: http://i-tip.wto.org/services/.

ranges from 0 to 100, where 0 indicates that none of the restrictions underlying the index is applied, and 100 means that the subsector/mode is completely closed to foreign services and service suppliers.

B.4.5 Diversification, technology and economic complexity

Diversification
Diversification index, also named Herfindahl-Hirschmann Index (Product HHI), measures the degree to which exports of individual economies are concentrated on a few products rather than being distributed in a more homogeneous manner among several products.

An index value closer to 1 indicates a country's exports or imports are highly concentrated on a few products. Conversely, an index leading to 0 indicates that exports are more diversified. The following normalized HHI is used in order to obtain values between 0 and 1:

$$H_j = \frac{\sqrt{\sum_{i=1}^{n}\left(\frac{x_{ij}}{X_j}\right)^2} - \sqrt{1/n}}{1-\sqrt{1/n}}$$

Where H_j is country or country group index, x_{ij} is a value of export for country j and product i

$X_j = \sum_{i=1}^{n} x_{ij}$ and n is the number of products (SITC Revision 3 at 3-digit group level).

Complexity
The concepts of diversification, uniqueness and technology and know-how, and their impact on economic development, have been addressed in the methodology/theory of economic complexity which is used a point of reference in the main report's Section 3.5.6. This methodology was first proposed by Hidalgo and Hausmann, 2009), and also referred to as the Product Space methodology (Economic Complexity Theory, or ECT, thereafter). The on-line Atlas of Economic Complexity is a platform presenting the research associated with this methodology, offering access to data as well as user-friendly data visualisations.[680]

EC is a methodology for jointly measuring the knowledge and productive capacities of countries as well as complexity of exported products by an integrated analysis of export structures and development levels of countries exporting these specific products.

The *Economic Complexity* methodology is being developed since the mid-2000s by a group of researchers associated with the Center for International Development at the University of Harvard (see Hausmann, Hidalgo et al., 2014) integrates the concepts of diversification, uniqueness and technology and know-how. ECT is a theory of economic development built from empirical observations, which posits that access to technology and in particular, 'know-how', or the kind of technology which is tacit (and can be distinguished from tools, codes, blueprints and recipes which are more material and are in principle transferable across borders) is the key factor determining countries current level of economic development as well as the future growth prospects.

Built on the observation that know-how is created and absorbed by performing tasks ('doing things'), ECT posits that know-how of modern societies does not typically reside in few individuals which have a lot of different kind of know-how but that it rather resides in complex organisational structures of individuals which can co-operate with each other (i.e. the kind of human networks that we observe in multinational firms and highly-diverse modern societies) in which individuals are highly specialised and draw on knowledge of others who specialise in other activities. This is supposed to be a key explanation of one of the main 'stylised facts' of the EC that the most advanced countries produce a wide range of products (*diversification*), including some very unique ones (*uniqueness*). Poor countries on the other hand produce fewer products (*lack of diversification*) and these are the products that many other countries can produce (*ubiquity*).

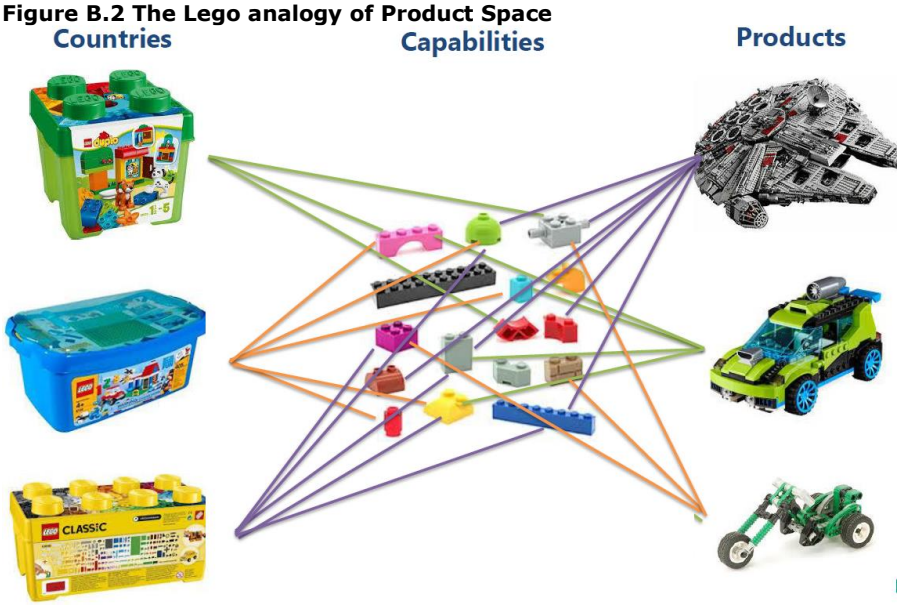
The posited underlying mechanism behind the relationship between *diversification* and *non-ubiquity* and the level of economic development is that products are produced using a large number of specific *capabilities* (abilities to perform certain tasks) and that the most advanced products are produced using a large number of different capabilities, including capabilities that are held (or can

[680] Available at: https://atlas.cid.harvard.edu/explore.

be combined in an production process) by only a very few advanced countries. Therefore, advanced countries can produce most products, including those unique ones that use rare capabilities, and poor countries produce fewer products that can be produced by most other countries. These capabilities are not directly observable, and can be defined in the broadest possible sense, from labour skills and physical capital to specific environmental characteristics, such as a country's climate, its natural endowments, the level of institutional development, work ethics, infrastructure.

While capabilities used to produce products are not directly observed (or at least they cannot be consistently measured in detail across countries) products and countries producing them 'reveal' these capabilities. The ECT view of economic development and the associated methodology, are thus based on the idea that the information on which products are exported by which countries, reveals important information about the complexity of produced products (and capabilities needed to produce them). Considering in turn the product baskets countries produce, reveals important information about the capabilities of countries that produce them. Mapping which products are produced by which countries together tells informs us about the complexity or products and countries that produce them. An interesting analogy is with Lego blocks. Combining them differently, sometimes adding some, sometimes removing others, allows building different constructions, or products (Box Figure B.1). The stock of Lego blocks in different sets of blocks (left hand panel of the Figure) reflects the stock of production knowledge present in a country and determines which products can be built. So it may be that the two top countries in the graphic (green and blue sets of blocks) can produce the car and the bike constructions but are missing some pieces to produce the spaceship as the blocks (capabilities) needed to produce the spaceship are only held by the third country (the country with the yellow set of blocks).

Figure B.2 The Lego analogy of Product Space



Source: authors' own elaboration based on materials provided by the Atlas of Economic Complexity available at: https://atlas.cid.harvard.edu/.

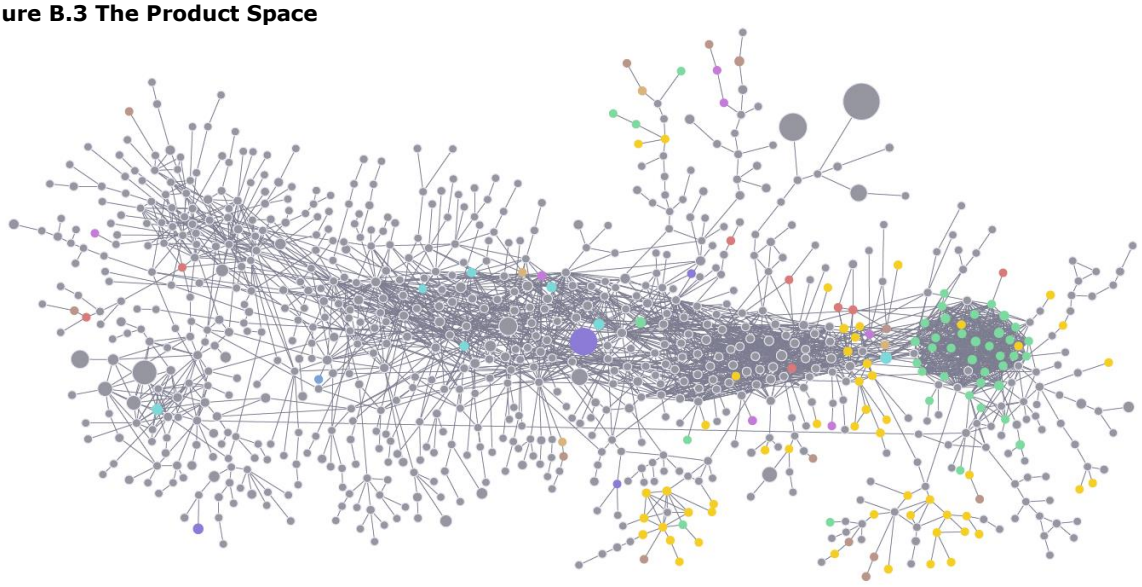
An additional observation on which the ECT is built is that if different products tend to be jointly produced by the same countries (the probability that if a country produces product A then it also produces product B is high) then it must be that he production of these products requires similar capabilities (i.e. the two products need similar capabilities and are close in the product space). A key implication is that moving to nearby (similar) products is easier than moving to remote products because they require similar capabilities and differ by a small number of capabilities (i.e. one or two capabilities may be missing not ten). Drawing again on the Lego analogy, if it is observed that countries 1 and 2 tend to produce both cars and motorbikes but not spaceships, it can be conclude that they have similar capabilities (sets of building blocks), and that the country that produces say cars, bikes and spacecrafts has different (and more extensive) capabilities.

Empirical research around the ECT shows that countries' incomes per capita tend to converge to levels determined by the complexity of product baskets they produce. In addition, countries which have higher complexity of produced products than their income per capita level would suggest, tend to grow faster, and countries which have higher per capita incomes than the level of product complexity they produce, tend to grow slower. The ECT thus further posits that increasing the complexity of the production basket then is likely to result in increased per capita incomes and that it is in the interest of countries to expand their production structure to include more sophisticated products. But this is not straightforward as it requires new capabilities, implying a certain 'chicken

and egg problem': how to expand production without required capabilities and how to master a capability without production when know-how is built by doing? In this context, the ECT posits that that the transition from one product to another is easier between products which are more similar (i.e. require similar capabilities). By calculating the probabilities of exporting given products conditional on exporting other products the ECT developed the 'Product Space' which is a network representation of proximity between different products or, alternatively, probabilities with which the products are jointly exported by countries (Box Figure B.2).

In Box Figure B.2 nodes are products and links denote proximity (probability that the two products are exported together) or similarity of capabilities needed to produce—the closer the products the more similar the capabilities. The size of the nodes denoted the size of world trade in 2008. Colours group different industries as we know them from the industry classifications. We observe clustering of industries and formation of cores and peripheries but there are also links between cores across different industries: e.g. certain machinery or electronic products may be close to chemical products and a country which has capabilities to produce chemicals may be not so far (in terms of capabilities) from producing electronics (which increases the complexity of its product basket and opens up new opportunities for even more complexity). When the index of product complexity is compared with the positioning of different products in the Product Space the most 'central' products, or the products at the core of the Product Space, are also the most complex ones.

Figure B.3 The Product Space



Note: the dots represent different products at Hs 4-digit classification, the size of the dots is proportional to the share of the given product in world trade while their different colours show the different products exported by an example country (not indicated here) belonging to different conventional industries (not shown here).
The lines indicate primary connections between the products and their lengths the relevant distances in the Product Space between them.
Source: Atlas of Economic Complexity available at: https://atlas.cid.harvard.edu/.

Specific countries occupy different segments of the product space--richer countries tend to occupy cores of the space while poorer countries tend to occupy peripheries--and therefore have different Economic Complexity Indices (ECI). For the same reason countries also have different connections to products they do not yet produce. As already indicated, firms or entrepreneurs tend to move across this space but this movement is not random—it is rather a migration across products which are proximate because it is easier to try and build one or two new capabilities rather than ten. Shifts are more likely to products that are relatively similar to what countries already produce. But how exactly this transitioning occurs and in particular what is the role of government policies, including FTAs or industrial policies, is more difficult to establish. The set of policies enabling such transitions nevertheless logically include allowing business to develop capabilities they themselves deem profitable (e.g. by lowering taxes on some activities and reducing trade barrier and regulation-induced distortions) but also perhaps direct policy interventions such as allowing migration of temporary workers, FDI or correcting specific economic externalities or market failures or investing in particular sets of skills.

One of the most striking observations illustrating the intuition behind this methodology is that the most economically developed countries (those with the largest pool of capabilities) produce a large and diverse range of products, including very unique products which are produced only by very few countries. This is for example the case of the most advanced EU countries, the US and Japan. Less developed countries tend to produce few products which are relatively ubiquitous. These insights underly the calculation of the Economic Complexity Indices (ECI) which measure the level of

complexity of countries' exports taking into account their diversification, sophistication and ability to create value. It has also been found that differences in per capita incomes between countries can be explained by the differences in ECI (Hausmann and al, 2007; McMillan and Rodrik, 2011; Aditya and Acharyya, 2012; Felipe and al, 2012; McMillan, Rodrik and VerduzcoGallo, 2014). The complexity of a country's exports positively influences the growth of its per capita output (Felipe and al. 2012; Jankowska and al. 2012; Ourens, 2012; Poncet and De Waldemar, 2013; Hausman and al., 2014; Jouini and al, 2016, Zhu and Li, 2017, Gonzales, 2018, Gala, 2018) and decreases output volatility (Hvidt, 2013; Manama,2016; Akhtar and Freire, 2014) and reduces income inequality (Hartmann et al., 2017).

The capabilities revealed in a country's export basket and measured by ECI are thus a capable predictor of future growth with more complex economies having better growth prospects. Consequently, the ability of economies to improve their productive structure and to diversify into more complex production are posited as key factors determining why some economies' economic growth takes off and while other countries remain poor.

B.4.6 Sector case studies in Chapter 4

Sector case studies have been conducted to allow for more in-depth analysis. Four sectors were selected by the Euoropean Comission's DG Trade for the case studies: agriculture, chemicals, machinery and transport equipment, and textiles and clothing. Each sector was analysed for a selection of the six SMCs (see Annex Table B.8). This selection was made for several reasons. First of all, large changes in bilateral trade between the EU and the six Mediterranean partners were expected in these sectors. As the FTA might thus mostly impact these sectors, it was especially relevant to study how trade in these sectors changed over time. Secondly, these sectors together included a large variety of industries: while textiles and clothing and agriculture tend to be labour-intensive sectors, the machinery and transport equipment and the chemicals sector are generally more capital-intensive sectors. Lastly, this selection represents both agricultural and industrial sectors. Together, this multi-faceted selection helped understand the full impact of the FTA in the six Mediterranean partner countries.

Table B.8 Overview of the selected SMCs per sector case study

	Algeria	Egypt	Jordan	Lebanon	Morocco	Tunisia
Textiles and clothing		v	v	v	v	v
Machinery and transport equipment	V	v			v	v
Agriculture		v		v	v	v
Chemicals	V	v	v			v

The analytical approach to all sector case studies was structured and implemented in a similar fashion. It simultaneously takes into account relevant sector-specific conditions. In this structure, each case study starts with a global overview of the sector.

The next part then focuses on the country specific situation in the sector. It provides an overview of relevant quantitative and qualitative information on the sector. The quantitative data covers the economic structure of the sector, trade and investment figures, and the relative importance of SMEs, and employment (if data is available). The qualitative data entails information on competitiveness, value chains, challenges and opportunities, and a brief overview of relevant sectoral policies. We identified enablers and obstacles in sectoral market access, by studying the import and export requirements and the extent to which the FTA affects the market access. We zoom in on issues that partner countries encounter in their desire to export to the EU – including both the issues that the FTA addresses and those that remain – and on issues with utilizing preferences and related administrative burden.

The third part explains the impact of the FTA. We combine the results of the economic analysis presented in the previous sections with more qualitative information. Among these elements are aspects of the trade agreement, flanking measures and policies, reforms and business climate conditions. This analysis offers an understanding as to how the FTA actually influenced the sector (costs and benefits), regardless of its initial purposes and in conjunction with other factors, such as wider liberalization patterns in the EU and trade agreements concluded by the Mediterranean countries with the EU or with other partners. This section therefore takes a close look at the intervention logic and assesses whether results observed are in line with expectations, and if results are not as expected, find explanations for this.

It is important to recognize that the depth of the sector case studies depends to a large extent on the availability of sector and country specific literature and data, but the availability of this information varied. For example, a relatively large amount of literature is available on the textiles and clothing sector in Morocco and Tunisia, whereas little information is available for the same sector in Jordan and Lebanon and for the machinery and transport sector in general. Similarly, the extent to which stakeholders could be engaged in the study and the quality of their inputs differed by country and sector. The depth and coverage of the sector studies therefore also differed.

B.5 Work package 4 – Sustainability Analysis

Finally, the last work package informs and complements the consultations and economic analysis to identify the most significant impacts on sustainable development, covering social, human rights, environmental and third country effects.

As with other parts of the analysis, there have been many developments in the four impact areas in each of the countries being analysed, and the challenge is to link these developments to the relevant FTA, establishing causal relations. In order to keep focus on the specific effects of the FTAs, the sustainability analysis encompasses:

- Analysis of trade chapters of the association agreements as regards texts linked to the four areas. This allows us to assess the extent to which the trade chapters contain provisions that could directly affect the situation in the four areas (next to indirect effects that stems from the economic changes brought about by the FTAs);
- Literature review on sustainability impacts. This started with a literature review in the inception phase to identify FTA-related literature that is linked to the different topics within the four impact areas. Subsequently, in the case studies additional literature was used to gain a better understanding of the specific topics and how trade can be linked to it. This also includes analysis of relevant data sets;
- Consultations on sustainability impacts. In all consultations activities, attention was paid to sustainability impacts. It should be noted that relatively few stakeholders were aware of the agreement and/or interested to participate. Inputs were often not very specific (see also Annex G);
- Analysis of results of the CGE model. This includes an identification and assessment of indicators relavant to the sustainability indicators (e.g. wages, CO2 emissions, trade with third countries);
- Sustainability case studies. To get some more in-depth insights of the link between a certain topic within the sustainability areas, we selected four case studies for more in-depth research. The methodology used for these case studies consist of a mix of the above. Where relevant, Annex F contains more background on the methodology for specifc (parts of the) case studies. The four case studies are:
  - Employment in the chemicals and textiles and clothing sectors;
  - Female employment the agriculture;
  - Trade in environmental goods;
  - Air emissions other than CO2 emissions.

ANNEX C: OVERALL STRUCTURE OF EURO-MED ASSOCIATION AGREEMENTS

C.1 Overall structure OF Euro-Med Association Agreements

This part of the annex provides an overview of the overall formal structure of the Euro-Med Association Agreements as extracted from the actual legal texts of each of these agreements, highlighting in colour the titles which can be considered the 'trade chapters' and relevant Annexes and Protocols. A detailed assessment of the trade chapters of the Euro-Med Association Agreements is provided in Chapter 2 of the Report.

- ***Algeria***

The EU-Algeria Association Agreement[681] contains nine titles, six annexes and seven protocols, which are listed below:

Title I: Political dialogue
Title II: Free movements of goods
- Chapter 1 Industrial products
- Chapter 2 Agricultural, fisheries and processed agricultural products
- Chapter 3 Common provisions

Title III Trade in Services
- Reciprocal commitments
- Cross border supply of services
- Commercial presence
- Temporary presence of natural persons
- Transport
- Domestic regulation
- Definitions
- General provisions

Title IV Payments, capital, competition and other economic provisions
- Chapter 1 Current payments and movement of capital
- Chapter 2 Competition and other economic provisions

Title V Economic cooperation
- Objectives
- Scope
- Methods
- Regional cooperation
- Scientific, technical and technological cooperation
- Environment
- Industrial cooperation
- Promotion and protection of investment
- Standardisation and conformity assessment
- Approximation of laws
- Financial services
- Agriculture and fisheries
- Transport
- Information society and telecommunication
- Energy and mining
- Tourism and the craft sector
- Cooperation in customs matters
- Cooperation on statistics
- Cooperation on consumer protection

Title VI Social and cultural cooperation
- Chapter 1 Workers
- Chapter 2 Dialogue in social matters
- Chapter 3 Cooperation in the social field
- Chapter 4 Cooperation in the fields of education and culture

Title VII Financial cooperation
Title VIII Cooperation in the field of justice and home affairs

[681] *Euro-Mediterranean Agreement establishing an Association between the European Community and its Member States, of the one part, and the People's Democratic Republic of Algeria, of the other part*, OJ L 265, 10.10.2005,p. 2-228, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22005A1010(01) (accessed 24 April 2019).

Institution-building and the rule of law
Movement of persons
Cooperation in the prevention and control of illegal immigration; readmission
Legal and judicial cooperation
Preventing and tackling organised crime
Combating money laundering
Combating racism and xenophobia
Combating drugs and drug addiction
Fight against terrorism
Fight against corruption

Title IX Institutional, general and final provisions

Annex I: List of agricultural and processed agricultural products falling under HS chapters 25 to 97 referred to in Article 7 and 14
Annex II: List of products referred to in Article 9(1)
Annex III: List of products referred to in Article 9(2)
Annex IV: List of products referred to in Article 17(4)
Annex V: Implementing rules for article 41
Chapter 1 General provisions
Chapter 2 Cooperation and coordination
Annex VI: Intellectual, industrial and commercial property

Protocol 1: On the arrangements applying to imports into the Community of agricultural products originating in Algeria
Annex 1
Annex 2 Certificate of designation of origin
Protocol 2: On the arrangements applying to imports into Algeria of agricultural products originating in the Community
Protocol 3: On the arrangements applying to imports into the Community of fishery products originating in Algeria
Protocol 4: On the arrangements applying to imports into Algeria of fishery products originating the Community
Protocol 5: On commercial trade in processed agricultural products between Algeria and the Community
Annex 1 Community schedule
List 1
List 2
List 3
Annex 2 Algeria schedule
List 1
List 2
Protocol 6: Concerning the definition of the concept of "originating products" and methods of administrative cooperation[682]
Title I General provisions
Title II Definition of the concept of 'originating products'
Title III Territorial requirements
Title IV Drawback or exemption
Title V Proof of origin
Title VI Arrangements for administrative cooperation
Title VII Ceuta and Melilla
Title VIII Final provisions
Annexes
Annex I Introductory notes to the list in Annex II
Annex II List of working or processing required to be carried out on non-originating materials in order for the product manufactured to obtain originating status
Annex IIIa Specimens of movement certificate EUR.1 and application for a movement certificate EUR.1
Annex IIIb Specimens of movement certificate EUR-MED and application for a movement certificate EUR-MED
Annex IVa Text of the invoice declaration
Annex IVb Text of the invoice declaration EUR-MED
Annex V Specimen of the supplier's declaration

[682] Protocol 6 concerning the definition of the concept of originating products and methods of administrative cooperation - Joint Declarations, OJ L 297, 15.11.2007, p. 3-116, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22007A1115(01) (accessed 25 April 2019).

Annex VI Specimen of the long-term supplier's declaration
Joint Declarations

- ***Egypt***

The EU-Egypt Association Agreement[683] contains eight titles, six annexes and five protocols, which are listed below:

Title I: Political dialogue
Title II: Free movements of goods
Basic principles
Chapter 1 Industrial products
Chapter 2 Agricultural products, processed agricultural products and fish and fishery products[684]
Chapter 3 Common provisions
Title III Right of establishment and services
Title IV Payments, capital, competition and other economic matters
Chapter 1 Payments and capital movements
Chapter 2 Competition and other economic matters
Title V Economic cooperation
Objectives
Scope
Methods and modalities
Regional cooperation
Education and training
Scientific, technical and technological cooperation
Environment
Industrial cooperation
Promotion and protection of investment
Standardisation and conformity assessment
Approximation of laws
Financial services
Agriculture and fisheries
Transport
In formation society and telecommunications
Energy
Tourism
Customs
Cooperation on statistics
Money laundering
Fight against drugs
Fight against terrorism
Regional cooperation
Consumer protection
Title VI Cooperation in social and cultural matters
Chapter 1 Dialogue and cooperation on social matters
Chapter 2 Cooperation for the prevention and control of illegal immigration and other consular issues
Chapter 3 Cooperation in cultural matters, audiovisual media and information
Title VII Financial cooperation
Title VIII Institutional, general and final provisions
Annex I: List of agricultural and processed agricultural products falling within Chapters 25 to 97 of the harmonised system referred to in Articles 7 and 12

[683] *Euro-Mediterranean Agreement establishing an Association between the European Communities and their Member States, of the one part, and the Arab Republic of Egypt, of the other part*, OJ L 304 30.9.2004, p. 39, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:02004A0930(03)-20160201 (accessed 24 April 2019).
[684] Amended by the *Agreement in the form of an Exchange of Letters between the European Community and the Arab Republic of Egypt concerning reciprocal liberalisation measures on agricultural products, processed agricultural products and fish and fishery products, the replacement of Protocols 1 and 2 and their annexes and amendments to the Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Arab Republic of Egypt, of the other part*, OJ L 106, 28.4.2010, p. 39–40, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32010D0240 (accessed 24 April 2019).

Annex II: Lists of industrial products originating in the Community to which are applicable, on importation into Egypt, the schedules for tariff dismantling referred to in Article 9(1)
Annex III Lists of industrial products originating in the Community to which are applicable, on importation into Egypt, the schedules for tariff dismantling referred to in Article 9(2)
Annex IV Lists of industrial products originating in the Community to which are applicable, on importation into Egypt, the schedules for tariff dismantling referred to in Article 9(3)
Annex V List of industrial products originating in the Community referred to in Article 9(4)
Annex VI Intellectual property rights referred to in Article 37

Protocol 1: Concerning the arrangements applicable to the importation into the European Community of agricultural products, processed agricultural products and fish and fishery products originating in the Arab Republic of Egypt[685]
Annex concerning the arrangements applicable to the importation into the European Community of agricultural products, processed agricultural products and fish and fishery products originating in the Arab Republic of Egypt
Protocol 2: Concerning the arrangements applicable to the importation into the Arab Republic of Egypt of agricultural products, processed agricultural products and fish and fishery products originating in the European Community[686]
Annex concerning the arrangements applicable to the importation into the Arab Republic of Egypt of agricultural products, processed agricultural products and fish and fishery products originating in the European Community
Protocol 4: Concerning the definition of the concept of "originating products" and methods of administrative cooperation[687]
Protocol 5: Mutual assistance between administrative authorities in customs matters
Common Declaration on Sanitary and Phytosanitary or Technical Barriers to Trade Issues[688]

- ***Jordan***

The EU-Jordan Association Agreement[689] contains eight titles, seven annexes and four protocols, which are listed below:

Title I: Political dialogue

[685] Amended by the *Agreement in the form of an Exchange of Letters between the European Community and the Arab Republic of Egypt concerning reciprocal liberalisation measures on agricultural products, processed agricultural products and fish and fishery products, the replacement of Protocols 1 and 2 and their annexes and amendments to the Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Arab Republic of Egypt, of the other part*, OJ L 106, 28.4.2010, p. 39–40, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32010D0240 (accessed 24 April 2019).
[686] Amended by the *Agreement in the form of an Exchange of Letters between the European Community and the Arab Republic of Egypt concerning reciprocal liberalisation measures on agricultural products, processed agricultural products and fish and fishery products, the replacement of Protocols 1 and 2 and their annexes and amendments to the Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Arab Republic of Egypt, of the other part*, OJ L 106, 28.4.2010, p. 39–40, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32010D0240 (accessed 24 April 2019).
[687] Amended by *Decision No 1/2015 of the EU-Egypt Association Council of 21 September 2015 replacing Protocol 4 to the Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Arab Republic of Egypt, of the other part, concerning the definition of the concept of 'originating products' and methods of administrative cooperation* [2015/2435], OJ L 334, 22.12.2015, p. 62-64, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:22015D2435 (accessed 24 April 2019).
[688] Amended by the *Agreement in the form of an Exchange of Letters between the European Community and the Arab Republic of Egypt concerning reciprocal liberalisation measures on agricultural products, processed agricultural products and fish and fishery products, the replacement of Protocols 1 and 2 and their annexes and amendments to the Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Arab Republic of Egypt, of the other part*, OJ L 106, 28.4.2010, p. 39–40, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32010D0240 (accessed 24 April 2019).
[689] Euro-Mediterranean Agreement establishing an Association between the European Communities and their Member States, of the one part, and the Hashemite Kingdom of Jordan, of the other part, OJ L 129, 15.5.2002, p. 3-176, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22002A0515(02)&qid=1556120594200 (accessed 24 April 2019).

Title II: Free movements of goods
- Basic principles
- Chapter 1 Industrial products
- Chapter 2 Agricultural products
- Chapter 3 Common provisions

Title III Right of establishment and services
- Chapter 1 Right of establishment
- Chapter 2 Cross-border supply of services
- Chapter 3 General provisions

Title IV Payments, capital movements and other economic matters
- Chapter 1 Payments and capital movements
- Chapter 2 Competition and other economic matters

Title V Economic cooperation
- Objectives
- Scope
- Methods and modalities
- Regional cooperation
- Education and training
- Scientific and technological cooperation
- Environment
- Industrial cooperation
- Investment and promotion of investments
- Standardisation and conformity assessment
- Approximation of laws
- Financial services
- Agriculture
- Transport
- Information infrastructures and telecommunications
- Energy
- Tourism
- Customs
- Cooperation on statistics
- Money laundering
- Fight against drugs

Title VI Cooperation in social and cultural matters
- Chapter 1 Social dialogue
- Chapter 2 Social cooperation actions
- Chapter 3 Cultural cooperation and exchange of information

Title VII Financial cooperation

Title VIII Institutional, general and final provisions

Annex I: List of products referred to in Article 10(1)[690]

Annex II: List of products referred to in Articles 10(2) and 11(2)

Annex III: Lists of industrial products originating in the Community to which is applicable, on importation into Jordan, the schedule for tariff dismantling referred to in Article 11(3) and (4)
- List A
- List B
- List C
- List D
- List E
- List F
- List G

Annex IV: List of industrial products originating in the Community referred to in Article 11(5)

Annex V: Community reservation list referred to in Article 30(1)(b) (right of establishment)

Annex VI: Jordanian reservation list referred to in Article 30 (2)(a) (right of establishment)

Annex VII: Intellectual, industrial and commercial property referred to in Article 56

[690] Amended by the *Agreement in the form of an Exchange of Letters between the European Community and the Hashemite Kingdom of Jordan concerning reciprocal liberalisation measures and amending the EC-Jordan Association Agreement as well as replacing Annexes I, II, III and IV and Protocols 1 and 2 to that Agreement*, OJ L 41, 13.2.2006, p. 3-40, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22006A0213(01)&qid=1556120594200 (accessed 24 April 2019).

Protocol 1: concerning the arrangements applicable to the importation into the Community of agricultural products originating in Jordan
Annex concerning the arrangements applicable to the importation into the Community of agricultural products originating in Jordan
Protocol 2: Concerning the arrangements applicable to the importation into Jordan of agricultural products originating in the Community
Annex concerning the arrangements applicable to the importation into Jordan of agricultural products originating in the Community, on the basis of the customs nomenclature of Jordan
Protocol 3: Concerning the definition of the concept of 'originating products' and methods of administrative cooperation[691]
Title I General provisions
Title II Definition of the concept of 'originating products'
Title III Territorial requirements
Title IV Drawback or exemption
Title V Proof of origin
Title VI Arrangements for administrative cooperation
Title VII Ceuta and Melilla
Title VIII Final provisions
Annexes
Annex I Introductory notes to the list in Annex II
Annex II List of working or processing required to be carried out on non-originating materials in order for the product manufactured to obtain originating status
Annex II(a) Addendum to the list of working or processing required to be carried out on non-originating materials in order for the product manufactured to obtain originating status[692]
Annex IIIa Specimens of movement certificate EUR.1 and application for a movement certificate EUR.1
Annex IIIb Specimens of movement certificate EUR-MED and application for a movement certificate EUR-MED
Annex Iva Text of the invoice declaration
Annex IVb Text of the invoice declaration EUR-MED
Protocol 4: On mutual assistance between administrative authorities in customs matters

- ***Lebanon***

The EU-Lebanon Association Agreement[693] contains eight titles, two annexes and five protocols, which are listed below:

Title I: Political dialogue
Title II: Free movements of goods

[691] Amended by 2006/508/EC: Decision No 1/2006 of the EU-Jordan Association Council of 15 June 2006 amending Protocol 3 to the Euro-Mediterranean Agreement, concerning the definition of the concept of originating products and methods of administrative cooperation Protocol 3 concerning the definition of the concept of originating products and methods of administrative cooperation, OJ L 209, 31.7.2006, p. 30-144, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22006D0508 (accessed 25 April 2019).
[692] Added by *Decision No 1/2016 of the EU-Jordan Association Committee of 19 July 2016 amending the provisions of Protocol 3 to the Euro-Mediterranean Agreement establishing an Association 'between the European Communities and their Member States, of the one part, and the Hashemite Kingdom of Jordan, of the other part, concerning the definition of the concept of originating products' and the list of working or processing required to be carried out on non-originating materials in order for certain categories of products, manufactured in dedicated development zones and industrial areas, and connected with generating employment for Syrian refugees and Jordanians, to obtain originating status* [2016/1436], OJ L 233, 30.8.2016, p. 6-38, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22016D1436 (accessed 25 April 2019), amended by *Decision No 1/2018 of the EU-Jordan Association Committee of 4 December 2018 amending the provisions of Protocol 3 to the Euro-Mediterranean Agreement establishing an Association between the European Communities and their Member States, of the one part, and the Hashemite Kingdom of Jordan, of the other part, concerning the definition of the concept of 'originating products' and the list of working or processing required to be carried out on non-originating materials in order for certain categories of products, manufactured in the territory of the Hashemite Kingdom of Jordan, and connected with generating employment for Syrian refugees and Jordanians, to obtain originating status* [2019/42], ST/3301/2018/INIT, OJ L 9, 11.1.2019, p. 147-177, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22019D0042 (accessed 25 April 2019).
[693] *Euro-Mediterranean Agreement establishing an Association between the European Community and its Member States, of the one part, and the Republic of Lebanon, of the other part*, OJ L 143, 30.5.2006, p. 2-188, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22006A0530(01) (accessed 24 April 2019).

Chapter 1 Industrial products
Chapter 2 Agricultural, fisheries and processed agricultural products
Chapter 3 Common provisions
Title III Right of establishment and supply of services
Title IV Payments, capital, competition and other economic matters
Chapter 1 Current payments and movement of capital
Chapter 2 Competition and other economic matters
Title V Economic cooperation
Objectives
Scope
Methods and modalities
Regional cooperation
Education and training
Scientific, technical and technological cooperation
Environment
Industrial cooperation
Promotion and protection of investment
Cooperation in standardisation and conformity assessment
Approximation of legislation
Financial services
Agriculture and fisheries
Transport
Information society and telecommunication
Energy
Tourism
Customs cooperation
Cooperation on statistics
Consumer protection
Cooperation in reinforcement of institutions and rule of law
Money laundering
Prevention and fight against organised crime
Cooperation on illicit drugs
Title VI Cooperation in social and cultural matters
Chapter 1 Dialogue and cooperation in the social field
Chapter 2 Cooperation in cultural matters, audiovisual media and information
Chapter 3 Cooperation for the prevention and control of illegal immigration and other consular issues
Title VII Financial cooperation
Title VIII Institutional, general and final provisions

Annex I: List of agricultural and processed agricultural products falling under HS chapters 25 to 97 referred to in Article 7 and 12
Annex II: Intellectual industrial and commercial property referred to in Article 38
Protocol 1: Concerning arrangements applicable to imports into the Community of agricultural products originating in Lebanon referred to in Article 14(1)
Protocol 2: Concerning arrangements applicable to imports into Lebanon of agricultural products originating in The Community
Protocol 3: On trade between Lebanon and the Community in processed agricultural products referred to in Article 14(3)
Annex I: Concerning arrangements applicable to imports into the Community of processed agricultural products originating in Lebanon
List 1
List 2
List 3
Annex II: Concerning arrangements applicable to imports into Lebanon of processed agricultural products originating in the Community
Protocol 4: Concerning the definition of the concept 'originating products' and methods of administrative cooperation
Title I General provisions
Title II Definition of the concept of 'originating products'
Title III Territorial requirements
Title IV Drawback or exemption
Title V Proof of origin
Title VI Arrangements for administrative cooperation
Title VII Ceuta and Melilla
Title VIII Final provisions
Annexes

Annex I Introductory notes to the list in Annex II
Annex II List of working or processing required to be carried out on non-originating materials in order that the product manufactured can obtain originating status
Annex II(a) List of working or processing required to be carried out on non-originating materials in order that the product manufactured referred to in Article 6(2) can obtain originating status
Annex III List of products originating in Turkey to which the provisions of Article 4 do not apply, listed in the order of Harmonised System Chapter and Headings
Annex IV Specimens of movement certificate EUR.1 and application for a movement certificate EUR.1
Annex V Text of the invoice declaration[694]
Annex VI Joint declarations

Protocol 5: On mutual assistance in customs matters

- ***Morocco***

The EU-Morocco Association Agreement[695] contains eight titles, seven annexes and five protocols, which are listed below:

Title I: Political dialogue
Title II: Free movements of goods
Chapter 1 Industrial products
Chapter 2 Agricultural products, processed agricultural products, fish and fishery products[696]
Chapter 3 Common provisions
Title III Right of establishment and services
Title IV Payments, capital movements and other economic matters
Chapter 1 Current payments and movement of capital
Chapter 2 Competition and other economic provisions
Title V Economic cooperation
Objectives
Scope
Methods
Regional cooperation
Education and training
Scientific, technical and technological cooperation
Environment
Industrial cooperation
Promotion and protection of investment
Cooperation in standardisation and conformity assessment
Approximation of legislation
Financial services
Agriculture and fisheries
Transport
Telecommunication and information technology
Energy

[694] Amended by *Protocol to the Euro-Mediterranean Agreement establishing an Association between the European Community and its Member States, of the one part, and the Republic of Lebanon, of the other part, to take account of the accession of the Republic of Croatia to the European Union*, OJ L 144, 1.6.2016, p. 3-10, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22016A0601(01) (accessed 25 April 2019).
[695] *Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Kingdom of Morocco, of the other part*, OJ L 70, 18.3.2000, p. 2–204, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A22000A0318%2801%29 (accessed 24 April 2019).
[696] Chapter 2 and Protocols 1 and 2 were amended by the *Agreement in the form of an Exchange of Letters between the European Union and the Kingdom of Morocco concerning reciprocal liberalisation measures on agricultural products, processed agricultural products, fish and fishery products, the replacement of Protocols 1, 2 and 3 and their Annexes and amendments to the Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Kingdom of Morocco, of the other part*, OJ L 241, 7.9.2012, p. 4-47, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22012A0907(01) (accessed 24 April 2019).

Tourism
Cooperation in customs matters
Cooperation on statistics
Money laundering
Combating drug use and trafficking

Title VI Cooperation in social and cultural matters

Chapter 1 Workers
Chapter 2 Dialogue in social matters
Chapter 3Cooperation in the social field
Chapter 4 Cooperation on cultural matters

Title VII Financial cooperation

Title VIII Institutional, general and final provisions

Annex 1: Products referred to in Article 10(1)

Annex 2: Products referred to in Article 10(2)[697]

List 1
List 2
List 3

Annex 3: Products referred to in Article 11(2)

Annex 4: Products referred to in Article 11(3)

Annex 5: Products referred to in Article 12(1)

Annex 6: Products referred to in Article 12(2)

List 1
List 2

Annex VII: Relating to intellectual, industrial and commercial property

Protocol 1: Concerning the arrangements applicable to the importation into the European Union of agricultural products, processed agricultural products, fish and fishery products originating in the Kingdom of Morocco[698]

Annex: Concerning the arrangements applicable to the importation into the European Union of agricultural products, processed agricultural products, fish and fishery products originating in the Kingdom of Morocco

Protocol 2: Concerning the arrangements applicable to the importation into the kingdom of Morocco of agricultural products, processed agricultural products, fish and fishery products originating in the European Union[699]

Annex Joint declaration

Protocol 4: Concerning the definition of the concept of 'originating products' and methods of administrative cooperation[700]

Title I General provisions
Title II Definition of the concept of 'originating products'
Title III Territorial requirements
Title IV Drawback or exemption

[697] Annexes 2, 3, 4 and 6 were amended by the *Agreement in the form of an Exchange of Letters between the European Community and the Kingdom of Morocco concerning certain amendments to Annexes 2, 3, 4 and 6 to the Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Kingdom of Morocco, of the other part*, OJ L 70, 18.3.2000, p. 206-227, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22000A0318(02) (accessed 25 April 2019).

[698] Chapter 2 and Protocols 1 and 2 were amended by the *Agreement in the form of an Exchange of Letters between the European Union and the Kingdom of Morocco concerning reciprocal liberalisation measures on agricultural products, processed agricultural products, fish and fishery products, the replacement of Protocols 1, 2 and 3 and their Annexes and amendments to the Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Kingdom of Morocco, of the other part*, OJ L 241, 7.9.2012, p. 4-47, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22012A0907(01) (accessed 24 April 2019).

[699] Chapter 2 and Protocols 1 and 2 were amended by the *Agreement in the form of an Exchange of Letters between the European Union and the Kingdom of Morocco concerning reciprocal liberalisation measures on agricultural products, processed agricultural products, fish and fishery products, the replacement of Protocols 1, 2 and 3 and their Annexes and amendments to the Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Kingdom of Morocco, of the other part*, OJ L 241, 7.9.2012, p. 4-47, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22012A0907(01) (accessed 24 April 2019).

[700] Amended by *Decision No 2/2005 of the EU-Morocco Association Council of 18 November 2005 amending Protocol 4 to the Euro-Mediterranean Agreement, concerning the definition of the concept of 'originating products' and methods of administrative cooperation*, 2005/904/EC, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22005D0904 (accessed 24 April 2019).

Title V Proof of origin
Title VI Arrangements for administrative cooperation
Title VII Ceuta and Melilla
Title VIII Final provisions
Annexes
Annex I Introductory notes to the list in Annex II
Annex II List of working or processing required to be carried out on non-originating materials in order for the product manufactured to obtain originating status[701]
Annex IIIa Specimens of movement certificate EUR.1 and application for a movement certificate EUR.1
Annex IIIb Specimens of movement certificate EUR-MED and application for a movement certificate EUR-MED
Annex IVa Text of the invoice declaration
Annex IVb Text of the invoice declaration EUR-MED
Annex V Specimen of the supplier's declaration
Annex VI Specimen of the long-term supplier's declaration
Joint declaration concerning the application of Protocols 1 and 4 to the Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Kingdom of Morocco, of the other part ("the Association Agreement")[702]
Protocol 5: On mutual assistance in customs matters between the administrative authorities
Annex to the protocol: Fundamental principles applicable to data protection

- ***Tunisia***

The EU-Tunisia Association Agreement[703] contains eight titles, seven annexes and five protocols, which are listed below:

Title I: Political dialogue
Title II: Free movements of goods
Chapter 1 Industrial products
Chapter 2 Agricultural and fishery products
Chapter 3 Common provisions
Title III Right of establishment and services
Title IV Payments, capital, competition and other economic matters
Chapter 1 Current payments and movement of capital
Chapter 2 Competition and other economic provisions
Title V Economic cooperation
Objectives
Scope
Methods
Regional cooperation
Education and training
Scientific, technical and technological cooperation
Environment
Industrial cooperation
Promotion and protection of investment
Cooperation in standardisation and conformity assessment
Approximation of legislation

[701] Amended by 011/293/EU: *Decision No 1/2011 of the EU-Morocco Association Council of 30 March 2011 with regard to the amendment of Annex II of Protocol 4 to the Euro-Mediterranean Agreement between the European Communities and their Member States, of the one part, and the Kingdom of Morocco, of the other part, containing the list of working or processing required to be carried out on non-originating materials in order for the product manufactured to obtain originating status*, OJ L 141, 27.5.2011, p. 66–133, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22011D0293 (accessed 25 April 2019).
[702] Added by Agreement in the form of an Exchange of Letters between the European Union and the Kingdom of Morocco on the amendment of Protocols 1 and 4 to the Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Kingdom of Morocco, of the other part, ST/10597/2018/INIT, OJ L 34, 6.2.2019, p. 4-7, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22019A0206(01) (accessed 25 April 2019).
[703] *Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Republic of Tunisia, of the other part*, OJ L 97, 30.3.1998, p. 2-183, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A21998A0330%2801%29 (accessed 24 April 2019).

Financial services
Agriculture and fisheries
Transport
Telecommunication and information technology
Energy
Tourism
Cooperation in customs matters
Cooperation on statistics
Money laundering
Combating drug use and trafficking

Title VI Cooperation in social and cultural matters

Chapter 1 Workers
Chapter 2 Dialogue in social matters
Chapter 3 Cooperation in the social field
Chapter 4 Cooperation on cultural matters

Title VII Financial cooperation

Title VIII Institutional, general and final provisions

Annex I: Products referred to in Article 10(1)

Annex II: Products referred to in Article 10(2)

List 1
List 2
List 3

Annex III

Annex IV

Annex V

Annex VI

Annex VII: Relating to intellectual, industrial and commercial property

Protocol 1: On the arrangements applying to imports into the Community of agricultural products originating in Tunisia

Annex 1 Arrangements applying to imports into the Community of agricultural products originating in Tunisia[704]

Annex 2 Designation of origin certificate[705]

Protocol 2: On the arrangements applying to imports into the Community of fishery products originating in Tunisia

Protocol 3: On the arrangements applying to imports into Tunisia of agricultural products originating in the Community

Annex[706]

Protocol 4: concerning the definition of the concept of 'originating products' and methods of administrative cooperation[707]

Title I General provisions
Title II Definition of the concept of 'originating products'
Title III Territorial requirements
Title IV Drawback or exemption
Title V Proof of origin
Title VI Arrangements for administrative cooperation
Title VII Ceuta and Melilla
Title VIII Final provisions

[704] Amended by 2000/822/EC: Agreement in the form of an Exchange of Letters between the European Community and the Republic of Tunisia concerning reciprocal liberalisation measures and amendment of the Agricultural Protocols to the EC/Tunisia Association Agreement, OJ L 336, 30.12.2000, p. 93–109, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22000A1230(01) (accessed 24 April 2019).

[705] Added by 2000/822/EC: Agreement in the form of an Exchange of Letters between the European Community and the Republic of Tunisia concerning reciprocal liberalisation measures and amendment of the Agricultural Protocols to the EC/Tunisia Association Agreement, OJ L 336, 30.12.2000, p. 93–109, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22000A1230(01) (accessed 24 April 2019).

[706] Amended by 2000/822/EC: Agreement in the form of an Exchange of Letters between the European Community and the Republic of Tunisia concerning reciprocal liberalisation measures and amendment of the Agricultural Protocols to the EC/Tunisia Association Agreement, OJ L 336, 30.12.2000, p. 93–109, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22000A1230(01) (accessed 24 April 2019).

[707] Amended by 2006/612/EC: Decision No 1/2006 of the EU-Tunisia Association Council of 28 July 2006 amending Protocol 4 to the Euro-Mediterranean Agreement, concerning the definition of the concept of originating products and methods of administrative cooperation, Protocol 4 concerning the definition of the concept of originating products and methods of administrative cooperation, OJ L 260, 21.9.2006, p. 1-110, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22006D0612 (accessed 24 April 2019).

Annexes
Annex I Introductory notes to the list in Annex II
Annex II List of working or processing required to be carried out on non-originating materials in order for the product manufactured to obtain originating status
Annex IIIa Specimens of movement certificate EUR.1 and application for a movement certificate EUR.1
Annex IIIb Specimens of movement certificate EUR-MED and application for a movement certificate EUR-MED
Annex IVa Text of the invoice declaration
Annex IVb Text of the invoice declaration EUR-MED
Annex V Specimen of the supplier's declaration
Annex VI Specimen of the long term supplier's declaration
Joint Declarations
Protocol 5: On mutual assistance in customs matters between the administrative authorities
Annex to the Protocol: Fundamental principles applicable to data protection

C.2 Description of country-specific parts of the Agreements

This part of Annex C corresponds to the Sections 2.3.6 of Chapter 2.

Algeria

The EU-Algeria Association Agreement was signed in April 2002 and entered into force on 1 September 2005.[708]

With respect to the tariff liberalisation for industrial goods, Article 8 and 9 of the Association Agreement provide that the EU ensures full liberalisation at the entry into force of the agreement. With respect to imports to Algeria, in Article 9 of the EU-Algeria Association Agreement, Algeria generally committed to successively liberalise tariffs over a period that of twelve years (see below).

Title III of the EU-Algeria Association Agreement on Trade in Services (Articles 30 to 37) provides for some commitments on investment and services, however they are much less ambitious than those for goods and mostly underline MFN principles.

A number of provisions of the EU-Algeria Association Agreement, notably those on services, differ slightly from the EU Association Agreements with other Southern Mediterranean partner countries, taking into account that Algeria is not a Member of the WTO. Algeria's Working Party for WTO Accession was established on 17 June 1987, but the most recent meeting took place in March 2014.

The EU and Algeria have not yet conducted negotiations on the revision of the Dispute Settlement Mechanism through an additional Protocol.

Algeria is a member of the PEM-Convention, which was signed by Algeria in 2012 and, in January 2017, Algeria notified the EU of its ratification.

The Government of Algeria is promoting the Association Agreement with the EU on a dedicated website.[709]

The EU Market Access Database (MADB), which) gives information to companies exporting from the EU about import conditions in third country markets and lists any barriers identified by the EU, lists twelve active trade barriers for Algeria:

[708] 2005/690/EC: Council Decision of 18 July 2005 on the conclusion of the Euro-Mediterranean Agreement establishing an Association between the European Community and its Member States, of the one part, and the People's Democratic Republic of Algeria, of the other part, OJ L 173M, 27.6.2006, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32005D0690 (accessed 28 August 2019).
[709] See https://www.commerce.gov.dz/rubriques/accords-d-association-avec-l-ue (accessed 19 August 2019).

- Two barriers related to administrative or customs requirements: '*Restrictions on dry ports in the port of Algiers*' (2018);[710] and '*Delayed Payment for Imported Goods and Free on Board (FOB) only payment*' (2019);[711]
- One barrier related to discriminatory treatment (national treatment): '*Restrictive measures introduced in the automotive sector*' (2015);[712]
- One barrier related to government procurement: '*Restrictions to foreign bidders in public tenders*' (2015);[713]
- One barrier on internal taxation relating to Algeria's '*VAT Regulation*' (2018);[714]
- One barrier related to intellectual property rights: '*Pharmaceuticals and medical devices: import restrictions, intellectual property rights protection*' (2013);[715]
- Two barriers related to pre-establishment requirements: 1) '*Pharmaceuticals and medical devices: import restrictions, intellectual property rights protection*' (2013);[716] and 2) '*Requirements on foreign direct investment and difficulties related to financial transfers*' (2009);[717]
- Quantitative restrictions related to imports: 1) '*Quota on imports of car parts for assembling operations*' (2019);[718] 2) '*Pharmaceuticals and medical devices: import restrictions, intellectual property rights protection*' (2013);[719] and 3) '*Suspension of imports of certain products*' (2018);[720] and
- Two barriers related tariff measures: 1) '*Additional Duty on certain products (DAPS)*' (2019);[721] and 2) '*Increase in custom duties on certain products*' (2018);[722]
- One other measure related to '*Restrictions on transfer of funds*' (2011).[723]

As Algeria is not a member of the WTO, it is not bound by the WTO Agreements and, therefore, no trade concerns were notified to the WTO by other WTO Members vis-à-vis Algeria's trade policies. Trade concerns between the EU and Algeria are discussed in the Association Committee and the Sub-Committees established under the Association Agreement (see below).

[710] Restrictions on dry ports in the port of Algiers (2018), available at https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=14487 (accessed on 9 December 2019).
[711] Delayed Payment for Imported Goods and Free on Board (FOB) only payment (2019), available at https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=15162 (accessed on 9 December 2019).
[712] Restrictive measures introduced in the automotive sector (2015), available at https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=11202 (accessed on 9 December 2019).
[713] Restrictions to foreign bidders in public tenders (2015), available at https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=14244 (accessed on 9 December 2019).
[714] VAT Regulation (2018), available at https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=14362 (accessed on 9 December 2019).
[715] Pharmaceuticals and medical devices: import restrictions, intellectual property rights protection (2013), available at https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=11203 (accessed on 9 December 2019).
[716] Pharmaceuticals and medical devices: import restrictions, intellectual property rights protection (2013), available at https://madb.europa.eu/madb/barriers_details.htm?barrier_id=11203 (accessed on 9 December 2019).
[717] Requirements on foreign direct investment and difficulties related to financial transfers (2009), available at https://madb.europa.eu/madb/barriers_details.htm?barrier_id=11200 (accessed on 9 December 2019).
[718] Quota on imports of car parts for assembling operations (2019), available at https://madb.europa.eu/madb/barriers_details.htm?barrier_id=14902 (accessed on 9 December 2019).
[719] Pharmaceuticals and medical devices: import restrictions, intellectual property rights protection (2013), available at https://madb.europa.eu/madb/barriers_details.htm?barrier_id=11203 (accessed on 9 December 2019).
[720] Suspension of imports of certain products (2018), available at https://madb.europa.eu/madb/barriers_details.htm?barrier_id=14103 (accessed on 9 December 2019).
[721] Additional Duty on certain products (DAPS) (2019), available at https://madb.europa.eu/madb/barriers_details.htm?barrier_id=14662 (accessed on 9 December 2019).
[722] Increase in custom duties on certain products (2018), available at https://madb.europa.eu/madb/barriers_details.htm?barrier_id=14104 (accessed on 9 December 2019).
[723] Restrictions on transfer of funds (2011), available at https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=14363 (accessed on 9 December 2019).

Egypt

The EU-Egypt Association Agreement was signed on 25 June 2001 and the trade chapter was provisionally applied from 21 December 2003. It fully entered into force on 1 June 2004.[724] In 2009, the EU and Egypt concluded an Additional Agreement on agricultural products, processed agricultural products and fish and fishery products.[725]

With respect to the tariff liberalisation for industrial goods, Articles 8 and 9 of the Association Agreement provide for liberalisation at the entry into force for Egyptian exports to the EU and, depending on the products, over a period of up to fifteen years for EU exports to Egypt.

On 9 October 2009, the EU and Egypt signed an *Agreement on agricultural, processed agricultural and fisheries products*, which entered into force on 1 June 2010.[726] This agreement provides for reciprocal liberalisation measures on agricultural products, processed agricultural products and fish and fishery products and replaces Protocols 1 and 2 and their annexes and amendments to the EU-Egypt Association Agreement.

A Dispute Settlement Mechanism (DSM) Protocol was signed in November 2010 and has been ratified by the EU in 2011, while Egypt has not yet ratified it. The DSM Protocol would supplement WTO dispute settlement for issues relating to the Association Agreement, notably for issues not covered by WTO rules for which the WTO dispute settlement mechanism is not available. The Protocol provides for an arbitration procedure along the lines of the WTO Dispute Settlement mechanism and as included in more recent EU trade agreements. Certain issues that remain debated under WTO dispute settlement, such as the question of *amicus curiae* briefs, are regulated in the DSM Protocol. The issue was raised at the meeting of the EU-Egypt Sub-Committee on Industry, Trade, Services, and Investment which took place in Cairo on 17 June 2019.[727]

In November 2011, the Commission received a mandate from the Council of the EU authorising negotiations for a Deep and Comprehensive Free Trade Area (DCFTA) with Egypt, as well as with Jordan, Morocco and Tunisia.[728] The EU and Egypt had an initial dialogue to assess the interest in beginning negotiations of a Deep and Comprehensive Free Trade Agreement in June 2013. But so far, this did not lead to a start of the negotiations.

Egypt signed the PEM-Convention on 9 October 2013 and notified the EU of its ratification on 1 June 2014.

The broader political and economic situation in Egypt in recent years has had strong implications for trade and investment. The EU's 2018 FTA Implementation Report notes that, in recent years,

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[724] See 2004/635/EC: Council Decision of 21 April 2004 concerning the conclusion of a Euro-Mediterranean Agreement establishing an Association between the European Communities and their Member States, of the one part, and the Arab Republic of Egypt, of the other part, the Euro-Mediterranean Agreement establishing an Association between the European Communities and their Member States, of the one part, and the Arab Republic of Egypt, of the other part - Protocols - Final Act - Declarations - Agreement in the form of an Exchange of Letters between the Community and Egypt concerning imports into the Community of fresh cut flowers and flowers and flower buds falling within subheading 0603 10 of the Common Customs Tariff, OJ L 304, 30.9.2004, p. 38–57, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=uriserv:OJ.L_.2004.304.01.0038.01.ENG (accessed 28 August 2019).

[725] Council Decision of 9 October 2009 on the signing and conclusion of the Agreement in the form of an Exchange of Letters between the European Community and the Arab Republic of Egypt concerning reciprocal liberalisation measures on agricultural products, processed agricultural products and fish and fishery products, the replacement of Protocols 1 and 2 and their annexes and amendments to the Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Arab Republic of Egypt, of the other part, OJ L 106, 28.4.2010, p. 39–40, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32010D0240 (accessed 28 August 2019).

[726] Council Decision of 9 October 2009 on the signing and conclusion of the Agreement in the form of an Exchange of Letters between the European Community and the Arab Republic of Egypt concerning reciprocal liberalisation measures on agricultural products, processed agricultural products and fish and fishery products, the replacement of Protocols 1 and 2 and their annexes and amendments to the Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Arab Republic of Egypt, of the other part, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32010D0240 (accessed 19 August 2019).

[727] European Commission, Report - Sub-Committee on Industry, Trade, Services, and Investment, p. 2, available at https://trade.ec.europa.eu/doclib/docs/2019/july/tradoc_158285.07.25%20Report%20Trade%20Sub-committee%20Egypt%20Final%20(002).pdf (accessed 3 September 2019).

[728] See: European Commission, EU agrees to start trade negotiations with Egypt, Jordan, Morocco and Tunisia, 14 December 2011, http://trade.ec.europa.eu/doclib/press/index.cfm?id=766 (accessed 4 March 2019).

the Government of Egypt had introduced a number of trade-restrictive measures and that, in 2016, an economic reform programme had been launched.[729]

The Government of Egypt is promoting its trade agreements, including the Association Agreement with the EU, on a dedicated website.[730] The website provides a detailed summary of the agreement and the applicable rules.[731]

With respect to trade barriers, the EU Market Access database lists twelve active trade barriers for Egypt.[732] More specifically, this concerns four SPS matters, one TBT matter, two administrative and customs procedures matters, one internal taxation matter, one TRIMs matter, two market access and tariffs measures, as well as one quantitative restriction:

- With respect to market access and tariff measures, an issue regarding the valuation of imports for the purposes of customs clearance was raised in 2015, [733] noting that customs authorities in Egypt refuse to recognise importers' commercial invoices, even if sealed by the Chamber of Commerce in the country of origin. The fact that some EU Member States were not being listed on the Egyptian "List of Reference countries" was also raised in 2016;[734]
- The SPS matters relate to the following aspects: 2) Bovine meat and meat products, ovine meat, live animals and genetic material;[735] 3) Restrictions on import of feta cheese on the basis of Egyptian Standard ES: 1008-12/2005 setting a limit on the amount of yeast present in the cheese (2019);[736] and4) Import conditions for wheat and other cereals (ergot) (2017);[737]
- The TBT matter relates to the following aspect: 1) Restrictive labelling requirements for ceramics (2018);[738]
- The quantitative restriction relates to the issue of quotas of imports of ducklings (2019);[739]
- The matter on internal taxation and on TRIMs relates to Egypt's Automotive Tax Incentive Scheme (2016);[740]
- The administrative and customs procedures matters related to the following measures: 1) Requirement for bill statement "Origin Declaration" EUR 1 to be approved by the Chamber of Commerce of the exporting country (2017);[741] and 2) Mandatory requirement of

[729] Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2018 - 31 December 2018, SWD(2019) 370 final, p. 134, available at https://eur-lex.europa.eu/legal-content/da/ALL/?uri=CELEX:52019SC0370 (accessed 10 April 2020).
[730] See http://www.mti.gov.eg/English/Pages/agreements.aspx?folder=Agreement (accessed 19 August 2019).
[731] See http://www.mti.gov.eg/English/Agreements/Agreement/Egypt%20%E2%80%93%20EU%20Association%20Agreement%20Summary.pdf (accessed 19 August 2019).
[732] EU Market Access Database, available at https://madb.europa.eu/madb/barriers_crossTables.htm?isSps=false (accessed 9 December 2019).
[733] See the related entry in the EU Market Access Database: https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=14222 (accessed 9 December 2019).
[734] See the related entry in the EU Market Access Database: https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=13962 (accessed 9 December 2019).
[735] See the related entry in the EU Market Access Database: https://madb.europa.eu/madb/sps_barriers_details.htm?isSps=true&barrier_id=10680 (accessed 9 December 2019).
[736] See the related entry in the EU Market Access Database: https://madb.europa.eu/madb/sps_barriers_details.htm?isSps=true&barrier_id=14682 (accessed 9 December 2019).
[737] See the related entry in the EU Market Access Database: https://madb.europa.eu/madb/sps_barriers_details.htm?isSps=true&barrier_id=14062 (accessed 9 December 2019).
[738] See the related entry in the EU Market Access Database: https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=14042 (accessed 9 December 2019).
[739] See the related entry in the EU Market Access Database: https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=14802 (accessed 9 December 2019).
[740] See the related entries in the EU Market Access Database: https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=12540 and https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=12540 (accessed 9 December 2019).
[741] See the related entry in the EU Market Access Database: https://madb.europa.eu/madb/barriers_details.htm?barrier_id=13062 (accessed 9 December 2019).

registration of factories (Decree 991/2015) and the certificate of inspection for all shipments (Decree 43/2016) (2016).[742]

Egypt has been a member of the WTO since 30 June 1995 and a Party to the General Agreement on Tariffs and Trade (GATT) since 9 May 1970. In recent years, according to the data provided by the World Trade Organization, there has been a limited number of specific trade concerns (hereinafter, STCs) that have been notified to the WTO by the EU and other WTO Members.

With respect to SPS measures, only two STCs are listed in the WTO's database and date back to 2000 and 2008. In 2000, Thailand had notified a concern related to Egypt's decision to restrict food imports containing genetically modified organisms.[743] In 2008, the EU notified a concern related to Egypt's import restrictions on heat-treated poultry products, recalling that both sides had already held bilateral negotiations for some time on that issue.[744]

With respect to TBT measures, a total of eight STCs were notified to the TBT Committee, four of which date back to the 1990s to 2000, the other four having been notified more recently between 2012 and 2019.[745] In 2012, the EU had raised an STC related to two decrees related to the import requirements for leather, footwear and textile products. The decrees mandated that any imports of these products were to be accompanied with an inspection and review certificate issued by an Accreditation Body approved by the International Laboratory Accreditation Cooperation (ILAC) or from an Egyptian or Foreign Government Body approved by the Minister of Foreign Trade.[746] In 2014 and 2015, Turkey had notified an STC regarding imports of bottled water into Egypt noting, inter alia, that bottled water could only be imported from producers based in EU member states that had applied a Hazard Analysis and Critical Control Point (HACCP) system.[747]

More recently, in November 2018 and March 2019, the US raised a concern with respect to Egypt's halal requirements for poultry parts and offal.[748] Finally, between 2016 and 2019, a number of WTO Members, including the EU, continuously raised a concern related to Egypt's Manufacturer Registration System, based on Decree No. 43/2016 and Decree No. 992/2015.[749]

Jordan

The EU-Jordan Association Agreement was signed on 24 November 1997, but only entered into force on 1 May 2002.[750]

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[742] See the related entry in the EU Market Access Database: https://madb.europa.eu/madb/barriers_details.htm?barrier_id=10800 (accessed 9 December 2019).
[743] WTO Sanitary and Phytosanitary Information Management System, STC Number – 77, available at http://spsims.wto.org/en/SpecificTradeConcerns/View/126 (accessed 19 August 2019).
[744] WTO Sanitary and Phytosanitary Information Management System, STC Number – 262, available at http://spsims.wto.org/en/SpecificTradeConcerns/View/262 (accessed 19 August 2019).
[745] The four earlier SPCs are available at http://tbtims.wto.org/en/SpecificTradeConcerns/View/28. http://tbtims.wto.org/en/SpecificTradeConcerns/View/39, http://tbtims.wto.org/en/SpecificTradeConcerns/View/27, http://tbtims.wto.org/en/SpecificTradeConcerns/View/14, (accessed 19 August 2019).
[746] WTO Technical Barriers to Trade Information Management System, STC Number – 337, available at http://tbtims.wto.org/en/SpecificTradeConcerns/View/334 (accessed 19 August 2019).
[747] WTO Technical Barriers to Trade Information Management System, STC Number – 421, available at http://tbtims.wto.org/en/SpecificTradeConcerns/View/418 (accessed 19 August 2019).
[748] WTO Technical Barriers to Trade Information Management System, STC Number – 571, available at http://tbtims.wto.org/en/SpecificTradeConcerns/View/568 (accessed 19 August 2019).
[749] WTO Technical Barriers to Trade Information Management System, STC Number – 505, available at http://tbtims.wto.org/en/SpecificTradeConcerns/View/502 (accessed 19 August 2019).
[750] Euro-Mediterranean Agreement establishing an Association between the European Communities and their Member States, of the one part, and the Hashemite Kingdom of Jordan, of the other part - Protocol 1 concerning the arrangements applicable to the importation into the Community of agricultural products originating in Jordan - Protocol 2 concerning the arrangements applicable to the importation into Jordan of agricultural products originating in the Community - Protocol 3 concerning the definition of the concept of 'originating products' and methods of administrative cooperation - Protocol 4 on mutual assistance between administrative authorities in customs matters - Joint Declarations - Final A, OJ L 129, 15.5.2002, p. 3–176, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=uriserv:OJ.L_.2002.129.01.0003.01.ENG (accessed 28 August 2019). The related Decision of the Council of the EU: 2002/357/EC,ECSC: Council and Commission Decision of 26 March 2002 on the conclusion of the Euro-Mediterranean Agreement establishing an Association between the European Communities and their Member States, of the one part, and the Hashemite Kingdom of Jordan, of the other part, OJ L 129, 15.5.2002, p. 1–2, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2002.129.01.0001.01.ENG&toc=OJ:L:2002:129:TOC (accessed 28 August 2019). Consolidated version available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02002A0515(02)-20181204 (accessed 28 August 2019).

With respect to the tariff liberalisation for industrial goods, Article 11(2) of the Association Agreement provides for liberalisation at entry into force for the EU, which was in 2002, and over a twelve-year period for Jordan.

The Association Agreement with Jordan (together with the EU-Algeria Association Agreement) provides for more detailed rules on services than the other Association Agreements, but mostly underlines the MFN principles. These two agreements are also the only ones that contain a provision on air transport, inland waterways and maritime sport services.

On 26 September 2007, the EU and Jordan signed an *Agreement on agricultural, processed agricultural and fisheries products*, which entered into force retroactively on 1 January 2006.[751] Today, all agricultural products originating in Jordan enter the EU duty free with the exception of virgin olive oil and cut flowers, which are subject to TRQs[752], while liberalisation by Jordan side for agricultural products from the EU is substantial but not complete.[753]

A Dispute Settlement Mechanism (DSM) Protocol was added to the Agreement in 2011.[754] The DSM Protocol supplements WTO dispute settlement for issues relating to the Association Agreement, notably for issues not covered by WTO rules for which the WTO dispute settlement mechanism is not available. The Protocol provides for an arbitration procedure along the lines of the WTO dispute settlement mechanism and as included in more recent EU trade agreements. Certain issues that remain debated under WTO dispute settlement, such as the question of *amicus curiae* briefs (see Article 16(2) of the DSM Protocol and Paragraphs 38 to 40 of the Rules of Procedure provided in the Annex to the DSM Protocol), are regulated in the DSM Protocol. The protocol is, however, still not operational as Jordan has not proposed its candidates for the roster of arbitrators dealing with the disputes.

Jordan is a member of the PEM Convention, which it signed in 2011 and ratified in 2013.

The political and economic situation in Jordan is strongly impacted by the situation in neighbouring Syria. In response, the EU has been supporting Jordan, as well as Lebanon, with a number of dedicated measures, including the simplification of the rules of origin applicable to Jordanian exports of certain products to the EU, agreed in 2016.[755] In December 2018, the EU-Jordan Association Council agreed on a further Amendment to Protocol 3 of the EU-Jordan Association Agreement on this matter including extending its duration until the end of 2030.[756]

[751] Agreement in the form of an Exchange of Letters between the European Community and the Hashemite Kingdom of Jordan amending the EC-Jordan Association Agreement, Official Journal of the EU, 5 August 2008, L 207/18, available at https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:207:0018:0023:EN:PDF (accessed 19 August 2019).
[752] See the Annex to Protocol 1 of the EU-Jordan Association Agreement, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02002A0515(02)-20181204 (accessed 24 October 2019).
[753] See the Annex to Protocol 1 of the EU-Jordan Association Agreement, available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02002A0515(02)-20181204 (accessed 24 October 2019).
[754] 2011/398/EU: Council Decision of 13 May 2011 on the conclusion of an Agreement in the form of a Protocol between the European Union and the Hashemite Kingdom of Jordan establishing a dispute settlement mechanism applicable to disputes under the trade provisions of the Euro-Mediterranean Agreement establishing an Association between the European Communities and their Member States, of the one part, and the Hashemite Kingdom of Jordan, of the other part, Protocol between the European Union and the Hashemite Kingdom of Jordan establishing a dispute settlement mechanism applicable to disputes under the trade provisions of the Euro-Mediterranean Agreement establishing an Association between the European Communities and their Member States, of the one part, and the Hashemite Kingdom of Jordan, of the other part, OJ L 177, 6.7.2011, p. 1–17Available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ%3AJOL_2011_177_R_0001_01 (accessed 24 October 2019).
[755] Originally established by Decision 1/2016 of the EU-Jordan Association Committee and amended by Decision No. 1/2018 of the EU-Jordan Association Committee of 4 December 2018. Under the initiative, Jordanian exporters to the EU benefit from the same rules of origin for manufactured products as those applied by the EU for Least Developed Countries, provided that certain conditions are met. These rules are simpler than those that would otherwise apply under the Association Agreement. This simplification only applies to certain product groups. To qualify for the use the simpler rules, Syrian refugees must account for no less than 15% of a manufacturer's workforce.
[756] See: Decision No. 1/2018 of the EU-Jordan Association Council of 4 December 2018, available at http://trade.ec.europa.eu/doclib/docs/2018/december/tradoc_157588.pdf (accessed 19 August 2019).

As noted above, on 19 December 2016, the EU-Jordan Association Council adopted the *Partnership Priorities* and *Compact* by written procedure.[757] With respect to trade, the *Partnership Priorities*, inter alia, refer to the issue of regulatory coherence, the above-mentioned issues of the simplification of rules of origin, as well as to future negotiations on a DCFTA, the preamble to the priorities refers to the:

> "*Enhancement of the existing Association Agreement through negotiation of a Deep and Comprehensive Free Trade Area (DCFTA) that includes addressing all market access challenges that hinder Jordan from fully benefiting from the opportunities under the Association Agreement, will also enhance Jordan's integration into the EU market and create new opportunities for trade, investment and development*".[758]

More specifically, the priorities provide that:

> "*Trade-for-Development constitutes a key element of the Partnership Priorities/Compact. Job creation triggered by a relaxation by the EU of the rules of origin between Jordan and the EU and accompanying measures will benefit both Syrian refugees and Jordanian host communities. This relaxation of the rules of origin will not prejudge continued efforts by the EU and Jordan towards a DCFTA. The EU and Jordan remain committed to launching the negotiations on the latter, including addressing all market access challenges for Jordanian products for export to the EU. In parallel, the EU and Jordan will continue dialogue, to encourage harmonisation in areas such as Sanitary and Phyto-Sanitary Measures (SPS), Technical Barriers to Trade (TBT) or services*".[759]

The Government of Jordan is promoting its trade agreements, including the Association Agreement with the EU, on a dedicated website.[760]

The EU Market Access Database lists one active trade barrier for Jordan. In 2017, the matter of '*Import restrictions of products whose packaging contains references to certifications*' was raised.[761]

Jordan has been a member of the WTO since 11 April 2000. Since then, only two SPS- and TBT-related STCs were raised by other WTO Members. With respect to SPS measures, in 2009, Mexico notified a concern related to a measure taken by Jordan and other WTO Members regarding import restrictions of live pigs, pork products and sub-products due to Influenza A/H1N1.[762] With respect to TBT measures, in 2004, the US raised a concern regarding Jordan's International Product Conformity Certification Program DAMAN.[763]

Lebanon

The EU-Lebanon Association Agreement was signed on 17 June 2002, was provisionally applied from 1 March 2003, and entered into force on 1 April 2006.[764] The liberalisation of industrial products by Lebanon started in 2008 and was completed in 2015.

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[757] Council of the EU, EU and Jordan adopted partnership priorities and compact, 19 December 2016, available at https://www.consilium.europa.eu/en/press/press-releases/2016/12/20/eu-jordan-partnership-priorities-and-compact/ (accessed 19 August 2019).
[758] EU-Jordan Partnership Priorities, available at http://data.consilium.europa.eu/doc/document/ST-12384-2016-ADD-1/en/pdf (accessed 24 October 2019).
[759] Priority 2.b)a. of the EU-Jordan Partnership Priorities, available at http://data.consilium.europa.eu/doc/document/ST-12384-2016-ADD-1/en/pdf (accessed 24 October 2019).
[760] See http://www.mop.gov.jo/Pages/viewpage.aspx?pageID=178 (accessed 19 August 2019).
[761] See the related entry in the EU Market Access Database: https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=14342 (accessed 9 December 2019).
[762] WTO Sanitary and Phytosanitary Information Management System, STC Number – 279, available at http://spsims.wto.org/en/SpecificTradeConcerns/View/279 (accessed 19 August 2019).
[763] WTO Technical Barriers to Trade Information Management System, STC Number – 114, available at http://tbtims.wto.org/en/SpecificTradeConcerns/View/113 (accessed 19 August 2019).
[764] 2006/356/EC: Council Decision of 14 February 2006 concerning the conclusion of the Euro-Mediterranean Agreement establishing an association between the European Community and its Member States of the one part, and the Republic of Lebanon, of the other part, Euro-Mediterranean Agreement establishing an Association between the European Community and its Member States, of the one part, and the Republic of Lebanon, of the other part, OJ L 143, 30.5.2006, p. 1–179, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=uriserv:OJ.L_.2006.143.01.0001.01.ENG (accessed 28 August 2019).

A number of provisions of the EU-Lebanon Association Agreement, notably those on services, differ slightly from the EU Association Agreements with other Southern Mediterranean partner countries, taking into account that Lebanon is not a Member of the WTO.

No additional *Agreement on agricultural, processed agricultural and fisheries products* has, so far, been concluded. The level of agricultural market opening by the EU was already substantial in the original agreement (89% of agricultural and processed agricultural products enter tariff and quota free) with only 27 agricultural products[765] facing subject to a specific tariff treatment, mostly in the form of tariff-rate quotas (TRQs). At the same time, while agricultural liberalisation by Lebanon has been more limited, only about one tenth of EU exports in basic agricultural products cannot enter Lebanon under fully liberalised tariff lines.

In 2010, the EU and Lebanon signed the Dispute Settlement Mechanism (DSM) Protocol, which Lebanon ratified at the end of 2018. The DSM Protocol supplements WTO dispute settlement for issues relating to the Association Agreement, notably for issues not covered by WTO rules for which the WTO dispute settlement mechanism is not available. The Protocol provides for an arbitration procedure along the lines of the WTO dispute settlement mechanism and as included in more recent EU trade agreements. Certain issues that remain debated under WTO dispute settlement, such as the question of *amicus curiae* briefs (see Article 16(2) of the DSM Protocol and Paragraphs 38 to 40 of the Rules of Procedure provided in the Annex to the DSM Protocol), are regulated in the DSM Protocol.

Lebanon signed the PEM-Convention in 2014 and ratified it in 2017.

The Government of Lebanon is promoting its trade agreements, including the Association Agreement with the EU, on a dedicated website.[766]

The EU Market Access Database lists five active trade barriers for Lebanon:

- One barrier relates to administrative or customs procedures: '*Mandatory requirement of registration of factories for certain products*' (2019);[767]
- One barrier relates to export taxes: '*Additional duties on import of petroleum products*' (2017);[768] while another relates to an issue on internal taxation: '*Additional excise duties on alcohol products*' (2017);[769]
- One barrier relates to tariff measures: '*Temporary additional import duty on imports*' (2019);[770] and one barrier relates to an SPS measures establishing '*Restrictions impeding exports of honey*' (2015).[771]

As Lebanon is not yet a member of the WTO, it is not bound by the WTO Agreements and no trade concerns are notified to the WTO vis-à-vis Lebanon's trade policies.

Morocco

The EU-Morocco Association Agreement was signed on 26 February 1996 and entered into force on 1 March 2000.[772] The transition period for Morocco to reduce its tariffs on industrial products to

[765] This concerns cut flowers, potatoes, garlic, tomatoes, cucumbers, artichokes, olives, courgettes, oranges, mandarins, lemons, grapes, apples, pears and quinces, apricots, cherries, peaches, plums, olive oil, cane or beet sugar, grape juice, and wine (see Protocol 1 of the Agreement).
[766] See https://www.economy.gov.lb/en/services/trade/international-agreements/eu-partners/association-agreement (accessed 19 August 2019).
[767] Mandatory requirement of registration of factories for certain products (2019), available at https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=14882 (accessed on 9 December 2019).
[768] Additional duties on import of petroleum products (2017), available at https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=13026 (accessed on 9 December 2019).
[769] Additional excise duties on alcohol products (2017), available at https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=13027 (accessed on 9 December 2019).
[770] Temporary additional import duty on imports (2019), available at https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=15043 (accessed on 9 December 2019).
[771] Restrictions impeding exports of honey (2015), available at https://madb.europa.eu/madb/sps_barriers_details.htm?isSps=true&barrier_id=10124, (accessed on 9 December 2019).
[772] Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Kingdom of Morocco, of the other part - Protocol 1 on the

zero ended in March 2012. Trade for industrial products is now fully liberalised With respect to the tariff liberalisation for industrial goods, Article 11(2) of the Association Agreement provided for a liberalisation over three years for certain products, twelve years for other products and is now fully liberalised, while market access for agricultural products also covers nearly all products, with some products still subject to TRQs on each side.

On 13 December 2010, the EU and Morocco signed an *Agreement on agricultural, processed agricultural and fisheries products*, which entered into force on 1 October 2012.[773] This agreement provides for reciprocal liberalisation measures on agricultural products, processed agricultural products and fish and fishery products and replaced Protocols 1, 2 and 3 and their Annexes and amendments to the EU-Morocco Association Agreement.

The Government of Morocco is promoting its trade agreements, including the Association Agreement with the EU, on a dedicated website.[774]

The EU Market Access database lists six active trade barriers for Morocco, one of which is listed in two categories:

- Two barriers relate to export prohibitions and other quantitative restrictions: 1) '*Export ban on hides and skins and wet blue*' (2016);[775] and 2) '*Export measures on algae*' (2011);[776]
- One barrier relates to Government Procurement: '*Public procurement regulation laws - local content requirements for strategic projects in the renewable energy sector*' (2014);[777]
- One barrier relates to labelling, marking and packaging requirements: '*Mandatory cmim marking*' (2019);[778]
- One barrier relates to performance requirements for non-services, including LCR (TRIMs): '*Public procurement regulation laws - local content requirements for strategic projects in the renewable energy sector*' (2014);[779]
- Two barriers relate to tariff measures: 1) '*Customs duties for used products*' (2010);[780] and 2) '*New foreign trade law - protection of domestic production*' (2016).[781]

A Dispute Settlement Mechanism (DSM) Protocol entered into force in 2012. The DSM Protocol supplements WTO dispute settlement for issues relating to the Association Agreement, notably for issues not covered by WTO rules for which the WTO dispute settlement mechanism is not available. The Protocol provides for an arbitration procedure along the lines of the WTO Dispute Settlement

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arrangements applying to imports into the Community of agricultural products originating in Morocco - Protocol 2 on the arrangements applying to imports into the Community of fishery products originating in Morocco - Protocol 3 on the arrangements applying to imports into Morocco of agricultural products originating in the Community - Protocol 4 concerning the definition of originating products and methods of administrative cooperation - Protocol 5 on mutual assistance in customs matters between the administrative authorities - Final Act - Joint Declarations - Agreements in the form of an Exchange of Letters - Declaration by the Community - Declarations by Morocco, OJ L 70, 18.3.2000, p. 2–204, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:22000A0318(01)&qid=1567613723081 (accessed 4 September 2019).

[773] Agreement in the form of an Exchange of Letters between the European Union and the Kingdom of Morocco concerning reciprocal liberalisation measures on agricultural products, processed agricultural products, fish and fishery products, the replacement of Protocols 1, 2 and 3 and their Annexes and amendments to the Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Kingdom of Morocco, of the other part, available at https://eur-lex.europa.eu/legal-content/GA/TXT/?uri=CELEX:22012A0907(01) (accessed 16 February 2019).

[774] See http://www.mcinet.gov.ma/ce/AccordsCommerciaux/UE.asp (accessed 19 August 2019).

[775] Export ban on hides and skins and wet blue (2016), available at https://madb.europa.eu/madb/barriers_details.htm?barrier_id=11561 (accessed on 9 December 2019).

[776] Export measures on algae (2011), available at https://madb.europa.eu/madb/barriers_details.htm?barrier_id=11580 (accessed on 9 December 2019).

[777] Public procurement regulation laws - local content requirements for strategic projects in the renewable energy sector (2014), available at https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=13048 (accessed on 9 December 2019).

[778] Mandatory cmim marking (2019), available at https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=14862 (accessed on 9 December 2019).

[779] Public procurement regulation laws - local content requirements for strategic projects in the renewable energy sector (2014), available at https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=13048 (accessed on 9 December 2019).

[780] Customs duties for used products' (2010), available at https://madb.europa.eu/madb/barriers_details.htm?barrier_id=11560 (accessed 9 December 2019).

[781] New foreign trade law - protection of domestic production, available at https://madb.europa.eu/madb/barriers_details.htm?barrier_id=13046 (accessed on 9 December 2019).

mechanism and as included in more recent EU trade agreements. Certain issues that remain debated under WTO dispute settlement, such as the question of *amicus curiae* briefs (see Article 16(2) of the DSM Protocol and Paragraphs 38 to 40 of the Rules of Procedure provided in the Annex to the DSM Protocol), are regulated in the DSM Protocol.

Morocco signed the PEM-Convention on 18 April 2012 and ratified it on 6 May 2019.

Overall bilateral relations between the EU and Morocco were affected by the ruling of the Court of Justice of the European Union (CJEU) on the (non) application of the EU-Morocco Association Agreement to the territory of the Western Sahara. This was followed by another case in February 2018 where the CJEU ruled that the EU-Morocco Fisheries Agreement and its Protocol on fishing opportunities and financial contributions did not apply to the waters off the coast of the territory of Western Sahara.[782]

To address the situation, the EU and Morocco engaged in negotiations in order to amend the relevant protocols of the EU-Morocco Association Agreement, so as to establish the legal basis for granting the tariff preferences laid down in the Association Agreement to products originating in Western Sahara. Likewise, the EU and Morocco engaged in negotiations to conclude a new Sustainable Fisheries Partnership Agreement. On 16 January 2019, the European Parliament gave its consent to the amendment of the EU-Morocco Association Agreement and likewise on 12 February 2019 to the new EU-Morocco Sustainable Fisheries Partnership Agreement and Protocol. Both agreements have been adopted by the Council of the EU and subsequently ratified by Morocco in July 2019.

After a long pause in EU-Morocco meetings due to the abovementioned processes, a meeting of the EU-Morocco Association Council was held on 27 June 2019. The Council of the EU noted that this "fourteenth meeting of the EU-Morocco Association Council marked the reinvigoration of political relations between the EU and Morocco".[783] The Association Council adopted a Joint Political Declaration, which outlines the main areas for bilateral cooperation in the future based on four structural areas and two key fields.[784] The second structural area concerns an "*area of economic convergence and social cohesion*" with a clear connection to trade and a future DCFTA:

> "*This area will be based, in particular, on the implementation of the economic strand of the Association Agreement. This will involve making better use of the possibilities offered by the bilateral trade relationship, the relaunching of negotiations for a Deep and Comprehensive Free Trade Agreement (DCFTA) on the basis of the expected benefits for both parties, the gradual move towards regulatory convergence, close bilateral cooperation regarding customs, good fiscal governance, the protection of personal data and a strengthening of the connectivity of physical and digital infrastructures*".[785]

The work of the Sub-Committee on Trade and other bodies established under the EU-Morocco Association Agreement has resumed in June 2020. The Industry, Trade, and Services Sub-Committee had met in 2013 and reconvened in June 2020 while the Sub-Committee on Agricultural and Fisheries Products had met in 2015 and reconvened in July 2020.

The ratification process of the Agreement for the Protection of GIs was put on hold and is still pending.

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[782] Judgment of the Court (Grand Chamber) of 27 February 2018 (request for a preliminary ruling from the High Court of Justice (England & Wales), Queen's Bench Division (Administrative Court) — United Kingdom) - The Queen, on the application of: Western Sahara Campaign UK v Commissioners for Her Majesty's Revenue and Customs, Secretary of State for Environment, Food and Rural Affairs, Case C-266/16, available at http://curia.europa.eu/juris/document/document.jsf?text=&docid=201366&pageIndex=0&doclang=EN&mode=req&dir=&occ=first&part=1&cid=14032483 (accessed 19 August 2019).

[783] See Council of the EU, EU-Morocco Association Council, 27 June 2019, https://www.consilium.europa.eu/en/meetings/international-ministerial-meetings/2019/06/27/morocco/ (accessed 24 October 2019).

[784] Joint declaration by the European Union and Morocco for the fourteenth meeting of the Association Council, available at https://www.consilium.europa.eu/en/press/press-releases/2019/06/27/joint-declaration-by-the-european-union-and-the-kingdom-of-morocco-for-the-fourteenth-meeting-of-the-association-council/ (accessed 24 October 2019).

[785] Joint declaration by the European Union and Morocco for the fourteenth meeting of the Association Council, available at https://www.consilium.europa.eu/en/press/press-releases/2019/06/27/joint-declaration-by-the-european-union-and-the-kingdom-of-morocco-for-the-fourteenth-meeting-of-the-association-council/ (accessed 24 October 2019).

In November 2011, the Commission received a mandate from the Council of the EU authorising negotiations for a Deep and Comprehensive Free Trade Area (DCFTA) with Morocco, as well as with Egypt, Jordan, and Tunisia.[786] The negotiations started in 2013 and, between 2013 and 2014, four rounds were held. Morocco proposed to suspend the negotiations for a DCFTA in 2014 in order to conduct impact assessments, as well as further internal consultations with stakeholders.

The DCFTA is supposed to expand the existing free trade area into new areas, as well as deepen it in a number of areas that have already been included, but not yet covered in depth. Negotiations were scheduled to include areas such as public procurement, disciplines on non-tariff measures, harmonisation of standards and regulations towards the EU *acquis*, SPS measures, intellectual property rights, consumer protection, competition, investment, trade in services and sustainable development. With the restart in bilateral relations in 2019, negotiations on the DCFTA could resume in the near future.

Morocco has been a WTO Member since 1 January 1995 and a Party to GATT since 17 June 1987. So far, no specific trade concerns are registered in the WTO database.

Tunisia

In 1995, the EU and Tunisia concluded their Association Agreement, which entered into force on 1 March 1998.[787]

With respect to the tariff liberalisation for certain industrial goods, Article 11(2) of the Association Agreement provides for liberalisation over twelve years, but tariffs were already fully dismantled in 2008, two years ahead of schedule.

No additional Agreement on agricultural, processed agricultural and fisheries products has, so far, been concluded.

The Government of Tunisia is promoting its trade agreements, including the Association Agreement with the EU, on a dedicated website.[788]

The Dispute Settlement Mechanism (DSM) Protocol entered into force in 2011. The DSM Protocol supplements WTO dispute settlement for issues relating to the Association Agreement, notably for issues not covered by WTO rules for which the WTO dispute settlement mechanism is not available. The Protocol provides for an arbitration procedure along the lines of the WTO Dispute Settlement mechanism and as included in more recent EU trade agreements. Certain issues that remain debated under WTO dispute settlement mechanism, such as the question of amicus curiae briefs (see Article 16(2) of the DSM Protocol and Paragraphs 38 to 40 of the Rules of Procedure provided in the Annex to the DSM Protocol), are regulated in the DSM Protocol. On 27 February 2019, a discussion took place at the most recent meeting of the Sub-Committee on Trade on the steps required from each side to make the bilateral dispute settlement mechanism operational. The EU reported that it had submitted, on 25 January 2019, its list of ten experts, and requesting Tunisia to submit its own list. Tunisia committed to submit its list before the end of 2019 in order to make the dispute settlement mechanism operational by early 2020.[789]

The PEM-Convention was signed by Tunisia on 16 January 2013 and Tunisia notified ratification thereof on 1 January 2015.

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[786] See: European Commission, EU agrees to start trade negotiations with Egypt, Jordan, Morocco and Tunisia, 14 December 2011, http://trade.ec.europa.eu/doclib/press/index.cfm?id=766 (accessed 19 August 2019).
[787] Euro-Mediterranean Agreement establishing an association between the European Communities and their Member States, of the one part, and the Republic of Tunisia, of the other part - Protocol No 1 on the arrangements applying to imports into the Community of agricultural products originating in Tunisia - Protocol No 2 on the arrangement applying to imports into the Community of fishery products originating in Tunisia - Protocol No 3 on the arrangements applying to imports into Tunisia of agricultural products originating in the Community - Protocol No 4 concerning the definition of originating products and methods of administrative cooperation - Protocol No 5 on mutual assistance in customs matters between the administrative authorities - Joint Declarations – Declarations, OJ L 97, 30.3.1998, p. 2–183, available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=uriserv:OJ.L_.1998.097.01.0002.01.ENG (accessed 4 September 2019).
[788] See http://www.commerce.gov.tn/Fr/union-europeenne_11_224 (accessed 19 August 2019).
[789] Rapport du Sous comité "Commerce, Industrie et Services" et "Marché intérieur", 28 February 2019, available at https://eeas.europa.eu/sites/eeas/files/rapport_sc_commerce_industrie_services_et_marche_interieur_fev_2019.pdf (accessed 17 September 2019).

In November 2011, the Commission received a mandate from the Council of the EU authorising negotiations for a Deep and Comprehensive Free Trade Area (DCFTA) with Tunisia, as well as with Egypt, Jordan, and Morocco.[790] The negotiations on the DCFTA with Tunisia were launched in Tunis in October 2015 and the first full round of negotiations took place in Tunis in April 2016. One of the main objectives of the negotiations is to support economic reforms in Tunisia and to bring Tunisia's legislation closer to EU legislation in selected trade-related areas. The principles of asymmetry and progressiveness in favour of Tunisia will guide market access negotiations, especially regarding agriculture, services and investment. Regarding regulatory approximation, it is for Tunisia to choose the sectors in which it wishes to align with EU rules.

The EU has made public all initial proposals and civil society consultations are held regularly. Joint reports of each round are also published in the EU and in Tunisia. A fourth round took place in Tunis in the spring of 2019.

Tunisia benefits from a 'special relationship' with the EU. Since 2012, the EU and Tunisia cooperate in the context of a 'Privileged Partnership', detailed in an ambitious Action Plan under the European Neighbourhood Policy (ENP). In 2016, the EU reaffirmed its support to Tunisia through a joint communication of the High Representative of the European Union for Foreign Affairs and Security Policy and the Commission on 'Strengthening EU support for Tunisia'.[791] The communication detailed the areas in which EU support is to be provided in order to further sustained and inclusive development and advance needed structural reforms.

The communication included a number of trade-related measures, as well as the launch of a 'Partnership for growth' initiative. The measures include: 1) A possible early entry into force of the agreed EU trade concessions on agricultural market access of a future DCFTA on a temporary basis; 2) The possible advanced implementation of the new the Pan-Euro-Mediterranean (PEM) rules of origin; 3) Temporary flexibility for certain products; and 4) The setting up of a structured regulatory dialogue to facilitate and speed up the negotiation of an Agreement on Conformity Assessment and Acceptance (ACAA) of industrial products which still need key legislation to be adopted (i.e., laws on security of industrial and food products).

The EU Market Access Database lists four active trade barriers for Tunisia, some of which are listed in several categories:

- One barrier relates to administrative or customs procedures: '*Burdensome customs procedures and technical controls in ports on an extended list of products*' (2017);[792]
- Two barriers relate to internal taxation: 1) '*Higher tariffs on "non-essential" consumer products (including agricultural and processed products not covered by the AA)*' (2017);[793] and 2) '*Technical barriers to trade on imports of ceramic tiles into Tunisia*' (2016);[794]
- One barrier relates to a lack of or insufficient IPR protection: '*Import conditions for new pharmaceutical products*' (2013);[795]
- Three barriers relate to standards and other technical requirements: 1) '*Burdensome customs procedures and technical controls in ports on an extended list of products*'

[790] See: European Commission, EU agrees to start trade negotiations with Egypt, Jordan, Morocco and Tunisia, 14 December 2011, http://trade.ec.europa.eu/doclib/press/index.cfm?id=766 (accessed 19 August 2019).
[791] Strengthening EU support for Tunisia, Brussels, 29.9.2016 JOIN(2016) 47 final, available at https://eeas.europa.eu/sites/eeas/files/communication_from_commission_to_inst_en_v6_p1_859678-2.pdf (accessed 25 April 2019).
[792] Burdensome customs procedures and technical controls in ports on an extended list of products 2017, available at https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=13050 (accessed on 9 December 2019).
[793] Higher tariffs on "non-essential" consumer products (including agricultural and processed products not covered by the AA) (2017), available at https://madb.europa.eu/madb/barriers_details.htm?barrier_id=13049 (accessed on 9 December 2019).
[794] Technical barriers to trade on imports of ceramic tiles into Tunisia (2016), available at https://madb.europa.eu/madb/barriers_details.htm?barrier_id=10961 (accessed on 9 December 2019).
[795] Import conditions for new pharmaceutical products (2013), available at https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=10222 (accessed on 9 December 2019).

(2017);[796] and 2) '*Technical barriers to trade on imports of ceramic tiles into Tunisia*' (2016);[797] and 3) '*Import conditions for new pharmaceutical products*' (2013);[798]
- One barrier relates to tariff measures: '*Higher tariffs on "non-essential" consumer products (including agricultural and processed products not covered by the AA)*' (2017).[799]

Tunisia has been a member of the WTO since 29 March 1995 and a Party to the GATT since 19 August 1990. There has only been one trade concern that was notified to the WTO in 2009, which was raised by the EU and related to Tunisia's rules on the mandatory labelling for certain pre-packaged foods.[800]

C.3 Review of the most recent Sub-Committee meetings

This section relates to the main report's section 2.3.5 Impact on implementation of the agreements of their institutional structures.

Algeria

Meetings of the Sub-Committee on Trade, Industry, and Services took place in March 2014, October 2017, and October 2018.

During 2018, meetings of the Sub-Committee on Trade, Industry, and Services, the Sub-Committee on Agricultural and Fisheries Products, and the Sub-Committee on Customs Cooperation were held. On the latter, the main focus was on updating each other on the respective customs legislation and procedures, the revision of the PEM Convention, the fight against counterfeiting, and a possible workshop with main stakeholders, and methods of customs valuation procedures. The report on the Sub-Committee on Trade, Industry and Services has been published.

So far, six meetings of the Sub-Committee on Trade, Industry, and Services have taken place, most recently in 2014, 2017 and in October 2018.

At the October 2018 meeting of the Sub-Committee on Trade, Industry, and Services, the European Commission raised a series of market access barriers that Algeria has been introducing in the last few years, notably a temporary import ban on more than 800 products (introduced in January 2018) and a duty increase on a list of 129 products (also introduced in January 2018), as well as other outstanding concerns were discussed:
- Quantitative restrictions under a non-automatic licensing regime in force since January 2016, which, in 2018, applied to imports of completely-built private vehicles;
- Legal restrictions applicable to foreign investments (e.g., the '49/51 Law', which established a 49% limit for foreign ownership of any company established in Algeria); and
- Other issues (e.g., the longstanding issue of ship-owners' disbursement accounts).

With respect to these trade barriers, three consultations at Senior Officials level were held during 2018 and one in 2019. In the Association Council Conclusions of May 2018, the parties expressed the wish that these consultations find a negotiated solution possibly by the end of 2018.

At the October 2017 meeting of the Sub-Committee on Customs Cooperation, discussions between the EU and Algeria focused on customs legislation and procedures, the revision of the PEM Convention, the fight against counterfeiting, as well as on information on sharing customs valuation. Moreover, in October 2017, at the Sub-Committee on Agricultural and Fisheries Products, several technical assistance programmes were discussed, as well as potential ways to reinforce EU technical assistance to Algeria in the field of conformity assessment. Algeria mentioned the will to request for more concessions within the Association Agreement, despite its inability to fulfil the current quotas at any meaningful level.

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[796] Burdensome customs procedures and technical controls in ports on an extended list of products (2017), available at https://madb.europa.eu/madb/barriers_details.htm?barrier_id=13050 (accessed on 9 December 2019).
[797] Technical barriers to trade on imports of ceramic tiles into Tunisia (2016), available at https://madb.europa.eu/madb/barriers_details.htm?barrier_id=10961 (accessed on 9 December 2019).
[798] Import conditions for new pharmaceutical products, (2013) available at https://madb.europa.eu/madb/barriers_details.htm?barrier_id=10222 (accessed on 9 December 2019).
[799] Higher tariffs on "non-essential" consumer products (including agricultural and processed products not covered by the AA) (2017), available at https://madb.europa.eu/madb/barriers_details.htm?isSps=false&barrier_id=13049 (accessed on 9 December 2019).
[800] WTO Technical Barriers to Trade Information Management System, STC Number – 246, available at http://tbtims.wto.org/en/SpecificTradeConcerns/View/244 (accessed 19 August 2019).

At the most recent meeting of the Sub-Committee on Trade, Industry, and Services, held on 18 October 2018 in Brussels, the representatives of the EU underlined the importance of the discussions within the Sub-Committee to advance bilateral trade relations.[801] Most notably, the EU raised the issue of recent measures implemented by the Government of Algeria aimed at reducing imports noting that they appeared to have a protectionist approach and invited Algeria to intensify the dialogue to find a mutually agreeable solution. The EU then requested additional information on these measures. The representatives from Algeria noted that the relevant measures were being addressed in an Ad-hoc Senior Officials' meetings and that Algeria would not discuss these measures in the Sub-Committee. Furthermore, the Algerian side requested the EU to discuss issues complicating market access for Algerian goods.[802] Additionally, the EU and Algeria discussed engagement by EU investors in Algeria.

During the past six years, the Sub-Committee on Trade, Industry, and Services only met three times. The meetings allowed both parties to address important trade irritants, to discuss broader issues of mutual concern and to coordinate on cooperation activities. Still, the low frequency of meetings shows that the Sub-Committee cannot be solely relied upon to resolve any trade concern arising in the trade relations between the two parties.

Egypt

The most recent meetings of the Sub-Committee on Industry, Trade, Services and Investment took place in October 2008, January 2010, February 2015, November 2017, and June 2019.

In June 2019, the most recent meeting of the Sub-Committee on Industry, Trade, Services, and Investment took place. No meetings of the sub-committees were held in 2018 and, during 2017, meetings of the Sub-Committee on Industry, Trade, Services, and Investment, the Sub-Committee on Agricultural and Fisheries products, and the Sub-Committee on Customs Cooperation were held.

At the November 2017 meeting of the Sub-Committee on Industry, Trade, Services, and Investment, a number of trade issues were discussed:

- Delay by Egypt with respect to reducing and removing tariffs for passenger vehicles;
- The draft tax incentive scheme for the automotive industry;
- The envisaged Agreement on Conformity Assessment and Acceptance (ACAA);
- Egypt's efforts to bring its legislation in compliance with the EU's SPS rules;
- The future DCFTA prospects; and
- The ratification of the Dispute Settlement Mechanism Protocol.

At the November 2017 meeting of the Sub-Committee on Customs Cooperation, the EU and Egypt decided to organise a TAIEX workshop on rules of origin, as well as a workshop related to addressing fraud.

Also, in November 2017, at the Sub-Committee on Agricultural and Fisheries products, several issues were discussed, including agri-food trade developments with the recent increase of Egyptian agri-food exports to the EU market, recent developments in the agricultural policies of both EU and Egypt, possible future cooperation on organic farming and GIs, and a review of the impact of the EU technical assistance provided to Egypt in the sector of agriculture and rural development.

The most recent meeting of the Sub-Committee on Industry, Trade, Services, and Investment took place in Cairo on 17 June 2019.[803] At the meeting, overall trade relations, issues affecting bilateral trade and market access, agricultural trade, industrial policy, as well as trade related assistance were discussed. With respect to the specific issues, the following elements were raised:

- EU trade defence investigations;
- Egypt's registration requirements for exporters to Egypt;
- SPS issues;
- automotive sector;
- agricultural trade; and

[801] Sous-Comité Commerce, Industrie et Services EU-Algérie, Procès Verbal, Bruxelles,10 Octobre 2018, p. 1, available at http://trade.ec.europa.eu/doclib/docs/2019/june/tradoc_157911.pdf (accessed 2 July 2019).
[802] Sous-Comité Commerce, Industrie et Services EU-Algérie, Procès Verbal, Bruxelles,10 Octobre 2018, p. 5, available at http://trade.ec.europa.eu/doclib/docs/2019/june/tradoc_157911.pdf (accessed 2 July 2019).
[803] European Commission, Report EU-Egypt Sub-Committee on Industry, Trade, Services, and Investment, available at https://trade.ec.europa.eu/doclib/docs/2019/july/tradoc_158285.07.25%20Report%20Trade%20Sub-committee%20Egypt%20Final%20(002).pdf (accessed 3 September 2019).

- industrial policy and an Agreement on Conformity Assessment and Acceptance (ACAA).

During the past twelve years, the Sub-Committee on Industry, Trade, Services and Investment met five times, notably the Sub-Committee did not meet at all between January 2010 and February 2015. The meetings allowed both parties to address important trade irritants, to discuss broader issues of mutual concern and to coordinate on cooperation activities. Still, the low frequency of meetings does suggest that the Sub-Committee cannot be solely relied upon to resolve any trade concern arising in the trade relations between the two parties.

Jordan

The most recent meetings of the Sub-Committee on Industry, Trade and Services took place in 2009, 2011, 2015 and 2017. During 2017, meetings of the Sub-Committee on Agriculture and Fisheries, and the Sub-Committee on Customs Cooperation were also held.

At the December 2017 meeting of the **Sub-Committee on Industry, Trade and Services**, a number of trade issues were discussed:

- Implementation of the Rules of Origin scheme linked to the employment of Syrian refugees;
- The investment climate in Jordan; and
- Technical assistance and capacity building.

At the most recent meeting of the **Sub-Committee on Agriculture and Fisheries**, a number of trade issues were discussed, concerning, *inter alia*, the issue of Geographical Indications (GIs).

At the December 2017 meeting of the **Sub-Committee on Customs Cooperation**, a number of customs issues were discussed:

- Modernisation of customs administration and simplification of customs legislation;
- The revised PEM-Convention; and
- Administrative cooperation on customs matters, including addressing irregularities and customs fraud.

During the past eleven years, the Sub-Committee on Industry, Trade and Services met four times. The meetings allowed both parties to address important trade irritants, to discuss broader issues of mutual concern and to coordinate on cooperation activities. Still, the low frequency of meetings shows that the Sub-Committee cannot be solely relied upon to resolve any trade concern arising in the trade relations between the two parties.

Lebanon

The most recent meetings of the Sub-Committee on Industry, Trade, Services and Internal Market took place in October 2016 and March 2018. With regards to the latter, the Sub-Committee was held under the "cluster approach" to subcommittees following the EU-Lebanon Partnership Priorities agreed in November 2016. Also, following from the Partnership Priorities, a technical Joint Working Group on Trade and Investment (reporting regularly to the Sub-Committee on Trade) was set up in 2017 and has met six times since its inception. The sixth meeting took place in July 2019. Under this format, parties discussed several topics such as rules of origin, cooperation in the pharmaceutical and agri-food sectors, intellectual property rights, as well as regulatory issues.

At the March 2018 meeting of the Subcommittee on Industry, Trade and Services, a number of trade issues were addressed:

- Trade integration with the EU and other trading partners;
- The future outlook of bilateral and regional cooperation in the revised PEM-Convention;
- Lebanon's WTO accession;
- Capacity-building in sectors that were identified by the Joint Working Group on Trade and Investment in July 2017 (i.e., pharmaceuticals, agri-food, and statistics);
- A number of specific trade-related measures (i.e., additional duties on imports of wine and spirits, and the suspension of the exemption of customs duties for petroleum products); and
- A number of non-trade related agricultural topics, such as Lebanon's geographical indications.

At the July 2019 meeting of the **Joint Working Group on Trade and Investment**, *inter alia*, the following trade-related issues were addressed:

- Rules of Origin;
- Measures affecting bilateral trade; and
- Enhancing Lebanese export capacity in the agro-food sector.

While meetings of the Sub-Committee on Industry, Trade, Services and Internal Market were still held in recent years, the Joint Working Group on Trade and Investment, which regularly reports to the Sub-Committee, has met much more often and appears to be addressing a multitude of issues. Such a Joint Working Group only exists with Lebanon.

Morocco

In view of the circumstances affecting overall political relations, as of mid-2019, the most recent meetings of the EU-Morocco Sub-Committee on Industry, Trade, and Services were held in December 2011 and December 2013, and the most recent meetings of the Sub-Committee on Agricultural and Fisheries Products and the Committee on Customs Cooperation has been held in 2015, respectively.[804]

After a long pause in EU-Morocco meetings, a meeting of the EU-Morocco Association Council was held on 27 June 2019. The Council of the EU noted that this "fourteenth meeting of the EU-Morocco Association Council marked the reinvigoration of political relations between the EU and Morocco".[805] The Association Council adopted a Joint Political Declaration which outlines the main areas for bilateral cooperation in the future based on four structural areas and two key fields.[806] The second structural area concerns an "*area of economic convergence and social cohesion*" with a clear connection to trade and a future DCFTA:

> "*This area will be based, in particular, on the implementation of the economic strand of the Association Agreement. This will involve making better use of the possibilities offered by the bilateral trade relationship, the relaunching of negotiations for a Deep and Comprehensive Free Trade Agreement (DCFTA) on the basis of the expected benefits for both parties, the gradual move towards regulatory convergence, close bilateral cooperation regarding customs, good fiscal governance, the protection of personal data and a strengthening of the connectivity of physical and digital infrastructures*".[807]

It can be expected that the other bodies established under the Association Agreement will also convene again in the near future.

Due to the broader political situation, there have been no meetings of the Sub-Committees in recent months, but meetings are supposed to resume in the near future. This underlines the effect that broader political developments can have on these rather technical bodies, which should be available to address trade irritants affecting businesses within both parties.

Tunisia

The most recent meetings of relevant Sub-Committees took place in February 2019, when meetings of the Sub-Committee on Industry, Trade and Services and of the Sub-Committee Internal Market were held. At the meeting, the EU and Tunisia exchanged views on the state of trade relations, as well as on current trade concerns.[808] Prior to that, a meeting of the Sub-Committee on Industry, Trade and Services was held in February 2015 and meetings of the Sub-Committee on Agricultural and Fisheries Products, as well as the Sub-Committee on Customs Cooperation and Taxation were held in 2017.

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[804] See Commission Staff Working Document, Individual reports and info sheets on implementation of EU Free Trade Agreements, Accompanying the document, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements, 1 January 2017 - 31 December 2017, COM(2018) 728 final, pp. 145, available at https://ec.europa.eu/transparency/regdoc/rep/1/2018/EN/COM-2018-728-F1-EN-MAIN-PART-1.PDF (accessed 19 August 2019).

[805] See Council of the EU, EU-Morocco Association Council, 27 June 2019, https://www.consilium.europa.eu/en/meetings/international-ministerial-meetings/2019/06/27/morocco/ (accessed 24 October 2019).

[806] Joint declaration by the European Union and Morocco for the fourteenth meeting of the Association Council, available at https://www.consilium.europa.eu/en/press/press-releases/2019/06/27/joint-declaration-by-the-european-union-and-the-kingdom-of-morocco-for-the-fourteenth-meeting-of-the-association-council/ (accessed 24 October 2019).

[807] Joint declaration by the European Union and Morocco for the fourteenth meeting of the Association Council, available at https://www.consilium.europa.eu/en/press/press-releases/2019/06/27/joint-declaration-by-the-european-union-and-the-kingdom-of-morocco-for-the-fourteenth-meeting-of-the-association-council/ (accessed 24 October 2019).

[808] Rapport du Sous comité "Commerce, Industrie et Services" et "Marché intérieur", 28 February 2019, available at https://eeas.europa.eu/sites/eeas/files/rapport_sc_commerce_industrie_services_et_marche_interieur_fev_2019.pdf (accessed 17 September 2019). The information on the February 2019 meeting is based on the report.

In terms of trade concerns, both sides raised a number of issues. The representatives from the EU raised the following issues:

- Non-automatic import authorisations and technical controls on the basis of certain specifications upon importation;
- Technical controls upon importation and technical specifications: The EU referred to the concern of operators regarding the application of systematic technical controls on a large number of imported products;
- Export declarations: The EU expressed its surprise regarding the continued requirement of export declarations, which had been a temporary measure that should not have been maintained longer than three months, as indicated by Tunisia's Ministry of Commerce in March 2018;
- The EU recalled that Tunisia continued to require a certificate of free sale for the import of cosmetics, toys, and school supplies, which are also subject to automatic technical control. The EU inquired about the reason for the double check, especially for products imported from the EU that automatically meet European (CE) standards. Tunisia confirmed that the measure would cease to apply shortly;
- With respect to pharmaceuticals, the EU referred to concerns from EU laboratories that do not obtain a Marketing Authorisation if they refuse to meet the financial requirements of the Central Pharmacy of Tunisia, which, *inter alia*, holds a monopoly on the importation of medicines and fixes prices;
- The EU conveyed concerns of EU car manufacturers and their subsidiaries in Tunisia, which are subject to reduced quarterly quotas that replaced annual quotas. Additionally, the EU noted that the import of cars was also subject to the technical specification requirements and the submission and verification of a fact sheet submitted to the Ministry of Commerce;
- The EU reported that Tunisia allowed imports of only certain categories of tires and prohibited the importation of certain other tires, including those from the EU, and that the relevant criteria were unclear and subject to constant change, which led to a lack of predictability among economic operators. Additionally, the EU noted that Tunisia's Ministry of Industry allowed the tests of tires by a local manufacturer, which was contrary to the rules on fair competition of the Association Agreement;
- The EU expressed its concerns regarding the import of ceramic tiles that are subject to technical inspections on the basis of technical specifications since 2006 and to a minimum price restriction, which represents a non-tariff barrier and a limitation by price. Tunisia explained the applicable rules in detail; and
- The EU reiterated its 2016 request regarding the SPS risk analysis result for the import of apples from the EU. Tunisia committed to provide the EU with its risk analyses and also stated that Tunisian apples were produced in a poor region, where apple cultivation was the main source of income.

During 2017, meetings of the Sub-Committee on Agricultural and Fisheries Products and the Sub-Committee on Customs Cooperation and Taxation were held.

The **Sub-Committee on Customs Cooperation and Taxation** met in February 2017. Several issues were discussed covering both customs and taxation. On customs, the modernisation of Tunisia's customs administration, the evolution of the legislation of both Parties since the previous meeting, border management (especially the challenges encountered by Tunisia's customs authorities at the border with Libya), the fight against counterfeiting goods, methods of mutual administrative assistance, preferential origin, including a state of play of the revision of the pan-euro-Mediterranean preferential rules of origin. With respect to taxation, Tunisia informed about the reform of the taxation rules. In general, both Parties agreed on the need to support Tunisia's customs authorities in preparing projects relating to customs legislation, as well as modernisation.

The **Sub-Committee on Industry, Trade and Services** last met on 28 February 2019. A fruitful discussion took place on the respective evolution of trade flows, both sides' trade policies orientations and the importance of ensuring transparency and consultation with civil society. Questions related to market access were also intensively discussed, notably regarding the recent import-restrictive measures adopted by Tunisia in November 2018. Both sides discussed the EU trade related assistance recently implemented, as well as the relevant regional questions (i.e., related to the Union for the Mediterranean (UfM), the Agadir Agreement, and challenges related to the imminent finalisation of Pan Euro-Med Convention on rules of origin). Finally, a discussion on Tunisia's reforms with regard to investment and public procurement was held.

The **Sub-Committee on Agricultural and Fisheries Products met in December 2017**. Tunisia and the EU exchanged trade statistics on bilateral trade in agricultural and fishery products and updated each other on their agricultural and fishery policies. Tunisia expressed the wish for cooperation between the EU and Tunisia on quality policies, notably regarding organic agriculture

and GIs. Both Parties discussed Tunisian requests for a reintegration to the Generalised System of Preferences, an additional volume of the olive oil quota and a possibility to renew a quota for eels. The EU raised several self-contained SPS issues, notably regarding the exports of apples, live plants, and poultry products from the EU to Tunisia. Tunisia touched on the issue of its fishery products returned by the EU and inquired about a possibility to export dairy products to the EU. The EU raised concerns about the increase of customs duties on some agricultural products, as well as on import restrictions on red meat and live animals.

During the past five years, the Sub-Committee on Industry, Trade and Services only met twice, but meetings of the Sub-Committee on Customs Cooperation and Taxation and the Sub-Committee on Agricultural and Fisheries Products were also held as recently as in 2017. The meetings allowed both parties to address important trade irritants, to discuss broader issues of mutual concern and to coordinate on cooperation activities. Particularly the meeting in February 2019 provided an important opportunity to address the various recent trade concerns. A regular meeting schedule is important to follow up on the discussions.

ANNEX D: ADDITIONAL ANALYSIS, BOXES, TABLES AND FIGURES ACCOMPANYING ECONOMIC ANALYSIS

D.1 Literature review

The first part of Annex D discusses the findings of the literature on the economic effects of Euro-Med FTAs and other literature on trade integration of the six SMCs which is relevant in the context of the Euro-Med FTAs. It is structured as follows:

- Firstly, the methodological approaches used most commonly in the economic literature on Euro-Med FTAs and SMCs' trade integration are discussed (Section D.1.1);
- Secondly, results from several empirical papers focused on the region as a whole are discussed (Section D.1.2);
- Thirdly, in an effort to capture the relevant country-level effects, where made possible by the respective authors, the results at the country-level are discussed[809] (Section D.1.3);
- The concluding section which summarises the findings and discusses limitations of the existing literature which can be addressed by the current study is included in the main report's Section 3.2.

All references of the reviewed studies can be found in Annex H. Bibliography

D.1.1 Approaches to economic analysis of the Euro-Med FTAs used most commonly in the literature

Descriptive and econometric analysis of historical trade flows
Descriptive statistical analyses are standard elements of many quantitative studies on the Euro-Med FTAs. They typically involve an analysis of trends of economic variables of interest in order to first identify the nature of developments (directions and magnitudes of changes) as well as a possible correlation between the different variables. Such analysis is often used as a stand-alone approach or one that supports econometric or computable general equilibrium (CGE) modelling. As foreshadowed in the description of the general evaluation approach, particularly in *ex post* studies, researchers have the benefit of knowing what actually happened to trade flows and other economic indicators.

The challenge is then to reliably attribute the observed parallel changes to the analysed FTAs and other concurrent developments which influence jointly or separately trade and economic growth of countries engaging in trade agreements. The presence or lack of beneficial impact of the FTAs on, first, trade and, then, economic growth may not be easily seen in the data or the changes seen may not be a result of the FTAs. What is broadly referred to as 'gravity modelling of trade' addresses some of these challenges and has been used on numerous occasions as a principal or supplementary tool of economic analysis of effects of these trade agreements. In its most general formulation, the gravity model – an analogy to the Newtonian theory of gravity in physics – relates the volume of bilateral trade flows to the economic size of trading countries as well as to measures of economic distance as usually captured by various indicators of bilateral and multilateral trade costs including, distance, various measures of cultural proximity, bilateral import tariffs as well as a host of measurable non-tariff measures.

Gravity models are based on certain theoretical assumptions, which find reflection in the inclusion of the different explanatory variables and functional forms of these models. Nevertheless, in contrast to the CGE approach, they use historical trade and protection data and statistical and econometric methods to estimate the significance, direction and magnitude of the various postulated relationships between trade and its different determinants predicted by the theory, including the effects of implemented trade policies. They are consistent with a number of different trade theories and they have relatively high empirical explanatory power. As such, they can be seen cognitively more flexible than CGE models and can facilitate both understanding of historical trends and separation of the effects of trade policy changes from other factors affecting trade volumes, such as in the case of the evaluation of Euro-Med FTAs in question.

Gravity models suffer from typical econometric problems such as the appropriate specification and inclusion of all relevant variables in order to avoid the problem of econometric endogeneity. Simplifying somewhat, endogeneity may occur if variables measuring phenomena such as, for

[809] In cases when one study encompasses several Mediterranean countries, we present the results for each country separately.

example, non-tariff measures (NTMs), which may have an impact on trade and are at the same time correlated with the investigated policy changes (e.g. reduction in tariffs, where NTMs are sometimes erected to counter-balance the effect of tariffs[810]), are not included in the specification of the model. In such cases, biased results may be obtained, attributing either too little or too much to the investigated reduction in tariffs. Another shortcoming of gravity modelling is that it cannot directly assess the welfare implications or distributional aspects of trade policy changes – the estimated trade impacts are only broad proxies for potential welfare effects. But, combined with the CGE modelling, they are a useful tool of applied trade policy analysis. Their use can help address some of the criticism regarding the use of CGE models in assessments of trade agreements.[811]

In our context specifically, integration of the MENA region has been as an economic challenge for a long time. Both intra-regional and extra-regional trade flows observed in the MENA region emerged as relatively lower against the backdrop of other regions characterised by similar geographical, historical or cultural proximity. Regional preferential trade policy initiatives in the mid-1990s (the GAFTA, greater Arab free trade area [1997] and the Agadir agreement [2004]) as well as the Euro-Med FTAs created hopes for improvement and a need for assessing their actual effects. This resulted in a series of empirical studies attempting to estimate the so-called trade potential which either could be realised (the 'ex-ante' strand of research) or the trade-related effects of these agreements which materialised since their implementation (the 'ex-post' strand of literature).

'Trade potential' can be defined as the level of trade predicted when one considers the region-specific characteristics, which can be accounted for in the model. By contrasting the such-obtained level to the actual (real) level of trade, one can assess whether the regions trade less with each other than regions with similar characteristics in the world do. In addition, such econometric approaches relate the level of the observed trade between regions (countries) to the regional (country-level) factors (such as all the variables which are expected to influence a region's [country's] capacity to trade, for instance: infrastructure, administrative costs, multilateral level of protection etc.) and to bilateral factors (e.g. inter-regional [inter-country] trade costs). In doing so they allow for the identification of the respective contributions of the identified factors to the registered level of trade and to project the future trade creation resultant from elimination in barriers to trade.

While the most basic form of the gravity equation includes factors related to geography and cultural factors, to achieve greater accuracy of trade creation estimates the model has undergone gradual evolution as to incorporate numerous other variables as possible determinants of trade patterns. A large number of studies focusing on SMCs proposed controls accounting for country-specific institutional settings (e.g. past or historic relationships, corruption control and governance issues, regulatory quality, etc.), cultural differences (e.g. language, religion, etc.), as well as indicator variables accounting for trade agreements (e.g. Al-Atrash and Yousef, 2000; Söderling, 2005; Ghoneim, Péridy, Gonzalez and Parra 2012; Péridy, 2012). Fixed product-, country- or country-year effects have also constituted common extensions of gravity models. In this context, despite the controversy surrounding the best econometric approach, the technique can provide valuable ex-ante projections and help attribute the observed trade effects to specific factors in ex-post assessments of past trade liberalisation efforts.[812]

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[810] NTMs can offer similar protection to local producers as tariffs while being less easily detectable.

[811] For example, reviewing the literature on the effects of NAFTA, (Grumiller, 2014) found that a considerable gap existed between CGE-based ex-ante projections and ex-post econometric evaluations with regard to NAFTA's effects on welfare, wages and employment. He found that ex-ante models had a tendency to overestimate the benefits and to underestimate the costs of this trade agreement.

[812] One problem that has been associated with gravity equations' specifications was the assumption that bilateral trade costs likely affect directly the bilateral trade flows, while the derivation of the theoretical gravity model indicates that region-specific (country-specific) price indices determine trade flows jointly with bilateral trade costs (Anderson 1979; Anderson and van Wincoop, 2003). This is why factors controlling for the overall trade costs borne by a region (country) on all its imports – the so-called multilateral resistance to trade – are nowadays included in the estimation to robustly compute the impact of trade costs determinants (such as trade agreements or other reductions in barriers to trade). This issue emerges as particularly salient with regard to SMCs, which in the period 1995-2010 have engaged simultaneously in several trade agreements (both intra- and inter-regional [with the EU and third countries such as the USA]) – indeed, the impact of these different trade arrangements needs to be carefully disentangled. Additionally, the SMCs' ease of conducting trade with the rest of the world is shaped by regional (or country-specific) factors (such as infrastructure or administrative costs). The introduction of country-year fixed effects allows to control for some components of multilateral resistance. A significant body of research regarding the Euro-Med FTAs has relied on panel models incorporating the theoretical developments of Anderson and van Wincoop (2003)'s the multilateral resistance to trade: e.g. Péridy (2005a), Augier, Gasiorek, and Lai-Tong (2007), Ruiz and Villarubia (2007), Hagemejer and Ciselik (2009), Pastore, Ferragina and Giovannetti (2009), Bensassi, Inma Martinez-Zarzoso, and Marquez-Ramos (2009, 2012) as well as Péridy (2012), and Jouini, Oulmane and Péridy (2016).

CGE models

CGE models used in assessments of effects of trade policies combine a complete mathematical representation of what are thought to be all key aspects of economic activity within and between countries, based on mainstream macro- and microeconomic theory and its up-to-date empirical verifications. They integrate the theory and applied modelling approaches with the baseline data on the structure of economies, trade and trade policies and many other important aspects of economic activity, which are available at the time of the study. They have several features, which makes them attractive tools for assessments of effects of trade policies and comparing them with other influencing factors, but they also have some limitations, which need to be born in mind in the current context.

CGE models allow studying the effects of considered policy changes in an integrated multiple market-clearing framework (general equilibrium), usually encompassing several countries, sectors, and factor markets and incorporating the latest empirical estimates of parameters characterising supply, demand, consumption and various substitution effects. This means that the analysis of the effects of preferential trade agreements is consistent and complete. For example, the resulting demand and supply effects are consistent with each other and are a result of market clearing adjustments. The ensuing trade creation effects are consistent with the adjustments within the domestic industries (e.g. production, employment and wage effects) and the trade diversion effects are consistently accounted for across the different partners, including important price effects (such as those related to terms of trade, etc.). In addition, the impacts of cheaper imports of intermediate inputs on domestic producing sectors (competitiveness), public revenue implications of reduced tariffs or, indeed, environmental effects such as the emission of CO2 due to altered production structure can also be assessed. CGE frameworks also allow for estimation of the size of overall economic effects, which integrate consumer and producer perspectives (welfare gains or losses).

CGE models are thus an implication of the underlying economic theory and baseline data rather than tools allowing its empirical verification. They have been used more often for *ex ante* predictions of the future effects of a set of economic policies, such as, for example, the Commission's Sustainability Impact Assessments of future or negotiated trade agreements (SIAs). Their use in *ex post* assessments is relatively rare. In a CGE analysis of effects of a trade agreement, the initial equilibrium, relative to which the expected changes are assessed, is calibrated to the initial periods when these respective FTAs entered into force and they show deviations from these initial baselines.[813] The approach provides a consistent framework for separating the effects of FTAs from all the other factors[814] (which are held constant in a CGE simulation), but it does not benefit from the actual historical data showing what actually happened. It rather considers what we expect would happen based on the adopted CGE framework.

The CGE-based approach is considered by many as one of the best ways to gauge the impact of free trade agreements. Indeed, it allows to pinpoint the main sources of gains (and losses) following relevant liberalisation efforts since it decomposes welfare variation into subcategories such as trade effects or shifts in allocation of efficiency to name a few (the exact number and sources of the variation hinge on the specific hypotheses adopted for the purposes of modelling). On the other hand, the predicted effects rely heavily on the assumed model specification (functional forms and model closures) and the estimated parameters (e.g. elasticities). In addition, standard CGE models, which assume full employment (or no change in unemployment), do not usually allow to compute changes in unemployment levels (or, alternatively, in the creation of new work places) indicating only adjustments in wages and those related to job re-allocation (between specific economic sectors and between different skill-level jobs) over short-term and medium-term. Combined with the fact that they do not usually allow for incorporation of foreign direct investments (FDIs), CGE models may emerge of limited use as far as delivering sector-level policy recommendations is concerned. These matters constitute methodological limitations, especially from the perspective of practical policymaking focussed on issues such as possibilities of workplace creation following the implementation of a trade agreement, without jeopardising the ex-ante status quo in sectors negatively influenced by rising levels of competition.
All relevant CGE studies had to overcome the same challenge of accessing appropriate databases, therefore the investigations were often conducted based on data retrieved from more than one

[813] Baseline year and the data used to calibrate the initial equilibrium of the model can also have crucial implications for results. This is why, when interpreting the results from the CGE models, it is very important to pay attention to the exact investigated scenarios as well as periods and data considered.
[814] In addition, some studies which use this methodology to investigate the effects of actual trade policy changes (e.g. tariffs) introduce additional assumptions (shocks) regarding other related factors such as for example trade-related gains in total factor productivity. Sometimes these auxiliary effects dwarf the effects that can be attributed to trade policy changes proper.

source and studies conducted in different points in time used different base data. In this context, either the GTAP model and the accompanying database (or both) served as tools in research papers by e.g. Elbehri and Hertel (2004); Philippidis and Sanjuan (2006), Bchir, Ben Hammouda, Oulmane, and Sadni Jallab (2007), Evans et al (2006), and Dennis (2006). Apart from different versions of the GTAP database, Social Accounting Matrices (SAM) and MacMap Tariff databases were also important data sources, with Feraboli (2004), Konan and Maskus (2005), Evans et al (2006) as well as Feraboli and Trimborn (2009) relying on them for model calibration. As regards CGE models, apart from the family of models based on the GTAP model, three other static models were also deployed: MIRAGE (Bouet 2005; Bchir et al. 2007), GLOBE (Evans et al., 2006) and MAGNET (Boulanger, Kavallari, Rau, and Rutten, 2013). With regard to alternative approaches, Feraboli (2004) resorted to a dynamic CGE model based on Devarajan and Go (1998).

Data limitations

Jarreau (2011) and EMNES (2017) both observed that the application of either gravity or CGE modelling techniques has been limited by the paucity of reliable and comparable data in the case of the MENA region. Thus, majority of research papers and assessment reports tend to focus on the few economies, for which the data are more readily available. Indeed, studies centred on Algeria or Lebanon come across as rarer than those pertaining to the Egyptian, Moroccan, or Jordanian economies. As for CGE simulations in particular, they require that social accounting matrices (henceforth SAM) be used for reference year for all countries (regions) considered in a model (i.e., to account for the "initial" values of variables or the baseline scenario's assumptions) so that it can be calibrated appropriately. Specifically, formatted data are often limited, as in the GTAP project, which provides country-specific data for Morocco, Tunisia, Jordan, and Egypt, with the rest of the relevant economies aggregated at the regional level.

D.1.2 Review of findings across the region

Descriptive and econometric analysis of historical trade flows

One of the earliest relevant empirical quantitative studies (Al-Atrash and Yousef, 2000) set out to estimate the expected level of intra- and inter-regional trade integration of three regions: Mashreq, Maghreb and the Gulf Cooperation Council (GCC) countries. The authors argued that with the exception of the first group, the Arab countries appeared to under-trade with the outside world (both in terms of imports and exports). Additionally, judging by the outcomes for intra-regional trade, not only did the GCC and Arab Maghreb Union trade arrangements fail to promote greater cooperation in the region, but the Mashreq countries came across as more integrated not only with the outside world, but also within their trading blocks. Indeed, while the authors found that ASEAN[815] free trade agreement displayed significant positive effects, the results pertaining to the FTA with the EU[816] indicated that it likely decreased trade flows between the EU and Arab countries. Given the discrepancy between the impacts of the FTAs considered in the study, the authors remarked that it was probable that factor mobility may have contributed to the outcome. However, the investigation encompassed a relatively short period of time (1995-97) and the country sample failed to control for structural country-specific determinants which could have also affected the estimated effects.

Augier et al. (2004) was one of the first studies (and few to date) to focus not only on the impact of tariffs[817] but also on the impact of rules of origin on patterns of textile sector exports between the EU and partner countries (including, among others, Turkey, **Jordan**, Israel, **Egypt, Tunisia, Morocco**) in the period 1995-98. The authors' key insight pertained to Europe's implementation of diagonal cumulation of rules of origin as a tool for mitigating the welfare-reducing influence of over-proliferated and overlapping rules of origin without stripping them of their fraud-preventing properties. Exploring the impact of the lack of cumulation in the textile industry in the Southern Mediterranean region, the authors raised two significant issues: firstly, the rules of origin may have, in the aggregate, restricted trade flows between non-cumulating countries by up to 80%; secondly – and perhaps more importantly from the perspective of trade policy calibration - FTAs[818], via the elimination of trade barriers, likely increased intra-FTA trade flows while at the same time

[815] A trade bloc agreement by the Association of Southeast Asian Nations.
[816] The authors do not specify precisely which trade arrangement they consider in their paper; the trade agreements in the period 1995-97 signed between the EU and the Arab countries include: Tunisia (1995), Morocco (1996), Jordan (1997), the Palestinian Authority (1997, an interim Association Agreements). For more detailed information, see CASE/CEPS (2009) p.23.
[817] Other variables included in the estimation: country-specific total production of textiles; country-specific total apparent consumption of textiles; relative unit values (to proxy the price terms); the bilateral MFN or preferential average tariffs between countries, the distance between the economic centre of gravity of the respective countries as well as controls for quotas between countries and regional trading arrangements or other affinities (e.g. a common language or a common border).
[818] The whole study considers PTAs signed as a result of the Barcelona Process (1995).

contributing to putting up external barriers to trade via the application of constraining rules of origin.

The team's subsequent research (Augier et al., 2007) outlined the channels through which rules of origin could limit companies' choices regarding sourcing of intermediate inputs, thus contributing to trade distortions at sector-level. Based on the obtained evidence, the authors made a case that rules of origin, as a chief part of the crisscrossing FTAs, made it less probable that economies which did not participate in the same FTA would engage in bilateral trade. Augier et al. (2007) also claimed that reduction of the distortionary effect could be achieved if a value-added rule (especially value-added tariffs) and full cumulation were respectively introduced and allowed.

Continuing on the theme of rules of origin, while their restrictive influence has been proven numerous times in academic research, recent socio-economic events have provided real-life proof of their own. Following the July 2016 announcement of RoO simplification, aimed at facilitating access to EU markets for **Jordan**[819], the value of preferential market access schemes and thus their utilisation was expected to rise sharply. Yet, the latest findings of Brunelin, de Melo, and Portugal-Perez (2018) implied that the scheme had limited the beneficiaries to those entities located in designated special economic zones[820], thereby hampering preferential market access and blunting the impact of the reforms. Based on an empirical comparison of Jordanian exports to the EU and the USA under their respective FTAs, the authors observed that the exports destined for the latter market had grown more dynamically over the last 15 years. The changes, they argued, indicated continuous under-utilisation of EU FTA-related preferences, especially in the Jordanian textiles and apparel sector. Specifically, in the high-preference and labour-intensive textile and apparel sector (with 15%-18% preferential margins for sales in the US market and 11%-12% for sales in the EU markets), utilization of preferences at the chapter level for sales in the US and EU markets were, respectively, 99.5% and 50%. Indeed, as a labour-intensive sector with relatively high EU MFN tariffs, apparel is a natural candidate standing to benefit in the short term from enhanced effective EU preferences through a relaxation of rules of origin requirements (Brunelin et al., 2018).

Soderling's (2005) investigation supported the hypothesis that, even though the integration efforts between the EU and the Mediterranean has been mixed, most Mediterranean economies' export flows exceeded the modelled predictions. Specifically, **Algeria** and Syria over-exported to the EU, a result, which, the author noted, fell beyond the impact of the EU's trade policy as these countries' trade flows, remained dominated by oil and gas exports. At the same time, the lack of growth in their non-traditional exports indicated that there remained considerable scope for integration and growth. **Tunisian** exports also exceeded the predictions, an insight associated directly with the economy's improved export performance vis-a-vis **France, Italy, Belgium,** and **Spain**. On the other hand, while **Morocco** appeared to export at par with the modelled predictions, **Jordanian** and **Egyptian** economies emerged as significant under-performers. Soderling observed that in the studied period only **Morocco** and **Tunisia** implemented AAs with the EU (which could have accounted for the countries' relatively high integration with the trading partner). On the other hand, it failed to explain the two economies' performance among specific EU trade partners. This prompted an observation that such disparities could be attributed to reductions in trade barriers, which emerged as conducive to trade flows with the countries where appropriate networks had been established prior to policy interference.

Péridy (2005a) focused on a longer period (1975-2001) and researched trade flows between **Morocco**, **Algeria, Egypt, Jordan, Tunisia**, the EU, the USA, and the Gulf economies. He argued that trade costs (specifically, distance and variables controlling for the presence of regional FTAs [with the EU and the USA respectively[821]]), while being significant determinants of MENA trade patterns, were overshadowed by the lack of complementarity among the region's economies[822]. The border effects, which compared a country's internal trade to its trade across borders, also came across as significant and economically important: the author noted that trade across MENA economies was likely 35 times lower than trade within each MENA country – a result, according to

[819] The joint EU and **Jordanian** proposal of resolving the refugee crisis in Jordan included improvements to market access of Jordanian exports to the EU by simplifying the requirements set forth by rules of origin in the EU-Jordan Association Agreement (the EU-**Jordan** FTA).
[820] The concept of limiting the geographical coverage of the scheme to designated economic zones came from the Jordanian government. The scheme has been further reviewed in December 2018 and the geographical criterion does no longer apply. The companies willing to benefit from the preferences under the scheme still do need to demonstrate however that they hire at least 15% of Syrian refugees.
[821] The dummy variable emerged as statistically significant at the 1% level in the static panelling (+0.38) approach while it turned out neutral in the dynamic panel.
[822] A unit reduction of the lack of complementarity allowed MENA exports to increase by approximately 4.5%.

the author, indicative of a trade integration deficit within the area[823]. Indeed, the border effects for MENA trade partners were lower: specifically, the Maghreb countries recorded lesser effects than the Mashreq (**Egypt, Jordan, Lebanon**, Syria, and Palestine) economies. While still mirroring the effects of trade integration deficit, Péridy argued that the declining border effects with the EU reflected the first outcomes of the Euro-Med agreements. However, in subsequent research Péridy (2005c) found the impact of the Euro-Med agreements to be only weakly statistically significant – in fact, the reported results were not robust.[824]

Ruiz and Vilarrubia (2007) failed to produce evidence corroborating the supposedly positive impact of the Euro-Med AAs[825] on the bilateral trade volume between the regions. However, as regards to SMCs' exports specifically, they appeared to have increased in the wake of signing of the agreements. The authors pointed out that the obtained non-result regarding bilateral trade flows could have been a direct reflection of the slow pace of implementation of the AAs' provisions and insufficient SMCs' market adjustments. Indeed, it appears that while the Euro-Med integration may have had an economically and statistically significant impact on trade flows, it was much weaker and less relevant as compared to the effects of agreements such as PAFTA, Mercosur, or NAFTA (Abedini and Péridy, 2008)[826].

Cieslik and Hagemejer (2009) argued that the AAs-related trade liberalisation with the EU had been effective in raising bilateral import flows from the EU, yet it had failed to contribute positively to the expansion of SMCs' exports to the EU**.** Based on their research[827], the authors noted that such outcomes reflected the presence of trade restrictions[828] (stemming from an ineffective implementation of FTAs between the EU and MENA as well as other remaining trade costs) on MENA exports destined to the EU markets, making the EU the main beneficiary of the AAs and its exports of industrial products to the MENA region. Aside from the fact that, again, the assessment may have been carried out too early relative to the implementation of the AAs to discern any economic impact, the study highlighted two important issues: 1) the AAs had failed to spur any progress in trade liberalisation in agricultural goods (which constituted MENA's comparative advantage and untapped trade potential) which, when combined with agriculture-subsidising policies of the EU, prevented exploitation of trade-related gains and hampered MENA economic development; 2) trade liberalisation between MENA and the EU took form of a vertical "hub and spoke" model without horizontal intra-MENA trade liberalisation. This may have mitigated development in industrial activities across the region, thus preventing, in the longer term, employment growth in the region.

Pastore et al. (2009)'s conclusions with regard to the effects of the Barcelona process aligned largely with previous studies (e.g. Ruiz and Vilarrubia 2007 and CASE/CEPS, 2009). Arguing that there remained a significant untapped trade integration potential in the area, the authors provided empirical evidence indicative of the fact that bilateral trade flows from **Egypt, Israel, Morocco**, and **Tunisia** to **Italy, Germany, Spain**, and **the UK** could be about 3.5 to 4 times below the potential value predicted by the intra-EU15 trade model. As opposed to the case of Central and Eastern European countries and their trade patterns with the EU15, which appeared to rapidly converge to its potential, the gap between the Mediterranean countries and the EU15 has been stable in time. Based on these insights, the paper argued that if the integration of the Mediterranean countries with the EU was to reach the same level as intra-EU15 integration over 1995-2002, their trade with the EU could in fact quadruple. On the other hand, it emerged that at

[823] These effects emerge as relatively high, when considered vis-à-vis OECD economies for which the relevant estimate average at 2.24, (Péridy 2005b).
[824] The weakly positive results lost their statistical significance after the initial model had been re-calibrated.
[825] Focused on trade flows between 102 economies in the years 1976-2005.
[826] Subsequent evidence provided by CASE/CEPS (2009) indicated that some progress had been achieved via the AA, PAFTA, and several other bilateral such as between **Morocco-Turkey**, and **Egypt-Turkey**. It appeared that the success had hinged on the smooth implementation of the AAs as far as tariff liberalisation of industrial goods and adoption of the Pan-European rules of origin had been concerned.
[827] Which encompassed 7 MENA countries (excluding Lebanon) and 196 partner economies during the period 1980 to 2004.
[828] The authors introduced the following variables in their model: distance (approximating trade costs), common language (Turkish and/or Arabic), common coloniser, colonial relationships between countries, common border(approximating trade costs), economic characteristics such as GDP and arable land, as well as controls for preferential trade agreements (the Euro-Med arrangements as well as the Agadir agreements, EFTA agreements, the Arab Maghreb Union, the Arab Cooperation Council, various bilateral agreements between MENA countries as well as bilateral agreements with the EU associated states (now new EU member countries) in Central and Eastern Europe and the NAFTA countries (Canada, Mexico and the US). The plurilateral agreements include the Arab Maghreb Union (AMU) and the Arab Cooperation Council (ACC).

the pace of predicted trade growth[829], it would take the Mediterranean countries up to 40 years to reach their potential trade levels (as observed in the intra-EU15 trade flows).

The conclusions of Bensassi et al. (2009), in contrast to some of the earlier literature[830], appeared to confirm the positive effects of the new FTAs on exports of the MENA countries (**Algeria, Egypt, Morocco and Tunisia**) to the EU (**Germany, France, Italy and Spain**) in the years 1995-2008. The evidence suggested that these outcomes had been tied to the new rules of origin implemented between the two groups of countries. That insight, aligned with the observed shifts in MENA countries' export structure, indicates that more of the products already exported were dispatched to EU markets. It thus seemed that the implementation of the new rules of origin could have allowed a more cost-effective deployment of better-quality intermediate goods manufactured in the region, consequently boosting the demand for them in the destination markets. Another study by Bensassi et al. (2012), relying on highly disaggregated sectoral data, confirmed their earlier results while indicating significant differences across the studied countries as far as the effects of the new FTAs were concerned. In fact, only the North African economies seemed to have experienced growth in the flow of exports directly associated with the implementation of the FTA[831]. The authors suggested that the diversity of trade patterns of the investigated economies could have underlain the obtained results, with the North African countries trading primarily with the EU, while **Lebanon and Jordan** were more oriented towards their Middle Eastern partners.

Ghoneim et al. (2012) was the first of a series of studies which, apart from analysing factors related to shallow trade integration (reduction of tariffs), explored the aspects of deeper integration via elimination of NTBs. The SMCs' imports from their Euro-Med partners (rather than exports) appeared to be markedly hampered by trade costs, out of which tariffs emerged as particularly significant only in **Algeria and Tunisia**[832]. As for deep integration, NTBs, along with logistics performance costs, proved particularly imports-mitigating in the region as a whole (in this case **Algeria** also emerged as one of the greatest losers). Exports, on the other hand, appeared nearly unaffected by tariff changes, yet they remained hindered by logistics costs, with NTBs affecting them to a lesser extent. In light of the scant impact of tariff-related measures, the authors argued that boosting shallow integration could produce very limited gains[833]. It was the deeper integration that could yield much more pronounced effects – as regards imports for example, the expected increases would range from approximately 25% in **Tunisia** to up to 60% in **Algeria**. These, the authors claimed, could be significantly reinforced via potential cuts in trade and logistics costs[834]. Indeed, as evidenced by the most demanding scenario of trade integration, the combination of both tariff and NTBs elimination could provide an overall trade creation between the minimum of 24% (**Morocco**) to up to 83% (**Algeria**).

Péridy's (2012) assessments of SMCs trade patterns with the EU-27 indicated that the former had reached their export potential with the EU-27. This insight contrasted with his previous research (Péridy 2005a-c) and the early works of Nugent and Yousef (2000) and Pastore et al. (2009). Péridy (2012) remarked that the degree of attainment of the EU Euro-Med trade potential did not differ significantly from other preferential trade agreements he considered in the study[835], all of which appeared to have used up all of their trade potential as well.

As for detailed results of the study, Péridy (2012)'s calculations indicated that the impact of regional trade arrangements was always statistically significant irrespective of the estimator applied. Coefficients on bilateral tariffs and NTB variables, which entered the model separately also emerged as having appositive and statistically significant impact. Calculating trade potential, defined as the ratios of the trade flows predicted by the model to those observed in reality, the author found that most of the concerned SMCs were already trading at their trade potential. There were nevertheless differences across countries with Algeria, Morocco and Tunisia trading slightly above the potential (on average across the EU destinations) and Egypt, Jordan and Lebanon trading below the potential (with Lebanon, the country with the largest gap, trading some 11% below the potential). In this context, Péridy noted that trade flows could be further increased by specific policy reforms, such as reduction of NTBs (which remained much above the EU-average) as

[829] Consistent with the World Bank forecast GDP changes.
[830] Their results stood in stark contrast to the evidence gathered by, for instance, Augier et al (2004, 2007).
[831] Which impacted **Morocco** via the extensive trade margin, while Algeria, Egypt, and Tunisia were affected primarily via the intensive margin.
[832] both economies maintained high tariff levels.
[833] the only exceptions being **Algeria** and **Tunisia**, where import increases were estimated to reach 59% and 42% respectively.
[834] In **Algeria** for instance, these cuts could result in additional 45% increase in imports.
[835] Such as MERCOSUR, NAFTA and ASEAN+4 group.

well as improvements in transportation and logistics[836]. The investigation also highlighted the importance of factor movements (referring to early attempts of Nugent and Yousef in the 2000s) supporting the complementarity hypothesis regarding the relationship between trade and migration. Péridy thus explicitly argued that migration could be perceived as an export-creating tool, since the MENA economies, by 'exporting' people to the EU, also raised their trade outflows.

Ghoneim and Péridy (2013)'s results confirmed once again previous studies (e.g. Ghoneim et al. 2012 and Péridy 2012) as regards deeper integration via elimination of NTBs. Having computed average tariff equivalents of NTBs for the MENA countries (which ranged from 34% **in Tunisia** to 47% in **Lebanon** and which were much higher than remaining tariffs), the authors subsequently deployed them in gravity equations whose results suggested their economic and statistical significance in curbing MENA's trade potential[837], especially in **Egypt** and **Lebanon**. This suggested that the effects of lowering of tariffs within the FTAS have to be seen in the context of the effects of NTBs, which are not covered directly in the agreements and which often have impacts that are economically more significant.

An investigation carried out by Jouini et al. (2016) aimed to identify the determinants of diversification and sophistication of exports in North African countries (NACs). The authors re-confirmed the oft-argued economic importance of NTBs (e.g. Péridy and Ghoneim 2013; Ghoneim et al 2012; and Péridy 2012) and logistics chains (Ghoneim et al 2012 and Péridy 2012) via application of an alternative econometric approach[838]. As for logistics chains development, **Tunisia, Morocco**, and **Egypt**, despite performing above the NAC-wide average, still lagged behind the average for the developed and emerging economies[839]. Moreover, Jouini et al. (2016) argued that policy of openness introduced in some of NACs in the last two decades via multilateral frameworks and on a regional basis (e.g. GATT membership and Barcelona or Agadir trade agreements respectively) had encouraged diversification in the economies considered. Yet, in the NACs, the regional integration strategy required refocusing and recalibration towards trade in products carrying higher value added (thus raising production systems efficiency in these countries) and creating and managing regional value chains in activities with higher value added. Further pursuit of such policy openness reflected especially in (at least partial) elimination of NTBs would likely allow for deeper trade integration.

One measure of efficiency of FTAs is examination of an extent to which preference utilisation rates (PURs) on EU exports to EU partner countries, as provisioned by FTAs, are used in practice (Nilsson, 2016; Nilsson and Preillon, 2018). Using a methodology focusing on foregone duty revenues, Nilsson and Preillon (2018) estimate that in 2016, the PUR for **Egypt** was 59%, and 52% **Morocco**, with that for **Lebanon** (as of 2015) equalling 73.5% (the 2016 average for all partner countries explored by the authors was 77.4%)[840]. The European Commission recently hypothesised that the low levels of PUR in the South Mediterranean economies may be associated, at least to some extent, with the presence of free trade zones. For example, in Morocco, goods may enter free of duties, only to be processed and exported – in this process they are not accounted for under the Association Agreements. The latest figures reported by the European Commission indicate that the 2017 average PUR on imports into the EU from the eight countries amounted to 88.34%, with **Algeria and Egypt** reporting the rate of 96%, **Morocco** 98%, **Tunisia** 93%, **Jordan** 76% and **Lebanon** – 74%. As for **EU** exports the data available indicated that Lebanon's PUR was at the level of 58% (in 2017); Egypt's was at the level of 68% while PURs for Jordan and Morocco were the highest, reaching, respectively, 76% and 77% (European Commission, 2019, see table 2.5 in Section 2.6.1 for details).

Mixed methods

An investigation carried out by CASE/CEPS (2009) used a host of different descriptive statistical and econometric techniques and looked in into the issue of a relatively shallow (focusing on tariffs) and deep (extending liberalisation to NTBs, services and investment issues) types of integration. In

[836] Confirming Ghoneim et al. (2012)'s claim that amelioration of transportation and logistics could contribute significantly to exports' growth, the author indicated that a unit increase in logistics performance could have translated into a 2.76% rise in exports.
[837] The most prominent NTBs being quantitative restrictions, pre-shipment inspections and export-related measures.
[838] Estimation of a growth model as a Barro's regression (conditional convergence model) deploying panel data.
[839] As per the Logistics Performance Index computed by the World Bank (https://lpi.worldbank.org/).
[840] Recent figures reported by the European Commission indicate that the 2017 average PUR on imports into the EU from the eight countries amounted to 87%, with Algeria, Egypt, and Morocco reporting the rate of 97%, Tunisia – 94%, Jordan 75% and Lebanon – 70%. As for EU exports the only data available indicated that Lebanon's PUR was at the level of 58% Egypt's – at 44%.

general, the authors concluded that since the trade agreements initiated by the Barcelona Process in 1995[841] had remained not fully implemented at the time, these trade-related economic processes could not be directly associated with the arrangements themselves. At that time, there appeared very little evidence suggesting that the bilateral free trade between the EU and the Mediterranean partners could have been achieved by 2010. Generally, the authors observed the net outcome of integration spurred by the FTAs, which they classified as shallow or limited because of their principal focus of tariff reduction, were mixed and that the agreements contributed to both trade creation[842] and diversion[843]. Six main conclusions regarding the effects of the EU-South Mediterranean integration emerged from the part of the study focusing on descriptive statistics:

- preferences in the EU market for SMCs had remained nearly constant in the 10 years preceding the study, which indicated that the core impact of the AAs could be found on the side of imports of SMCs' economies as the tariff elimination by these countries had kicked in. As the EU signed FTAs with other countries in the decade preceding 2009, the market access concessions extended to SMC exporters (derived from their preferential access to the EU market) were smaller than it would seem when comparing the preferential tariffs with MFN tariffs;
- positive changes in the SMCs' exports to the EU were outpaced by increases of export flows to the rest of the world (the probable explanation here being that the rest of the world's liberalisation pace was greater than that of the EU as well as the rest of the world growing faster in economic terms than the EU, which contributed to higher demand pull);
- nevertheless, the EU emerged as the natural trading partner for the Mediterranean region – CASE/CEPS (2009) remarked that this implied likely trade creation stemming from integration between regions at different levels of economic development (the so-called North-South trade). Yet, Israel and **Jordan,** for example, still traded more with the USA than the EU (due to preferences or historic ties);
- the SMCs appeared to import similar goods from the EU as they did from the non-preferential trade partners. In this context, the Euro-Med integration could potentially introduce some trade diversion. Yet, the SMCs' imports from the EU grew at a slower pace than their imports from other regions (which could be indicative of little trade diversion occurring in the last decade);
- there was evidence of heterogeneity in the number of tariff lines which had been wholly liberalised upon similar implementation times;
- regarding the utilisation of preferences by the trade partners: the study reported that likely more than 80% of exports came in duty free (split evenly between those with zero MFN tariffs and those with a zero preferential rate) except for **Jordan** (70%). Yet, up to 10% of exports (18% for **Jordan**) qualified as non-zero MFN despite the fact that they should have been treated as zero-tariff exports under the FTAs[844]. After an in-depth analysis, it emerged that articles of apparel showed up in all cases (except for Israel and **Jordan**) as items having theoretically most duty-free (but, at times more than 10% paying duty, which could be associated with high costs of proof of origin)[845].

The same study presented supplementary gravity modelling to assess the impact at the time of the Euro-Med and other FTAs concerning the region. To account for trade creation and trade diversion effects, the study introduced three types of indicators (dummy variables): one variable taking the value of one when both trading partners are members of the FTA to measure the additional trade effects within the FTA; the other variable when only the exporter is the member of the FTA to capture trade diversion effects and the third variable when only the importer is a member of the FTA to better capture trade creation effects. The results of this part of this study can be summarised as follows:

- Regressions performed for individual countries revealed that the Euro-Med FTAs had no impact on trade in **Jordan** and **Morocco,** contributed to growth of trade with the EU in the cases of **Egypt** and **Tunisia,** and led to a decline in trade in the cases of **Lebanon and Algeria** (although in the latter two cases, as authors argued, these were the most recently implemented agreements and therefore it could have been too early to robustly assess their impact on trade flows);

[841] The report focused on the trade agreements signed as a result of the Barcelona Process (1995), specifically: Algeria (2002), Egypt (2001), Israel (1995), Jordan (1997), Lebanon (2002), Morocco (1996), Tunisia (1995), the Palestinian Authority (1995 – an interim Association Agreement), Turkey (EU-Turkey Customs Union 1995) – for an elaboration see CASE/CEPS (2009) p.23.
[842] Efficiency and welfare-enhancing, occurring whenever more efficiently produced imported goods replace less efficient domestically produced goods.
[843] Efficiency and welfare reducing, occurring whenever sources of supply switch away from more efficient non-partner countries to less efficient partners.
[844] According to the authors this was common in situations where tariffs were very low, and the costs associated with obtaining certificates of origin was relatively high.
[845] Other products for which MFN tariffs were paid were mineral fuels and edible vegetables.

- The results of the regression measuring the impact of only one country (out of a pair of trading partners) being a member of the Euro-Med FTA yielded a positive and significant (both statistically and economically) result for both exports and imports. This suggests that there was little trade diversion from the agreements, and, in fact the FTAs were estimated to have positive impacts on extra-FTA trade.

The CASE/CEPS (2009) report argued that the insignificant results pertaining to some of the Euro-Med FTAs could be associated with relatively low levels of preferences on the EU market granted by the FTAs, especially in the context of previous tariff cuts, as well as the relatively high remaining NTBs. Furthermore, the authors pointed out that the EU had preferential agreements with many other economies which eroded the value of preferences granted with in the Euro-Med FTAs. Among other reasons pinpointed by the analysis which could have contributed to the outcome were the factors associated with inadequate regional institutional structures, limiting the ability to profit from the agreements, and an uneven pace and scope of the trade integration across these countries.

Similarly to Péridy (2012), Montalbano and Nenci (2014) also used standard gravity equations (together with other supplementary techniques) to account for the effects of Euro-Med FTAs and other factors and found that exports of the SMCs to the EU were on average (across the different EU partners) aligned with their trade potentials, although with some degrees of country heterogeneity. The largest gaps, especially for some countries, could be observed for **Algeria, Jordan**, **Lebanon** and to some extent for **Morocco** while **Egypt and Tunisia** recorder small gaps on average. The authors indicated also that that there was a tendency of reducing the trade gap for **Egypt, Jordan,** with respect to the new EU member partners while the opposite was clear the case **Algerian** economy.

CGE models

CGE models are typically used for ex-ante analyses (see Annex B). In the Euro-Med FTA context, there is a number of older studies which were trying to estimate the economic effects of these agreements at the time these agreements were being negotiated or implemented. These are reviewed in the following country-specific section of this review. There is also a number of more recent studies which are trying to estimate the impacts of potential DCFTAs in the region. The latter are also relevant in the sense that they assess the remaining potential for trade integration which is associated with the remaining barriers, including the remaining tariffs, but mainly the various non-tariff measures that are subjects of these newer and more comprehensive agreements.

As far as the latter group of studies is concerned, using a CGE model, Boulanger et al. (2013) investigated three scenarios for the trade dynamics between the EU and North African Countries.[846] The first scenario examined the effects of reciprocal liberalisation of remaining tariff and non-tariff measures between the EU and North African countries (Egypt, Morocco and Tunisia) and between the three countries themselves. The second scenario included the increases in broad public and private investment (translating into productivity gains in the three countries) which was part of the EU agenda within the foreseen DCFTAs. The third scenario assumed productivity gains via improvements of food chain efficiency focusing on private and public investments aimed at waste reductions in the three countries agricultural production, post-harvest handling etc. Each scenario considered had a positive influence on respective country's GDP, with average growth of 2.7% (scenario 1), 3.5% (scenario 2) and 2.3% (scenario 3) in 2020. These changes were estimated to be stimulated by boosts to productivity, the effects of which were more pronounced if the gains involved all sectors in the economy and were not limited solely to the agricultural sector. GDP growth was also supported by trade liberalisation (scenario 1), indicating that removal of NTBs was the key issue if further integration between the EU and the North African countries was to be had. This scenario also indicated that positive outcomes on economic growth could be intensified by combined policies acting to foster both productivity and trade flows. Secondly, the results confirmed that as the North African economies grew, less labour was demanded by the agricultural sector and real wages in this economic segment were likely to increase. Specific productivity of the sector reduced agricultural employment and wages (scenario 2) with likely negative impact on rural

[846] The scenarios are contrasted with the baseline, the Business-as-Usual (BaU) scenario, run for the period 2007-12 to project the model towards the then-current year (2013), and then up to 2020. The BaU was generated based on information on the expected growth of GDP and endowments (capital, labour, land, and natural resources) over time for all the countries (regions) in the world, and the productivity of those endowments.

households. Still, there were positive effects to be had if productivity growth was combined with trade liberalisation (the latter was in line with the DCFTAs' objectives).[847]

Most recently, summarising the results of CGE-based sustainability impact assessments (henceforth SIAs) of the effects of potential further reductions of trade barriers in the context of deep and comprehensive free trade agreements (DCFTAs) which are currently being negotiated by the EU with some of the SMCs, EMNES (2017) indicated that the collective results of CGE-based SIAs provided arguments suggesting that economic growth and wages' dynamics would likely remain unaffected in the EU, even if all liberalisation efforts were successfully carried out. Indeed, trade vis-à-vis the Mediterranean region could be expected to grow by a scant 0.1%, while the EU-wide effects would be even more negligible. Yet, considering the high trade dependence of the South-Med countries on the EU, the modelled effects in these economies turned out to be more pronounced: specifically, domestic GDP was estimated to grow, depending on the country considered, by 1 to 5% in short term while trade was expected to increase by 4 to 18%[848]. Overall, this implies that the barriers remaining after the implementation of the Euro-Med FTAs are still economically significant, particularly for the SMCs.

D.1.3 Country-specific studies

Algeria

CGE-based studies focusing specifically on Algeria's FTA with the EU are rare in the literature[849]. The only stock-taking identified at this stage is the one in the European Commission's Staff Working Document (2018), which is based on analysis of **descriptive statistics.** It concludes that, since the EU-Algeria FTA entered into force, the development of trade relations between the two economies has been going in an overall positive direction. Between 2004 and 2017 the value of trade between the EU and Algeria increased from EUR 24.8 billion up to EUR 37.4 billion, despite the fact that Algeria's exports rely heavily on hydro-carbons and are distorted by fluctuations in world oil prices.

Egypt

The same Commission Staff Working Document (2018) highlighted considerable increase in the volume of trade in goods between the EU and Egypt since 2003[850]: from EUR 10.1 billion in 2002 (one year prior to its entering into force) to EUR 27.9 billion in 2017, despite not always favourable political and economic conditions for trade in Egypt.

Hoekman and Konan (2001)'s **CGE-based investigation** was one of the first attempts at measuring the potential trade gains from deep integration for MENA economies, with Egypt chosen as a relevant early case study. The authors defined deep integration as a set of policies acting to reduce all trade costs beyond tariff barriers (including administrative and regulatory costs) as well as policies boosting competition in domestic services sectors. The paper compared the outcomes of a shallow agreement (similar to the actual Euro-Med arrangement focusing on tariffs then in place) to hypothetical liberalisation process aimed at deep integration. The authors made several

[847] In addition, as regards the effects on food security investigated in the study, higher economic growth translated into greater demand for food followed by higher prices. Trade liberalisation did enhance food security and mitigated the increases in food prices, yet the dependence on and vulnerability to changes in the world market increased. Boosting agricultural productivity and reducing waste in food production, improvements in storage and handling could be considered as first actions limiting North African dependence on world food markets while reinforcing food security domestically by lowering prices and increasing consumption at household level.

[848] For detailed country, results see: Euro-Mediterranean Network of Economic Studies (EMNES). (2017) Trade and investment in the Mediterranean: Country and regional perspectives. Evolution and impact of EU-MED trade integration in the South-Med, EMNES Studies No 2 p. 34.

[849] Jarreau (2011) and EMNES (2017) both observed that the application of either gravity or CGE modelling techniques has been limited by the paucity of reliable and comparable data in the case of the MENA region. Thus, the majority of research papers and assessment reports tend to focus on the few economies, for which the data are more readily available. Indeed, studies centred on Algeria or Lebanon come across as rarer than, for example, those pertaining to the Egyptian, Moroccan, or Jordanian economies. As for CGE simulations in particular, they require that social accounting matrices (henceforth SAM) be used for reference year for all countries (regions) considered in a model (i.e., to account for the "initial" values of variables or the baseline scenario's assumptions) so that it can be calibrated appropriately. Specifically, formatted data are often limited, as in the GTAP 6 project, which provides country-specific data only Morocco, Tunisia, and Egypt, with the rest of the relevant economies aggregated at the regional level.

[850] The average PUR for Egypt in 2017 stood at 96.7% (and 44% for EU exporters to Egypt).

simplifying assumptions aiming to include a vast array of NTBs into the modelling process: for example, they assumed that frictional costs associated with customs-related red tape to equal 5% of imports and elimination of these costs was designed to occur in a non-discriminatory manner with standards-related controls contributing to rent-creating costs of 10%.

The paper provided several simulations, which combined different degrees of liberalisation of non-discriminatory barriers, elimination of standards related NTBs and custom clearance costs. The outcomes of these exercises were compared to a baseline scheme of shallow integration, in which case trade diversion was found to cause a 0.14% welfare loss with respect to the benchmark level (1994). On the other hand, the scenarios assuming deeper integration turned out to generate between 4% and 20.6% gains in welfare (relative to the initial 1994-based levels) with the specific outcomes hinging on the scope of barriers eliminated. In the case of a unilateral reduction of barriers to trade in goods equivalent tariff (including 5% in red tape and 5% in standards-related costs), the gains for the Egyptian economy were estimated at 4% of the real GDP (these gains were derived purely from trade creation effects, since reciprocal liberalisation by Egypt's partners was not considered in the scenario). Provided an additional reciprocal removal of barriers on the EU market, the gains would grow up to 5.6% of GDP (via the improved market access). While the study argued for the SMCs to remove their NTBs both on unilateral as well as within the AAs framework, it needs to be observed that the reliability of these calculations[851] relied heavily on the initial estimates of the NTB-related costs. Overall, the study's results suggested a limited and negative effect of the trade chapter of the EU-Egypt AA.

Augier and Gasiorek's (2003) **CGE-based approach** yielded vastly different outcomes to Hoekman and Konan's (2001) study related to different assumptions underlying the modelling. Adopting the assumption of imperfect competition and increasing returns in the manufacturing sector among others, the authors obtained results, which led them to argue that implementation of Euro-Med FTAs (i.e. bringing a complete tariff reduction)[852] could result in an increase Egypt's welfare[853] by 6.3%. This would be however accompanied by an almost 70% reduction in industrial production, suggesting that the lowering of tariffs would have strong competition effect on the Egyptian industry and that the positive welfare gains would be mainly associated with better access to EU products, which would also be cheaper after the implementation of the FTA.

In an ex-ante **sustainability impact assessment (SIA)** of a Deep and Comprehensive Free Trade Area (DCFTA) between Egypt and the EU (Ecorys, 2014a), which combined several methodological approaches (a CGE model, social, environmental, sector-level and horizontal analyses as well as stakeholder consultations), it was estimated that the agreement would have positive effects on both parties[854] providing socio-economic gains beyond the ones which had been reaped with the elimination of tariffs in the previous AA. The DCFTA would not only improve the investment climate and market access but also provide a reform-friendly socio-economic environment in Egypt. Expected further trade gains would be primarily attributable to reductions of NTBs for goods; significant benefits were also expected to materialise as a result of spill-over effects in agricultural goods (for the Egyptian side). The main sectors which were likely to benefit from the DCFTA included: other machinery and equipment, air transport, and motor vehicles. At the same time, textiles, wearing apparel, business and ICT, as well as communications sectors were likely to contract. In the long run, Egypt stood to benefit from a 25% increase in both exports and imports[855] and the EU would probably see a 47% growth of its exports to Egypt. Moreover, the DCFTA would likely benefit Egyptian wages, but the long-term effects for the low-skilled labour force could be potentially negative. The same emerged as true for the Egyptian average disposable income and poverty levels, with the latter expected to grow by 2 percentage points over the longer term. Importantly, while the overall implication of Ecorys' study suggested economically important effects (mainly from reforms regarding NTBs and other trade-related regulations), at the time of the investigation, the potential consequences of a DCFTA on human rights and the natural environment were unclear. These results, which relate to a potential future agreement that would aim at completing the Euro-Med FTA assessed in the current study, are thus relevant. When

[851] And any other regarding the NTBs.
[852] The paper considers also a scenario with trade-induced productivity changes and additional market access to the EU market effects. However, we report here only on the results of the tariff liberalisation scenario.
[853] How welfare is measured in CGE models is important for interpreting results. The measure citied here is the 'compensating variation' used by Augier and Gasiorek (2003) and expressed as % of GDP. In a nutshell, compensating variation is the amount of additional money an agent would need to reach their initial utility after a change in prices and other variables implied by the experiment.
[854] EUR 2.34 billion and EUR 0.6 billion for Egypt and the EU respectively, or 1.2% increase in GDP for the former and close to zero percent for the latter.
[855] Specifically, a 50% increase in exports to the EU was expected.

compared with other existing estimates of gains from the FTA, they show the extent of liberalisation that was 'untapped' under the Euro-Med FTA.

Jordan

According to the European Commission's recent Staff Working Document (2018), since the EU-Jordan AA came into force, trade flows in goods between the two regions increased[856] from EUR 2.4 billion in 2002 to EUR 4.5 billion in 2017. At the same time, Jordan's trade deficit with the EU has increased.

In the earliest study trying to disentangle the impact of the EU-Jordan FTA, the **CGE-based approach** of Augier and Gasiorek (2003) incorporated the assumption of imperfect competition and increasing returns in the manufacturing sector among others, with the results suggesting that implementation of Euro-Med FTAs (i.e. bringing a complete tariff reduction)[857] could result in a decrease in Jordan's welfare by 0.9%. This would be also accompanied by a 29% reduction in industrial production. In this study, Jordan is the only SMC experiencing both negative welfare and production effects.

Feraboli (2004), on the other hand, using a **CGE-based approach**, assumed *perfect competition* and *constant returns to scale* across all sectors and saw results which implied that Jordan's domestic GDP's growth could be expected to increase by 0.04% with an accompanying 0.057% growth in welfare relative to the base. Further investigation by Feraboli and Trimborn (2008) focused on two scenarios of tariff reductions and a subsequent 10% increase in VAT (from 2002 onwards) while controlling for parallel decreases in the government revenues[858]. In this context, trade liberalisation appeared to lower prices for investment and consumption goods, meaning more capital accumulation which then translated into a higher steady state value of aggregate capital. At the same time, long-term inequality was unlikely to decrease, as Gini index went up not only as an immediate effect of trade liberalisation but also in simulations calibrated for a longer time span. Against this background, the effects related to welfare gains came across as deceptive: they were seemingly higher for low-income households, yet, in the longer term, the capital income of rich households could increase much more due to their exploitation of investment incentives.

The CASE/CEPS (2009) **study using mixed methods** indicated that the Euro-Med agreements' effect on trade with the EU emerged as statistically and economically neutral. The investigation by Copenhagen Economics (2011) brought further empirical confirmation of this: indeed, the AAs between the EU and Jordan had positive but slight effects[859]. This outcome was reflected by **the non-parametric approach** yielding a statistically insignificant results on bilateral trade flows. The authors noted that the statistical insignificance of the results likely mirrored the fact that EU imports from Jordan had been hardly restricted due to the existence of prior preferential trade agreements[860] as well as the phasing-in of tariff reductions for Jordanian imports from the EU. As regards the asymmetric trade flows, EU exports to Jordan decreased by 17% and 42%, while imports to the EU increased by 72% and 4%, using, respectively, parametric and non-parametric approaches.

EMNES (2017)'s approach **using the Solow growth model** for the period 1980-2014 aimed at exploration and disentanglement of the specific contribution of trade in goods and services to growth in Jordan[861]. The analysis pointed out that trade in goods likely hampered growth[862], whereas services trade was found to bolster domestic economic performance[863]. In this context, the authors made a case that services emerged as a potential chance for Jordan's market expansion and creation of a comparative advantage. Furthermore, EMNES (2017) noted that Jordanian policy should act to reduce trade balance deficit by supporting the exporting sectors, with the special focus on agricultural and industrial sectors as far as pharmaceutical and chemical products were concerned. Considering Jordan's domestic business environment, the researchers indicated that these goals could be achieved via encouragement of small and medium enterprises to export

[856] With the country's PRU at 75% in 2017.
[857] The paper considers also a scenario with trade-induced productivity changes and additional market access to the EU market effects. Here we however report only on the results of the tariff liberalisation scenario.
[858] The authors controlled for this development assuming lower government transfers to households.
[859] 11%, which was not statistically significant at the 1% level in the parametric approach.
[860] Associated with the Generalised System of Preferences (GSP).
[861] The model is estimated using the Fully Modified Ordinary Least Squares approach, which corrects for non-stationarity, endogeneity of the data, and serial correlation.
[862] A unit increase in trade in goods working to decrease GDP by 0.22%.
[863] Improving GDP by 0.28% with each 1% of change.

services and goods qualifying as competitive. On top of this, the FTA appeared as an important factor contributing to smooth execution of these objectives, assuming that it could be framed to really address the specific needs of the Jordanian exporting sectors.

While the DCFTA negotiations with Jordan have not begun at the time of writing of this report, the eventual signing remains one of the Partnership's declared Priorities. The **CGE-based trade SIA** related to the negotiations (Ecorys, 2014b) estimated that introduction of a DCFTA had the potential to provide Jordan with a 2.1% GDP; on the other hand, changes in the EU's GDP emerged as nearly null[864]. In the long term, Jordan's exports and imports were likely to increase by 5.3% and 4.8% respectively. Ecorys (2014b) confirmed the outcomes of gravity modelling discussed earlier inasmuch as pointing to elimination of NTBs as the main force behind the changes, with tariff cuts following closely behind. While both the EU and Jordan were expected to gain from growth in total trade, the latter's benefits from the DCFTA would extend to increases in wages (between 2% and 3%), slight decreases in consumer prices and a higher (by approximately 2%) average disposable income. Among other beneficial changes, Ecorys (2014b) named declining poverty rate and gender inequality, while the environmental impact, similarly to the case of Egypt, was mixed and eluded quantification[865]. At sectoral level, the authors expected positive changes in Jordanian exports of, in particular, chemicals, rubber and plastics; at the same time the investigation indicated that imports of *most EU goods* would likely increase. On the downside, the DCFTA had potential to negatively affect the absolute values[866] of national incomes of certain third economies (i.e., Egypt, Turkey and Sub-Saharan states) while positively influencing others (such as Morocco and Tunisia).

Lebanon

Studies focusing specifically on Lebanon's FTA with the EU are scarce. At present, the only source identified included the Commission Staff Working Document (2018), which indicates that Lebanese trade in goods went up from the level of EUR 3.4 billion two years prior to the AA coming into force in 2002 to EUR 7.7 billion in 2017[867]. The trade flows between the EU and Lebanon increased for services, and foreign direct investment, with the trade balance being positive on the side of the EU but quite negative in relation to Lebanon. This large imbalance has led to significant criticism by the Lebanese Government at the highest political level particularly in view of the economic impact the Syria refugee crisis had on the country.

Morocco

The same Commission Staff Working Document (2018) evaluated the impact of the EU-Morocco FTA on trade as positive[868], pointing out to increases in trade volume. Indeed, in the period 2002[869]- 2017 total trade flows between the two regions increased from EUR 14.3 billion to EUR 37.5 billion.

In the earliest study trying to disentangle the impact of the EU-Morocco FTA, Augier and Gasiorek (2003) used (as noted) a **CGE-based approach,** yielding results which suggested that implementation of Euro-Med FTAs (i.e. bringing a complete tariff reduction) could result in an increase Morocco's welfare by 13.2%. This would be however accompanied by a 64% reduction in industrial production, suggesting that the lowering of tariffs would have strong competition effect on Moroccan industry and that the positive welfare gains would be mainly associated with better access to EU products, which would also be cheaper after the implementation of the FTA.

In their **CGE-based approach**, Elbehri and Hertel (2004) assumed, similar to Augier and Gasiorek (2003), imperfect competition in the domestic manufacturing industry, yet they also introduced constant returns to scale in agriculture and services sectors. This modification notwithstanding the authors argued that the terms of trade welfare effect was likely to be negative in absolute terms[870]

[864] In absolute terms, this would translate into an additional EUR 179 million and EUR 442 million for the national incomes of the EU and Jordan respectively.
[865] The EU was not expected to benefit in any of these areas.
[866] In percentage terms, the impact on all third country GDPs is expected to be negligible.
[867] The Lebanese preference utilisation rate (henceforth PUR) stood at 70% in 2017, while the score for the EU in 2015 hit 74%.
[868] With the average Moroccan PUR estimated at 97% for all goods, agricultural products and non-agricultural products in 2017.
[869] Earlier data not available.
[870] USD 660 million relative to the baseline scenario.

with varied sectoral effects: light manufacturing and wearing apparel grew by 10.4% and 7.7% respectively while motor vehicles and wood products decreased by 39% by 23% respectively[871].

Dennis (2006) concluded that potential gains from lowering trade costs in MENA countries associated with their trade with the EU could be much greater than the gains from the elimination of costs associated with their trade with each other, with the EU being a much more important trade partner than other MENA economies. Using a **CGE model** and simulating a free trade area between MENA and the EU under the assumption of all import tariffs reductions on non-agricultural goods and cutting all agricultural tariffs by half[872], the author provided evidence that these trade facilitating changes, along with trade liberalisation effects, could translate into increases of GDP between 0.82% and 3.28%[873] relative to the initial value and depending on the country in question. As for real GDP gains, Dennis (2006) estimated them at the level of 2.22% for the Moroccan economy, which was the highest score in the region. Real wages and economy-wide welfare gains were set to increase significantly as well, with Morocco gaining 5% and 1.88% in each category.

Philippidis and Sanjuan (2006) used **CGE modelling** and focused on the EU-Morocco and USA-Morocco FTAs. They made a case that, in the scenario assuming *imperfect competition* in manufacturing sectors and envisioning a full implementation of the FTAs as well as a bilateral removal of EU-Morocco tariffs in agriculture and food processing, Morocco's trade balance would decrease by 2.2%, with economy-wide welfare effects growing by 0.14% in economic value compared to the baseline situation. If this scenario were accompanied by NTBs removal in agro-food sectors, the obtained results implied 3.3% growth both in real per capita GDP and economy-wide welfare; under the most demanding scenario presupposing removal of all tariff and NTBs trade costs, the economic gains were the most significant, with both real per capita GDP growth and welfare gains of 12.2% relative to the default situation.

Copenhagen Economics' (2011) **mixed-methods** investigation on the other hand suggested again an insignificance of the Barcelona Agreements; the authors calculated that that the AAs between the EU with Morocco had statistically insignificant[874] trade effects[875]. The outcome was corroborated by the non-parametric approach also used in this study which yielding a rather small, yet still statistically insignificant at 1% level change of a 2% in bilateral trade flows. Based on the latter approach, Copenhagen Economics (2011) made a case that while the EU's exports to Morocco may have been impacted by the agreements, there was little proof that the EU's imports had increased. According to authors, the dubious impact of these trade arrangements stemmed, at least in part, from the fact that the EU's imports from Morocco had been hardly impeded at that time due to the GSP being in place together with phasing-out of tariffs for Moroccan imports from the EU. As for the asymmetric trade flows, Copenhagen Economics (2011) indicated that the EU's exports to Morocco increased by 79%[876] and 59%[877], while imports to the EU declined by 35% and 37%[878].

Ben Abdellah et al. (2013) assessed the effects of trade liberalisation with the EU on key sectors in Morocco deploying **a method related to CGE analysis**[879] with the baseline year set at 2004. They investigated three scenarios: 1) a uniform shock of 1% of aggregate GDP[880]; 2) a 10% increase of exports of agri-food key sectors and 3) a 10% increase of exports of agri-food backward linkages. As for Scenario 1, all sectors were affected, with the results varying between 0.43% for petroleum and coal products and 1.22% for sugar. As for the price elasticity, the sector of public administration displayed the greatest value estimated to reach 0.34 while water emerged with the lowest (0.0). As for Scenario 2, the overall impact on the aggregate production of all sectors reached a 0.44% increase compared to the data of 2004 SAM. As for the domestic GDP, an increase corresponding to the variation of a 0.48% compared to the same 2004 SAM data emerged as a possibility. The increase in GDP of agri-food key sectors could in fact reach approximately

[871] The assumptions of perfect vs imperfect competition seem an important factor determining the outcomes of the analyses – therefore investigations based on differing postulates regarding the economic environment should not be directly compared in terms of viability.
[872] With trade, improvements applied to all tradeables except for oil, gas, and petroleum products.
[873] i.e., additional USD 1.8-7.2 billion.
[874] At the 1% level.
[875] Approx. +6%.
[876] Statistically significant at 1% level both in parametric and non-parametric approaches.
[877] Insignificant in statistical terms, using, respectively, parametric and non-parametric approach.
[878] Insignificant in statistical terms, based on respectively, parametric and non-parametric approaches.
[879] A *Simulations for Social Indicators and Poverty using SAM.*
[880] The sectoral impact of a shock equivalent to 1% of aggregate GDP on growth (measured as aggregate GDP) and the producer price index (PPI) of each of the productive sectors. The authors refer to a 1% change in sectoral supply. (see Ben Abdellah et al. 2013, p.50).

17.3% of the total impact in terms of GDP. Finally, as for Scenario 3, the results showed that the general results on both total production as well as GDP to be smaller than those of Scenario 2. The aggregate output of all sectors improved by 0.06% compared to the 2004 SAM. Still, the influence was limited on agri-food key sectors. The total GDP increases were estimated at 0.06%, compared to 2004. Improvement of the GDP of the main agri-food sectors was estimated as very small, while the backward-linked agri-food sectors displayed an impact whose magnitude amounted to 23% on the aggregate GDP. In this context, the authors argued that the domestic government should aim towards complete trade liberalisation via the elimination of both tariff and NTBs as well as promoting Moroccan food processing industries[881].

Finally, the **CGE-based Trade SIA** from Ecorys (2013a) indicated that introduction of a DCFTA could bring potentially positive economy-wide effects for both parties (still, as far as GDP growth was concerned, the estimated increases emerged as important only for the Moroccan side [1.6%] whereas they were nearly zero for the EU[882]). NTB elimination for traded goods, their bilateral significant reductions for services trade, and spill-over effects (in case of Morocco) were reported as the chief drivers of the overall effect. In line with the results of the simulation, once the DCFTA would come into force, Morocco could benefit from an improved trade balance[883], higher wages[884], and greater purchasing power despite the fact that slight increases in consumer prices could not be ruled out completely[885]. The DCFTA could bring positive changes at the sector level for the Moroccan economy, namely, in other machinery, fruits and vegetables, public and other services sectors; on the other hand, negative developments were likely to emerge in services sectors. As for employment-related effects, the CGE results indicated that the DCFTA would bring negligible aggregate results, however, these would be positive as far as creation of jobs, improvements in workers' rights, social protection, dialogue, and gender equality were concerned. At the time when the investigation was being carried out, the environmental effects were unclear.

Tunisia

In the earliest study trying to disentangle the impact of the EU-Tunisia FTA, Augier and Gasiorek (2003) showed that implementation of Euro-Med FTAs (i.e. bringing a complete tariff reduction) could result in an increase in Tunisia's welfare by 18% based on **CGE modelling**. This would be however accompanied by a 65% reduction in industrial production, suggesting that the lowering of tariffs would have strong competition effect on Tunisia's industry and that the positive welfare gains would be mainly associated with better access to EU products, which would also be cheaper after the implementation of the FTA.

Dennis (2006), based on the results of **a CGE simulation,** concluded that potential gains from lowering trade costs in MENA countries associated with their trade with the EU could be much greater than the gains from the elimination of costs associated with their trade with each other, with the EU being a much more important trade partner than other MENA economies. Simulating a free trade area between MENA and the EU under the assumption of all import tariffs reductions on non-agricultural goods and cutting all agricultural tariffs by half[886], the author provided evidence that these trade facilitating changes, along with trade liberalisation effects, could translate into increases of GDP between 0.82% and 3.28%[887] relative to the initial value and depending on the country in question. For the Tunisian economy, Dennis (2006)[888] concluded that trade facilitation improvements, along with trade liberalisation effects, could bring an increase of the real GDP gains amounting to 1.85% while real wages and economy-wide welfare gains were set to increase significantly as well, with the domestic economy gaining 7% and 1.72% respectively in these categories.

The CASE/CEPS (2009) investigation focusing on Tunisia **using mixed empirical methods** indicated that, as opposed to other MENA economies, the country's FTA with the EU was significant, both in economic and statistical terms. As regards further investigations in the area of symmetrical bilateral trade flows, Copenhagen Economics (2011) argued that the EU-Tunisia AA may have boosted trade by 42% since its entry into force[889]. Furthermore, the non-parametric approach

[881] In light of them having greater impact on aggregate GDP than primary industries.
[882] EUR 1.3 billion and EUR 1.4 billion gain to national income for Morocco and the EU respectively.
[883] Approximately +15% in exports and +8% in imports.
[884] Approximately increases between 1.6% and 1.9% in the long run.
[885] Approximately 0.4%.
[886] With trade, improvements applied to all tradeable goods except for oil, gas, and petroleum products.
[887] I.e. an additional USD 1.8-7.2 billion.
[888] For the discussion of the assumption, see the reference to Dennis (2006) in the discussion of Morocco.
[889] The result was however statistically insignificant at the 1% level.

yielded a statistically insignificant increase of 9% in bilateral trade flows. The study of export and import flows was indicative of the EU's exports destined for Tunisian markets growing by 81%[890] and 23%[891]. On the other hand, the results regarding EU imports were mixed, indicating either growth of 5% or a decrease of 10%[892]. It needs to be noted that robustness of econometric investigations of trade flows in the MENA region is hampered by the paucity of accurate data time series.

With reductions in both NTBs and bilateral tariffs, the EU-Tunisia AA was evaluated as "mutually beneficial" and its overall impact was judged "positive"[893] in the recent Commission Staff Working Document (2018), despite the adverse impact of the global financial crisis and difficulties faced by Tunisia both on the value of trade and trade balance. At the same time, it was noted that the AA in its current shape had apparently achieved its full potential and required upgrading so that it could continue to yield economically positive developments.

According to a **CGE-based** SIA investigating the potential impact of the negotiations regarding implementation of a DCFTA between the EU and Tunisia (Ecorys, 2013b), both regions stood to gain from the agreement; however, the sector-level the results emerged as mixed. For example, while vegetable oils, vegetables and fruit, other machinery, electrical machinery and other transport equipment were likely to expand, growth in textiles, non-mineral products, petrochemicals, and leather goods would probably be hampered. Following the implementation of the DCFTA, gross domestic products of both the EU and Tunisia revealed to have a growth potential, albeit of a differing magnitude: specifically, while the EU-related effects emerged as negligible, the impact for the Tunisian GDP appeared sizable (+7%)[894]. Moreover, in the longer-term, Tunisian exports and imports displayed significant growth potential[895], bringing about improvements in the country's overall trade balance. As for economic welfare effects, the study indicated that wages could be higher by, on average 10%, making the Tunisian purchasing power greater (despite the possibility of inflationary pressures). The DCFTA's effects on human rights and elimination of poverty was estimated to be limited, but positive; at the same time, the environmental impact of the EU-Tunisia agreement emerged as elusive.

EMNES (2017) reported ex-post results trade liberalisation **referencing a CGE model** prepared by ITCEQ (2016) and focused on what could be achieved within a future potential DCFTA between the EU and Tunisia in terms of services liberalisation. The outcomes indicated that lifting investment barriers and obstacles to cross-border services trade would likely benefit both the EU and Tunisia across all strata of the respective economies. Specifically, the authors estimated annual gains between 0.3 and 0.4 points of GDP growth in the period 2015-2030, with overall declines in the unemployment rate between 2.7% to 4.3% at the end of 2030.

The ITCEQ (2016) report observed that the recorded magnitude of economic gains stemming from elimination of investment barriers in the services sectors (especially those which benefitted from a degree of protection) could translate into alleviation of costs borne not only by other economic sectors (especially those utilising the services in their production processes) but also by final consumers. In fact, elimination of the investment barriers could significantly spur on demand in the industrial and agricultural sectors as well as induce pro-competitive reforms in the services sector reforms in Tunisia. Indeed, the investigation provided evidence that the more Tunisian exports of services could benefit from easier access to EU markets, the more it would help resolve the problem of domestic unemployment. Yet, the discussion regarding the positive economic effects should be more nuanced, both by sectors and simulated policy. In fact, while the economy-wide employment effects were positive and reduction in unemployment was observed in majority of Tunisian services sectors, some of these sectors appeared to be affected more acutely than others by the simulated productivity shocks. Specifically, the study highlighted that some domestic services sectors would record increases in employment in comparison to the benchmark situation (such as business services, computer services or telecommunications or international transportation services) while other sectors, including postal and courier services and, most importantly, trade services, were likely to experience a more sluggish employment growth.
With reductions in both NTBs and bilateral tariffs, the EU-Tunisia AA was evaluated in the recent Commission Staff Working Document (2018) as beneficial for both partners with generally positive

[890] Both economically and statistically significant at the 1% level using, respectively, parametric and non-parametric methods.
[891] Insignificant, using, respectively, parametric and non-parametric methods.
[892] Insignificant, obtained via parametric and non-parametric approach respectively.
[893] The country's PUR at 94% in 2017.
[894] + EUR 1.3 billion and EUR 2.5 billion respectively.
[895] By 20% and 19% respectively.

economy-wide effects[896]. These gains were observed, despite the adverse impact of the global financial crisis and difficulties faced by Tunisia both on the value of trade and trade balance. At the same time, it was noted that the AA in its current shape had apparently achieved its full potential and required upgrading so that it could continue to yield economically positive developments.

D.2 AnnexTables accompanying Chapter 3. Economic analysis

Table D.1.a Effectively Applied Tariffs by the EU on imports from Algeria and from the RoW by sectors

	Tariffs on EU imports from Algeria in the year of entry into force of the AA*	Tariffs on EU imports from RoW in the year of entry into force of the AA*	Preferential margin for Algeria in the year of entry into force of the AA*	Tariffs on EU imports from Algeria in last year of data availability**	Tariffs on EU imports from RoW in last year of data availability**	Preferential margin for Algeria in last year of data availability**
01-05_Animal	0.47	3.20	2.73	0.69	3.11	2.42
06-15_Vegetable	4.78	2.58	-2.20	4.98	1.94	-3.04
16-24_Foodprod	3.12	6.34	3.22	4.28	4.77	0.49
25-26_Minerals	0.00	0.04	0.04	0.00	0.06	0.06
27-27_Fuels	0.00	0.25	0.25	0.00	0.16	0.16
28-38_Chemicals	0.00	1.72	1.72	0.11	1.95	1.84
39-40_PlasticRub	0.00	1.78	1.78	0.00	2.12	2.12
41-43_HidesSkin	0.00	1.00	1.00	0.00	1.44	1.44
44-49_Wood	0.00	0.36	0.36	0.00	0.35	0.35
50-63_TextCloth	0.00	4.31	4.31	0.00	3.56	3.56
64-67_FootWear	0.00	3.22	3.22	0.00	3.05	3.05
68-71_StoneGlas	0.00	1.19	1.19	0.00	1.42	1.42
72-83_Metals	0.00	0.88	0.88	0.00	1.09	1.09
84-85_MachElec	0.00	0.59	0.59	0.00	0.80	0.80
86-89_Transport	0.00	1.61	1.61	0.00	1.98	1.98
90-99_Miscellan	0.00	0.61	0.61	0.00	0.80	0.80

Source: UN-Trains Database.
* 2005.
** 2018.
RoW includes all countries but EU member states and Algeria.

Table D.1.b Effectively Applied Tariffs by Algeria on imports from the EU and from the RoW by sectors

	Tariffs on imports from the EU in the year of entry into force of the AA*	Tariffs on imports from RoW in the year of entry into force of the AA*	Preferential margin for EU in the year of entry into force of the AA*	Tariffs on imports from the EU in last year of data availability**	Tariffs on imports from RoW in last year of data availability**	Preferential margin for EU in last year of data availability**
01-05_Animal	19.44	23.85	4.41	19.44	25.97	6.53
06-15_Vegetable	18.51	20.10	1.59	16.83	16.31	-0.52
16-24_Foodprod	23.86	24.90	1.04	23.79	25.50	1.71
25-26_Minerals	0.05	9.24	9.19	0.00	8.80	8.80
27-27_Fuels	8.19	12.07	3.88	1.26	6.58	5.32
28-38_Chemicals	4.37	15.61	11.24	3.33	14.33	11.00
39-40_PlasticRub	9.21	16.04	6.83	4.41	14.27	9.86
41-43_HidesSkin	25.47	28.47	3.00	12.80	25.39	12.59
44-49_Wood	13.64	22.10	8.46	8.12	18.99	10.87
50-63_TextCloth	24.18	27.00	2.82	14.12	23.23	9.11
64-67_FootWear	26.79	28.11	1.32	15.19	24.43	9.24
68-71_StoneGlas	15.19	22.56	7.37	10.32	19.16	8.84
72-83_Metals	11.80	19.06	7.26	7.60	17.90	10.30
84-85_MachElec	13.15	13.84	0.69	6.42	13.76	7.34
86-89_Transport	13.03	14.20	1.17	4.75	13.78	9.03
90-99_Miscellan	18.58	20.26	1.68	7.58	16.35	8.77

Source: UN-Trains Database.
* 2005.
** 2018.
RoW includes all countries but EU member states and Algeria.
Source: UN-Trains Database.
* 2005.
** 2018.
RoW includes all countries but EU member states and Algeria.

[896] The country's PUR was at 94% in 2017.

Table D.2.a Effectively Applied Tariffs by the EU on imports from Egypt and from the RoW by sectors

	Tariffs on EU imports from Egypt in the year of entry into force of the AA*	Tariffs on EU imports from RoW in the year of entry into force of the AA*	Preferential margin for Egypt in the year of entry into force of the AA*	Tariffs on EU imports from Egypt in last year of data availability**	Tariffs on EU imports from RoW in last year of data availability**	Preferential margin for Egypt in last year of data availability**
01-05_Animal	3.41	3.25	-0.16	0.00	3.13	3.13
06-15_Vegetable	3.51	2.53	-0.98	0.21	1.98	1.77
16-24_Foodprod	7.00	6.16	-0.84	0.25	4.84	4.59
25-26_Minerals	0.00	0.03	0.03	0.00	0.06	0.06
27-27_Fuels	0.00	0.18	0.18	0.00	0.16	0.16
28-38_Chemicals	0.08	1.57	1.49	0.01	1.96	1.95
39-40_PlasticRub	0.00	1.55	1.55	0.00	2.14	2.14
41-43_HidesSkin	0.00	0.94	0.94	0.00	1.45	1.45
44-49_Wood	0.00	0.32	0.32	0.00	0.35	0.35
50-63_TextCloth	0.04	4.38	4.34	0.00	3.61	3.61
64-67_FootWear	0.00	3.01	3.01	0.00	3.07	3.07
68-71_StoneGlas	0.00	1.11	1.11	0.00	1.43	1.43
72-83_Metals	0.00	0.86	0.86	0.00	1.10	1.10
84-85_MachElec	0.00	0.54	0.54	0.00	0.80	0.80
86-89_Transport	0.00	1.56	1.56	0.00	1.98	1.98
90-99_Miscellan	0.02	0.61	0.59	0.00	0.81	0.81

Source: UN-Trains Database.
* 2004.
** 2018.
RoW includes all countries but EU member states and Egypt.

Table D.1.b Effectively Applied Tariffs by Algeria on imports from the EU and from the RoW by sectors

	Tariffs on imports from the EU in the year of entry into force of the AA*	Tariffs on imports from RoW in the year of entry into force of the AA*	Preferential margin for EU in the year of entry into force of the AA*	Tariffs on imports from the EU in last year of data availability**	Tariffs on imports from RoW in last year of data availability**	Preferential margin for EU in last year of data availability**
01-05_Animal	19.44	23.85	4.41	19.44	25.97	6.53
06-15_Vegetable	18.51	20.10	1.59	16.83	16.31	-0.52
16-24_Foodprod	23.86	24.90	1.04	23.79	25.50	1.71
25-26_Minerals	0.05	9.24	9.19	0.00	8.80	8.80
27-27_Fuels	8.19	12.07	3.88	1.26	6.58	5.32
28-38_Chemicals	4.37	15.61	11.24	3.33	14.33	11.00
39-40_PlasticRub	9.21	16.04	6.83	4.41	14.27	9.86
41-43_HidesSkin	25.47	28.47	3.00	12.80	25.39	12.59
44-49_Wood	13.64	22.10	8.46	8.12	18.99	10.87
50-63_TextCloth	24.18	27.00	2.82	14.12	23.23	9.11
64-67_FootWear	26.79	28.11	1.32	15.19	24.43	9.24
68-71_StoneGlas	15.19	22.56	7.37	10.32	19.16	8.84
72-83_Metals	11.80	19.06	7.26	7.60	17.90	10.30
84-85_MachElec	13.15	13.84	0.69	6.42	13.76	7.34
86-89_Transport	13.03	14.20	1.17	4.75	13.78	9.03
90-99_Miscellan	18.58	20.26	1.68	7.58	16.35	8.77

Source: UN-Trains Database.
* 2005.
** 2018.
RoW includes all countries but EU member states and Algeria.
Source: UN-Trains Database.
* 2005.
** 2018.
RoW includes all countries but EU member states and Algeria.

Table D.2.a Effectively Applied Tariffs by the EU on imports from Egypt and from the RoW by sectors

	Tariffs on EU imports from Egypt in the year of entry into force of the AA*	Tariffs on EU imports from RoW in the year of entry into force of the AA*	Preferential margin for Egypt in the year of entry into force of the AA*	Tariffs on EU imports from Egypt in last year of data availability**	Tariffs on EU imports from RoW in last year of data availability**	Preferential margin for Egypt in last year of data availability**
01-05_Animal	3.41	3.25	-0.16	0.00	3.13	3.13
06-15_Vegetable	3.51	2.53	-0.98	0.21	1.98	1.77
16-24_Foodprod	7.00	6.16	-0.84	0.25	4.84	4.59
25-26_Minerals	0.00	0.03	0.03	0.00	0.06	0.06
27-27_Fuels	0.00	0.18	0.18	0.00	0.16	0.16
28-38_Chemicals	0.08	1.57	1.49	0.01	1.96	1.95

39-40_PlasticRub	0.00	1.55	1.55	0.00	2.14	2.14
41-43_HidesSkin	0.00	0.94	0.94	0.00	1.45	1.45
44-49_Wood	0.00	0.32	0.32	0.00	0.35	0.35
50-63_TextCloth	0.04	4.38	4.34	0.00	3.61	3.61
64-67_FootWear	0.00	3.01	3.01	0.00	3.07	3.07
68-71_StoneGlas	0.00	1.11	1.11	0.00	1.43	1.43
72-83_Metals	0.00	0.86	0.86	0.00	1.10	1.10
84-85_MachElec	0.00	0.54	0.54	0.00	0.80	0.80
86-89_Transport	0.00	1.56	1.56	0.00	1.98	1.98
90-99_Miscellan	0.02	0.61	0.59	0.00	0.81	0.81

Source: UN-Trains Database.
* 2004.
** 2018.
RoW includes all countries but EU member states and Egypt.

TABLE D.3.a Effectively Applied Tariffs by the EU on imports from Jordan and from the RoW by sectors

	Tariffs on EU imports from Jordan in the year of entry into force of the AA*	Tariffs on EU imports from RoW in the year of entry into force of the AA*	Preferential margin for Jordan in the year of entry into force of the AA*	Tariffs on EU imports from Jordan in last year of data availability**	Tariffs on EU imports from RoW in last year of data availability**	Preferential margin for Jordan in last year of data availability**
01-05_Animal	5.65	3.07	-2.58	0.94	3.10	2.16
06-15_Vegetable	4.20	2.55	-1.65	0.00	1.97	1.97
16-24_Foodprod	4.23	6.49	2.26	0.02	4.82	4.80
25-26_Minerals	0.00	0.03	0.03	0.00	0.06	0.06
27-27_Fuels	0.00	0.20	0.20	0.00	0.16	0.16
28-38_Chemicals	0.00	1.48	1.48	0.00	1.95	1.95
39-40_PlasticRub	0.00	1.43	1.43	0.00	2.13	2.13
41-43_HidesSkin	0.00	0.88	0.88	0.00	1.44	1.44
44-49_Wood	0.00	0.47	0.47	0.00	0.35	0.35
50-63_TextCloth	0.00	4.42	4.42	0.00	3.58	3.58
64-67_FootWear	0.00	3.06	3.06	0.00	3.05	3.05
68-71_StoneGlas	0.00	1.04	1.04	0.00	1.42	1.42
72-83_Metals	0.00	1.76	1.76	0.00	1.10	1.10
84-85_MachElec	0.00	0.44	0.44	0.00	0.80	0.80
86-89_Transport	0.00	1.40	1.40	0.00	1.97	1.97
90-99_Miscellan	0.00	0.53	0.53	0.00	0.81	0.81

Source: UN-Trains Database.
* 2002.
** 2018.
RoW includes all countries but EU member states and Jordan.

TABLE D.3.b Effectively Applied Tariffs by Jordan on imports from the EU and from the RoW by sectors

	Tariffs on imports from the EU in the year of entry into force of the AA*	Tariffs on imports from RoW in the year of entry into force of the AA*	Preferential margin for EU in the year of entry into force of the AA*	Tariffs on imports from the EU in last year of data availability**	Tariffs on imports from RoW in last year of data availability**	Preferential margin for EU in last year of data availability**
01-05_Animal	14.11	17.32	3.21	1.67	4.44	2.77
06-15_Vegetable	14.61	19.45	4.84	0.00	7.57	7.57
16-24_Foodprod	40.47	30.21	-10.26	16.84	18.48	1.64
25-26_Minerals	17.20	15.05	-2.15	0.00	5.20	5.20
27-27_Fuels	14.26	14.64	0.38	0.00	5.25	5.25
28-38_Chemicals	9.84	10.81	0.97	0.00	1.26	1.26
39-40_PlasticRub	15.07	15.94	0.87	0.00	3.01	3.01
41-43_HidesSkin	27.55	27.76	0.21	0.00	14.52	14.52
44-49_Wood	16.82	16.26	-0.56	0.00	5.87	5.87
50-63_TextCloth	16.16	16.93	0.77	0.00	6.91	6.91
64-67_FootWear	27.27	25.86	-1.41	0.00	17.41	17.41
68-71_StoneGlas	23.96	23.75	-0.21	0.00	8.60	8.60
72-83_Metals	17.60	17.37	-0.23	0.00	6.65	6.65
84-85_MachElec	13.62	14.93	1.31	0.00	6.04	6.04
86-89_Transport	15.77	18.67	2.90	0.00	6.26	6.26
90-99_Miscellan	16.94	19.24	2.30	0.23	9.46	9.23

Source: UN-Trains Database.
* 2002.
** 2018.
RoW includes all countries but EU member states and Jordan.

TABLE D.3.c Effectively Applied Tariffs by the ROW on imports from Jordan by sectors

	Tariffs on ROW imports from Jordan in the year of entry into force of the AA*	Tariffs on ROW import from Jordan in the last year available	Tariffs Change (in point of percentage)
01-05_Animal	6.44	2.38	-4.06
06-15_Vegetable	9.59	2.92	-6.67
16-24_Foodprod	13.59	8.60	-4.99
25-26_Minerals	5.12	1.53	-3.59
27-27_Fuels	4.68	0.00	-4.68
28-38_Chemicals	10.08	2.90	-7.18
39-40_PlasticRub	12.33	3.10	-9.23
41-43_HidesSkin	11.47	5.37	-6.10
44-49_Wood	11.40	2.88	-8.52
50-63_TextCloth	14.01	8.90	-5.11
64-67_FootWear	16.26	5.78	-10.48
68-71_StoneGlas	10.22	3.73	-6.49
72-83_Metals	11.86	3.45	-8.41
84-85_MachElec	8.64	2.27	-6.37
86-89_Transport	13.78	8.16	-5.62
90-99_Miscellan	11.44	4.09	-7.35

Source: UN-Trains Database.
* 2002.
** 2018.
RoW includes all countries but EU member states and Jordan.

TABLE D.4.a Effectively Applied Tariffs by the EU on imports from Lebanon and from the RoW by sectors

	Tariffs on EU imports from Lebanon in the year of entry into force of the AA*	Tariffs on EU imports from RoW in the year of entry into force of the AA*	Preferential margin for Lebanon in the year of entry into force of the AA*	Tariffs on EU imports from Lebanon in last year of data availability**	Tariffs on EU imports from RoW in last year of data availability**	Preferential margin for Lebanon in last year of data availability**
01-05_Animal	0.00	3.01	3.01	0.00	3.11	3.11
06-15_Vegetable	0.31	2.50	2.19	0.48	1.97	1.49
16-24_Foodprod	0.26	6.37	6.11	0.27	4.83	4.56
25-26_Minerals	0.00	0.03	0.03	0.00	0.06	0.06
27-27_Fuels	0.00	0.24	0.24	0.00	0.16	0.16
28-38_Chemicals	0.00	1.51	1.51	0.00	1.95	1.95
39-40_PlasticRub	0.00	1.46	1.46	0.00	2.13	2.13
41-43_HidesSkin	0.00	0.91	0.91	0.00	1.45	1.45
44-49_Wood	0.00	0.40	0.40	0.00	0.35	0.35
50-63_TextCloth	0.00	4.35	4.35	0.00	3.59	3.59
64-67_FootWear	0.00	3.18	3.18	0.00	3.07	3.07
68-71_StoneGlas	0.00	1.08	1.08	0.00	1.43	1.43
72-83_Metals	0.00	1.11	1.11	0.00	1.10	1.10
84-85_MachElec	0.00	0.47	0.47	0.00	0.80	0.80
86-89_Transport	0.00	1.50	1.50	0.00	1.98	1.98
90-99_Miscellan	0.00	0.53	0.53	0.00	0.81	0.81

Source: UN-Trains Database.
* 2003.
** 2018.
RoW includes all countries but EU member states and Lebanon.

TABLE D.4.b Effectively Applied Tariffs by Lebanon on imports from the EU and from the RoW by sectors

	Tariffs on imports from the EU in the year of entry into force of the AA*	Tariffs on imports from RoW in the year of entry into force of the AA*	Preferential margin for EU in the year of entry into force of the AA*	Tariffs on imports from the EU in last year of data availability**	Tariffs on imports from RoW in last year of data availability**	Preferential margin for EU in last year of data availability**
01-05_Animal	10.09	7.45	2.64	4.10	3.61	4.59
06-15_Vegetable	17.25	19.09	-1.84	5.49	8.42	-0.49
16-24_Foodprod	19.13	17.27	1.86	10.46	12.36	2.93
25-26_Minerals	3.21	2.98	0.23	0.00	2.04	1.90
27-27_Fuels	2.57	2.88	-0.31	0.00	1.46	2.04
28-38_Chemicals	5.24	6.55	-1.31	0.09	4.25	1.46
39-40_PlasticRub	4.40	5.01	-0.61	0.04	3.77	4.16
41-43_HidesSkin	17.78	18.21	-0.43	0.03	16.96	3.73
44-49_Wood	7.48	9.07	-1.59	0.47	6.28	16.93
50-63_TextCloth	4.10	4.35	-0.25	0.00	2.33	5.81
64-67_FootWear	19.87	20.48	-0.61	0.00	9.61	2.33
68-71_StoneGlas	8.77	8.92	-0.15	0.00	6.09	9.61
72-83_Metals	4.98	5.41	-0.43	0.09	4.08	6.09

84-85_MachElec	4.53	4.73	-0.20	0.03	4.01	3.99
86-89_Transport	4.99	5.04	-0.05	0.05	4.33	3.98
90-99_Miscellan	8.43	9.03	-0.60	0.03	7.38	4.28

Source: UN-Trains Database.
* 2003.
** 2017.
RoW includes all countries but EU member states and Lebanon.

TABLE D.4.c Effectively Applied Tariffs by the ROW on imports from Lebanon by sectors

	Tariffs on ROW imports from Lebanon in the year of entry into force of the AA*	Tariffs on ROW import from Lebanon in the last year available	Tariffs Change (in point of percentage)
01-05_Animal	12.15	11.85	-0.3
06-15_Vegetable	9.14	6.17	-2.97
16-24_Foodprod	17.55	10.60	-6.95
25-26_Minerals	8.62	2.29	-6.33
27-27_Fuels	8.34	0.50	-7.84
28-38_Chemicals	10.57	6.36	-4.21
39-40_PlasticRub	12.37	6.05	-6.32
41-43_HidesSkin	13.15	7.62	-5.53
44-49_Wood	11.21	5.08	-6.13
50-63_TextCloth	13.62	8.74	-4.88
64-67_FootWear	14.97	8.86	-6.11
68-71_StoneGlas	11.12	6.46	-4.66
72-83_Metals	12.56	7.59	-4.97
84-85_MachElec	8.57	4.67	-3.90
86-89_Transport	13.67	5.45	-8.22
90-99_Miscellan	11.86	6.37	-5.49

Source: UN-Trains Database.
* 2003.
** 2018.
RoW includes all countries but EU member states and Lebanon.

TABLE D.5.a Effectively Applied Tariffs by the EU on imports from Morocco and from the RoW by sectors

	Tariffs on EU imports from Morocco in the year of entry into force of the AA*	Tariffs on EU imports from RoW in the year of entry into force of the AA*	Preferential margin for Morocco in the year of entry into force of the AA*	Tariffs on EU imports from Morocco in last year of data availability**	Tariffs on EU imports from RoW in last year of data availability**	Preferential margin for Morocco in last year of data availability**
01-05_Animal	0.46	3.66	3.20	0	3.16	3.16
06-15_Vegetable	1.54	2.91	1.37	0.16	1.98	1.82
16-24_Foodprod	3.04	7.28	4.24	0	4.84	4.84
25-26_Minerals	0.00	0.03	0.03	0	0.06	0.06
27-27_Fuels	0.00	0.14	0.14	0	0.16	0.16
28-38_Chemicals	0.00	1.5	1.50	0	1.96	1.96
39-40_PlasticRub	0.00	2.13	2.13	0	2.14	2.14
41-43_HidesSkin	0.00	1.18	1.18	0	1.45	1.45
44-49_Wood	0.00	0.91	0.91	0	0.35	0.35
50-63_TextCloth	0.00	6.02	**6.02**	0	3.62	**3.62**
64-67_FootWear	0.00	3.97	3.97	0	3.07	3.07
68-71_StoneGlas	0.00	1.44	1.44	0	1.43	1.43
72-83_Metals	0.00	1.29	1.29	0	1.1	1.1
84-85_MachElec	0.00	0.67	0.67	0	0.8	0.8
86-89_Transport	0.00	2.21	2.21	0	1.99	1.99
90-99_Miscellan	0.00	0.82	0.82	0	0.81	0.81

Source: UN-Trains Database.
* 2000.
** 2018.
RoW includes all countries but EU member states and Morocco.

TABLE D.5.b Effectively Applied Tariffs by Morocco on imports from the EU and from the RoW by sectors

	Tariffs on imports from the EU in the year of entry into force of the AA*	Tariffs on imports from RoW in the year of entry into force of the AA*	Preferential margin for EU in the year of entry into force of the AA*	Tariffs on imports from the EU in last year of data availability**	Tariffs on imports from RoW in last year of data availability**	Preferential margin for EU in last year of data availability**
01-05_Animal	63.33	87.99	**24.66**	13.69	18.21	4.52
06-15_Vegetable	43.41	42.03	-1.38	4.54	12.75	**8.21**
16-24_Foodprod	46.54	45.68	-0.86	11.86	19.09	**7.23**

25-26_Minerals	23.24	21.04	-2.2	0	2.67	2.67
27-27_Fuels	21.67	22.26	0.59	0	1.66	1.66
28-38_Chemicals	25.77	28.09	2.32	0	4.08	4.08
39-40_PlasticRub	40.53	42.65	2.12	0.16	9.75	**9.59**
41-43_HidesSkin	43.86	44.3	0.44	0	13.82	**13.82**
44-49_Wood	43.16	42.77	-0.39	0.08	10.74	**10.66**
50-63_TextCloth	39.83	39.31	-0.52	0.04	11.8	**11.76**
64-67_FootWear	46.77	44.67	-2.1	0	13.36	**13.36**
68-71_StoneGlas	37.18	40.16	2.98	0	9	**9**
72-83_Metals	29.84	31.97	2.13	0.02	8.94	**8.92**
84-85_MachElec	13.82	15.07	1.25	0.17	4.19	4.02
86-89_Transport	24.62	28.2	3.58	0.98	7.9	**6.92**
90-99_Miscellan	20.86	21.81	0.95	0	5.72	5.72

Source: UN-Trains Database.
* 2000.
** 2017.
RoW includes all countries but EU member states and Morocco.

TABLE D.5.c Effectively Applied Tariffs by the ROW on imports from Morocco by sectors

	Tariffs on ROW imports from Morocco in the year of entry into force of the AA*	Tariffs on ROW import from Morocco in the last year available	Tariffs Change (in point of percentage)
01-05_Animal	11.81	5.88	-5.93
06-15_Vegetable	15.79	7.10	-8.69
16-24_Foodprod	36.28	10.56	-25.72
25-26_Minerals	6.47	1.98	-4.49
27-27_Fuels	12.31	3.54	-8.77
28-38_Chemicals	17.16	4.83	-12.33
39-40_PlasticRub	12.80	6.37	-6.43
41-43_HidesSkin	13.21	9.19	-4.02
44-49_Wood	11.91	4.41	-7.50
50-63_TextCloth	17.65	11.29	-6.36
64-67_FootWear	15.54	9.01	-6.53
68-71_StoneGlas	12.06	6.12	-5.94
72-83_Metals	12.91	6.68	-6.23
84-85_MachElec	7.31	3.87	-3.44
86-89_Transport	14.80	5.25	-9.55
90-99_Miscellan	10.84	6.16	-4.68

Source: UN-Trains Database.
* 2000.
** 2018.
RoW includes all countries but EU member states and Morocco.

Table D.6.a Effectively Applied Tariffs by the EU on imports from Tunisia and from the RoW by sectors

	Tariffs on EU imports from Tunisia in the year of entry into force of the AA*	Tariffs on EU imports from RoW in the year of entry into force of the AA*	Preferential margin for Tunisia in the year of entry into force of the AA*	Tariffs on EU imports from Tunisia in last year of data availability**	Tariffs on EU imports from RoW in last year of data availability**	Preferential margin for Tunisia in last year of data availability**
01-05_Animal	0.00	4.42	4.42	0.45	3.13	2.68
06-15_Vegetable	5.72	4.31	-1.41	4.59	1.92	-2.67
16-24_Foodprod	4.90	10.83	5.93	4.57	4.77	0.20
25-26_Minerals	0.00	0.09	0.09	0.00	0.06	0.06
27-27_Fuels	0.00	0.27	0.27	0.00	0.16	0.16
28-38_Chemicals	0.00	2.05	2.05	0.00	1.96	1.96
39-40_PlasticRub	0.00	2.76	2.76	0.00	2.14	2.14
41-43_HidesSkin	0.00	1.56	1.56	0.00	1.45	1.45
44-49_Wood	0.03	1.54	1.51	0.00	0.35	0.35
50-63_TextCloth	0.00	6.88	6.88	0.00	3.62	3.62
64-67_FootWear	0.00	4.80	4.80	0.00	3.07	3.07
68-71_StoneGlas	0.00	1.94	1.94	0.00	1.43	1.43
72-83_Metals	0.02	2.01	1.99	0.00	1.10	1.10
84-85_MachElec	0.00	1.44	1.44	0.00	0.80	0.80
86-89_Transport	0.00	2.94	2.94	0.00	1.98	1.98
90-99_Miscellan	0.00	1.40	1.40	0.00	0.81	0.81

Source: UN-Trains Database.
* 1996.
** 2018.
RoW includes all countries but EU member states and Tunisia.

Table D.6.b Effectively Applied Tariffs by Tunisia on imports from the EU and from the RoW by sectors

	Tariffs on imports from the EU in the year of entry into force of the AA*	Tariffs on imports from RoW in the year of entry into force of the AA*	Preferential margin for EU in the year of entry into force of the AA*	Tariffs on imports from the EU in last year of data availability**	Tariffs on imports from RoW in last year of data availability**	Preferential margin for EU in last year of data availability**
01-05_Animal	29.26	33.84	4.58	34.03	32.05	-1.98
06-15_Vegetable	28.98	33.47	4.49	31.64	28.65	-2.99
16-24_Foodprod	40.71	39.96	-0.75	35.55	35.11	-0.44
25-26_Minerals	20.21	19.02	-1.19	5.27	3.97	-1.30
27-27_Fuels	12.22	11.84	-0.38	0.67	1.42	0.75
28-38_Chemicals	22.04	22.70	0.66	3.21	3.45	0.24
39-40_PlasticRub	26.44	28.23	1.79	12.01	12.83	0.82
41-43_HidesSkin	35.32	34.28	-1.04	16.57	17.67	1.10
44-49_Wood	36.04	33.77	-2.27	13.72	13.53	-0.19
50-63_TextCloth	38.31	37.37	-0.94	14.50	15.48	0.98
64-67_FootWear	40.88	41.43	0.55	17.59	17.08	-0.51
68-71_StoneGlas	30.89	33.60	2.71	12.36	13.11	0.75
72-83_Metals	27.98	30.37	2.39	8.40	8.84	0.44
84-85_MachElec	26.87	27.76	0.89	5.42	5.83	0.41
86-89_Transport	31.93	32.21	0.28	12.26	13.10	0.84
90-99_Miscellan	28.05	29.68	1.63	6.94	6.73	-0.21

Source: UN-Trains Database.
* 1996.
** 2016.
RoW includes all countries but EU member states and Tunisia.

Table D.6.c Effectively Applied Tariffs by the ROW on imports from Tunisia by sectors

	Tariffs on ROW imports from Tunisia in the year of entry into force of the AA*	Tariffs on ROW import from Tunisia in the last year available	Tariffs Change (in point of percentage)
01-05_Animal	5.06	3.85	-1.21
06-15_Vegetable	8.38	5.96	-2.42
16-24_Foodprod	23.76	11.34	-12.42
25-26_Minerals	8.21	2.61	-5.60
27-27_Fuels	3.79	4.60	0.81
28-38_Chemicals	9.34	3.98	-5.36
39-40_PlasticRub	12.11	5.22	-6.89
41-43_HidesSkin	7.62	9.05	1.43
44-49_Wood	9.47	4.34	-5.13
50-63_TextCloth	13.48	10.76	-2.72
64-67_FootWear	10.24	8.59	-1.65
68-71_StoneGlas	12.27	5.24	-7.03
72-83_Metals	9.34	4.94	-4.40
84-85_MachElec	7.67	3.63	-4.04
86-89_Transport	24.48	4.52	-19.96
90-99_Miscellan	12.52	4.44	-8.08

Source: UN-Trains Database.
* 1996.
** 2018.
RoW includes all countries but EU member states and Tunisia.

Table D.7.a Changes in Algerian exports to the EU by sectors after the AA implementation (Average annual growth rates and Shares in exports)

	Average annual growth rates 1995-1999	Average annual growth rates 2000-2017	Difference in percentage points	Share in total exports in the AA implementation year*	Share in total exports to EU in last year of data availability**
01-05_Animal	21.3	57.7	**36.4**	0.05	0.03
06-15_Vegetable	54.7	7.5	-47.1	0.11	0.14
16-24_FoodProd	36.7	60.4	**23.7**	0.07	0.24
25-26_Minerals	1.5	31.7	30.2	0.04	0.19
27-27_Fuels	13.9	5.8	**-8.2**	**97.98**	**95.81**
28-38_Chemicals	16.4	21.0	4.5	**0.96**	**3.30**
39-40_PlastiRub	80.0	42.4	-37.5	0.02	0.00
41-43_HidesSkin	23.4	7.0	-16.5	0.06	0.05
44-49_Wood	20.1	4.9	-15.2	0.07	0.03
50-63_TextCloth	46.5	27.8	-18.7	0.01	0.01
64-67_Footwear	44.8	51769.7	51724.9	0.00	0.00

68-71_StoneGlas	112.7	311.2	198.5	0.00	0.04
72-83_Metals	15.8	2.4	-13.4	0.57	0.03
84-85_MachElec	33.5	129.2	95.8	0.05	0.10
86-89_Transport	301.1	478.2	177.2	0.00	0.00
90-99_Miscellan	65.9	13.0	-53.0	0.01	0.00

Source: UN-COMTRADE Database.
* Average over the year of implementation and the two previous years (2003-2004-2005).
** Average over the three more recent years where data is available (2015-2016-2017).

Table D.7.b Changes in Algerian imports from the EU by sectors after the AA implementation (Average annual growth rates and Shares in exports)

	Average annual growth rates 1995-1999	Average annual growth rates 2000-2017	Difference in percentage points in the AA implementation year (2005)	Share in total imports in the AA implementation year*	Share in total imports from EU in last year of data availability**
01-05_Animal	9.05	10.46	1.41	4.98	3.25
06-15_Vegetable	1.48	9.98	8.51	7.43	7.65
16-24_FoodProd	0.38	11.60	11.22	2.43	4.13
25-26_Minerals	-1.16	16.42	17.58	0.67	1.11
27-27_Fuels	15.48	41.33	**25.85**	**0.95**	**6.40**
28-38_Chemicals	6.99	7.22	0.23	12.72	13.13
39-40_PlastiRub	7.60	7.76	0.16	3.97	4.60
41-43_HidesSkin	-1.79	14.77	16.56	0.03	0.04
44-49_Wood	6.05	7.00	0.95	4.88	4.98
50-63_TextCloth	-3.29	5.30	8.59	0.92	0.81
64-67_Footwear	8.80	17.18	8.38	0.07	0.09
68-71_StoneGlas	8.72	12.37	3.66	1.38	1.74
72-83_Metals	3.83	13.15	9.32	**9.14**	**14.40**
84-85_MachElec	10.60	3.70	**-6.91**	**34.60**	**23.89**
86-89_Transport	19.54	9.91	**-9.63**	12.06	11.32
90-99_Miscellan	10.92	4.28	**-6.64**	3.75	2.47

Source: UN-Trains Database.
* Average over the year of implementation and the two previous years (2003-2004-2005).
** Average over the three more recent years where data is available (2015-2016-2017).

Table D.8.a Changes in Egyptian exports to the EU by sectors after the AA implementation (Average annual growth rates and Shares in exports)

	Average annual growth rates 1995-1999	Average annual growth rates 2000-2017	Difference in percentage points	Share in total exports in the AA implementation year*	Share in total exports to EU in last year of data availability**
01-05_Animal	-5.67	37.24	42.91	0.10	0.24
06-15_Vegetable	12.23	16.30	4.06	**7.51**	**11.22**
16-24_FoodProd	20.39	16.80	-3.59	1.42	1.70
25-26_Minerals	63.91	5.88	-58.03	3.63	0.87
27-27_Fuels	14.45	12.06	-2.39	**45.80**	**27.32**
28-38_Chemicals	10.39	130.54	**120.15**	**4.69**	**12.87**
39-40_PlastiRub	49.94	18.07	**-31.87**	**4.08**	**7.88**
41-43_HidesSkin	14.54	13.71	-0.83	1.08	1.07
44-49_Wood	47.16	42.19	-4.97	0.21	0.87
50-63_TextCloth	-5.21	14.49	19.69	**16.98**	**13.30**
64-67_Footwear	104.25	92.21	-12.04	0.01	0.05
68-71_StoneGlas	133.05	20.67	-112.38	2.04	3.04
72-83_Metals	3.71	20.81	17.11	**11.67**	**9.06**
84-85_MachElec	18.93	275.62	**256.69**	**0.30**	**8.41**
86-89_Transport	1247.07	72.58	-1174.49	0.07	0.99
90-99_Miscellan	37.33	28.26	-9.07	0.43	1.08

Source: UN-Trains Database.
* Average over the year of implementation and the two previous years (2002-2003-2004).
** Average over the three more recent years where data is available (2016-2017-2018).

Table D.8.b Changes in Egyptian imports from the EU by sectors after the AA implementation (Average annual growth rates and Shares in exports)

	Average annual growth rates 1995-1999	Average annual growth rates 2000-2017	Difference in percentage points in the AA implementation year (2005)	Share in total imports in the AA implementation year*	Share in total imports from EU in last year of data availability**

01-05_Animal	-9.18	16.38	25.56	3.60	2.37
06-15_Vegetable	11.35	11.42	0.07	**7.30**	**4.92**
16-24_FoodProd	-3.59	18.31	21.90	3.17	3.53
25-26_Minerals	3.21	43.15	39.94	0.63	0.88
27-27_Fuels	13.27	60.46	**47.18**	**1.18**	**11.34**
28-38_Chemicals	1.75	15.71	13.96	17.28	15.51
39-40_PlastiRub	-3.85	18.73	22.58	5.13	4.85
41-43_HidesSkin	5.69	52.13	**46.45**	0.03	0.05
44-49_Wood	-1.90	13.96	15.86	**10.74**	**6.94**
50-63_TextCloth	-5.86	29.44	**35.30**	2.01	1.64
64-67_Footwear	-1.46	40.65	**42.11**	0.06	0.08
68-71_StoneGlas	0.44	13.78	13.34	1.80	0.75
72-83_Metals	-0.12	26.69	26.81	10.78	12.76
84-85_MachElec	-1.04	14.17	15.21	**28.76**	**21.54**
86-89_Transport	-5.20	29.30	34.50	**3.22**	**9.79**
90-99_Miscellan	1.32	17.75	16.43	4.33	3.05

Source: UN-Trains Database.
* Average over the year of implementation and the two previous years (2002-2003-2004).
** Average over the three more recent years where data is available (2016-2017-2018).

Table D.9.a Changes in Jordanian exports to the EU by sectors after the AA implementation (Average annual growth rates and Shares in exports)

	Average annual growth rates 1995-1999	Average annual growth rates 2000-2017	Difference in percentage points	Share in total exports in the AA implementation year*	Share in total exports to EU in last year of data availability**
01-05_Animal	122.65	-40.94	-163.60	0.03	0.03
06-15_Vegetable	39.71	21.17	-18.54	**4.95**	**11.23**
16-24_FoodProd	37.00	37.02	0.01	**0.97**	**10.43**
25-26_Minerals	15.35	100.37	85.02	**17.14**	**2.34**
27-27_Fuels		299.22	299.22	0.00	0.00
28-38_Chemicals	32.45	13.66	-18.79	**41.94**	**22.97**
39-40_PlastiRub	36.37	28.41	-7.96	1.42	1.52
41-43_HidesSkin	-0.66	**390.23**	390.89	0.45	0.30
44-49_Wood	26.14	-1.42	-27.56	**9.93**	**0.11**
50-63_TextCloth	-0.37	23.33	23.70	**11.98**	**26.31**
64-67_Footwear	-1.22	54.20	55.42	0.06	0.00
68-71_StoneGlas	245.21	**135.11**	-110.10	**1.09**	**11.89**
72-83_Metals	55.41	28.71	-26.70	7.20	10.60
84-85_MachElec	30.30	40.30	9.99	2.17	1.30
86-89_Transport	1178.64	89.21	-1089.43	0.05	0.14
90-99_Miscellan	19.56	18.70	-0.86	0.62	0.83

Source: UN-Trains Database.
* Average over the year of implementation and the two previous years (2000-2001-2002).
** Average over the three more recent years where data is available (2015-2016-2017).

Table D.9.b Changes in Jordanian imports from the EU by sectors after the AA implementation (Average annual growth rates and Shares in exports)

	Average annual growth rates 1995-1999	Average annual growth rates 2000-2017	Difference in percentage points in the AA implementation year (2005)	Share in total imports in the AA implementation year*	Share in total imports from EU in last year of data availability**
01-05_Animal	-4.78	13.68	18.46	**4.70**	**6.18**
06-15_Vegetable	15.15	32.44	17.30	**3.25**	**9.43**
16-24_FoodProd	-5.00	12.39	17.39	**5.20**	**7.80**
25-26_Minerals	10.29	1.50	-8.79	0.54	0.20
27-27_Fuels	19.95	93.68	**73.74**	**1.75**	**9.33**
28-38_Chemicals	9.75	7.50	-2.25	13.28	13.93
39-40_PlastiRub	1.36	5.21	3.85	3.14	2.47
41-43_HidesSkin	-7.30	26.39	**33.69**	0.02	0.08
44-49_Wood	13.74	5.37	-8.38	5.73	4.13
50-63_TextCloth	4.59	2.25	-2.34	2.90	1.42
64-67_Footwear	-5.34	7.92	13.26	0.16	0.12
68-71_StoneGlas	-2.05	19.60	**21.65**	**1.74**	**5.92**
72-83_Metals	0.28	8.01	7.73	5.61	3.59
84-85_MachElec	1.67	9.32	7.64	**24.87**	**18.44**
86-89_Transport	12.87	5.20	-7.67	**20.84**	**10.96**
90-99_Miscellan	3.24	13.24	10.00	**3.46**	**6.00**

Source: UN-Trains Database.
* Average over the year of implementation and the two previous years (2000-2001-2002).
** Average over the three more recent years where data is available (2015-2016-2017).

Table D.10.a Changes in Lebanese exports to the EU by sectors after the AA implementation (Average annual growth rates and Shares in exports)

	Average annual growth rates 1995-1999	Average annual growth rates 2000-2017	Difference in percentage points	Share in total exports in the AA implementation year*	Share in total exports to EU in last year of data availability**
01-05_Animal	-1.16	12.83	13.99	1.71	0.84
06-15_Vegetable	14.71	15.23	0.52	**2.33**	**7.33**
16-24_FoodProd	18.93	6.03	-12.90	**14.20**	**21.54**
25-26_Minerals	222.45	6.27	**-216.19**	**7.47**	**0.36**
27-27_Fuels	120.74	49.66	-71.08	0.02	0.04
28-38_Chemicals	1.64	21.42	19.78	14.17	15.09
39-40_PlastiRub	28.80	6.75	-22.04	**1.29**	**4.01**
41-43_HidesSkin	-10.86	21.68	32.54	0.68	0.98
44-49_Wood	11.50	7.18	-4.32	**8.49**	**3.15**
50-63_TextCloth	3.49	3.46	-0.03	**10.71**	**5.06**
64-67_Footwear	38.38	-8.29	-46.67	0.47	0.14
68-71_StoneGlas	14.72	7.35	-7.37	**15.39**	**6.41**
72-83_Metals	10.33	11.51	1.19	**11.89**	**21.38**
84-85_MachElec	3.86	12.41	8.56	7.02	9.27
86-89_Transport	4.37	**74.91**	70.54	1.11	1.39
90-99_Miscellan	10.09	16.40	6.30	2.94	3.02

Source: UN-Trains Database.
* Average over the year of implementation and the two previous years (2001-2002-2003).
** Average over the three more recent years where data is available (2016-2017-2018).

Table D.10.b Changes in Lebanese imports from the EU by sectors after the AA implementation (Average annual growth rates and Shares in exports)

	Average annual growth rates 1995-1999	Average annual growth rates 2000-2017	Difference in percentage points	Share in total imports in the AA implementation year*	Share in total imports from EU in last year of data availability**
01-05_Animal	-4.53	8.20	12.73	**7.93**	**4.04**
06-15_Vegetable	-4.04	9.76	13.81	1.94	1.21
16-24_FoodProd	0.85	7.84	7.00	7.52	5.15
25-26_Minerals	-16.55	3.51	20.05	0.52	0.19
27-27_Fuels	24.70	11.27	-13.43	**11.66**	**21.92**
28-38_Chemicals	3.06	**377.68**	**374.62**	**13.68**	**35.38**
39-40_PlastiRub	-1.17	70.69	**71.86**	3.36	2.14
41-43_HidesSkin	4.19	4.33	0.14	0.53	0.27
44-49_Wood	3.75	44.69	40.94	5.49	2.95
50-63_TextCloth	-2.76	6.86	9.63	**6.11**	**1.67**
64-67_Footwear	-3.00	5.01	8.01	0.84	0.39
68-71_StoneGlas	-3.43	97.60	101.02	4.29	5.38
72-83_Metals	-6.00	51.07	57.07	5.00	2.54
84-85_MachElec	-3.32	34.20	37.52	**13.86**	**7.96**
86-89_Transport	2.49	9.68	**7.20**	**13.06**	**6.31**
90-99_Miscellan	-2.02	12.40	14.42	4.20	2.50

Source: UN-Trains Database.
* Average over the year of implementation and the two previous years (2001-2002-2003).
** Average over the three more recent years where data is available (2016-2017-2018).

Table D.11.a Changes in Moroccan exports to the EU by sectors after the AA implementation (Average annual growth rates and Shares in exports)

	Average annual growth rates 1995-1999	Average annual growth rates 2000-2017	Difference in percentage points	Share in total exports in the AA implementation year*	Share in total exports to EU in last year of data availability**
01-05_Animal	7.23	5.95	-1.28	6.64	5.25
06-15_Vegetable	10.61	9.47	-1.13	7.98	10.90
16-24_FoodProd	0.72	10.18	**9.46**	4.36	5.00
25-26_Minerals	5.63	9.63	4.00	5.24	2.24
27-27_Fuels	63.80	2.52	-61.28	2.22	0.35

28-38_Chemicals	-0.90	10.24	11.14	5.77	6.01
39-40_PlastiRub	19.96	14.39	-5.58	0.49	0.90
41-43_HidesSkin	-5.83	6.27	12.10	1.01	0.67
44-49_Wood	6.11	2.28	-3.83	1.57	0.49
50-63_TextCloth	46.09	2.30	-43.78	**44.54**	**21.68**
64-67_Footwear	33.60	4.39	-29.21	2.57	1.77
68-71_StoneGlas	16.47	9.10	-7.36	1.20	0.71
72-83_Metals	12.38	11.75	-0.64	1.85	1.68
84-85_MachElec	103.53	10.81	-92.71	**12.58**	**22.76**
86-89_Transport	45.04	36.17	-8.88	**0.66**	**18.54**
90-99_Miscellan	54.17	7.46	-46.71	1.33	1.03

Source: UN-Trains Database.
* Average over the year of implementation and the two previous years (1998-1999-2000).
** Average over the three more recent years where data is available (2015-2016-2017).

Table D.11.b Changes in Moroccan imports from the EU by sectors after the AA implementation (Average annual growth rates and Shares in exports)

	Average annual growth rates 1995-1999	Average annual growth rates 2000-2017	Difference in percentage points	Share in total imports in the AA implementation year*	Share in total imports from EU in last year of data availability**
01-05_Animal	-4.63	11.23	15.85	1.15	1.37
06-15_Vegetable	37.18	12.81	-24.36	6.56	4.98
16-24_FoodProd	8.05	10.88	2.83	1.17	1.83
25-26_Minerals	2.49	13.02	10.54	0.93	0.58
27-27_Fuels	4.03	22.14	**18.11**	**3.62**	**12.18**
28-38_Chemicals	2.38	7.97	**5.58**	8.45	8.37
39-40_PlastiRub	5.09	9.24	4.16	4.67	5.59
41-43_HidesSkin	35.37	6.74	-28.63	0.95	0.75
44-49_Wood	4.47	7.11	2.64	4.64	4.15
50-63_TextCloth	55.90	0.89	-55.01	**22.00**	**6.72**
64-67_Footwear	34.24	6.35	-27.89	0.43	0.33
68-71_StoneGlas	2.07	12.05	9.98	1.03	1.99
72-83_Metals	-6.79	11.72	18.51	**6.82**	**9.69**
84-85_MachElec	14.74	8.01	-6.73	**27.65**	**22.27**
86-89_Transport	13.50	14.50	1.00	**6.65**	**15.97**
90-99_Miscellan	17.27	9.01	-8.27	3.29	3.22

* Average over the year of implementation and the two previous years (1998-1999-2000).
** Average over the three more recent years where data is available (2015-2016-2017).

Table D.12.a Changes in Tunisian exports to the EU by sectors after the AA implementation (Average annual growth rates and Shares in exports)

	Average annual growth rates 1995-1999	Average annual growth rates 2000-2017	Difference in percentage points	Share in total exports in the AA implementation year*	Share in total exports to EU in last year of data availability**
01-05_Animal	1.28	4.09	2.81	1.85	1.30
06-15_Vegetable	-6.37	18.69	25.05	6.84	5.60
16-24_FoodProd	15.27	8.70	-6.57	0.39	0.75
25-26_Minerals	21.17	2.58	-18.60	1.32	0.20
27-27_Fuels	2.42	5.23	2.81	**10.62**	**6.30**
28-38_Chemicals	14.04	2.28	-11.75	**5.64**	**1.98**
39-40_PlastiRub	6.43	15.36	8.92	0.42	2.61
41-43_HidesSkin	15.22	5.39	-9.83	0.93	1.03
44-49_Wood	7.11	8.87	1.76	0.40	0.64
50-63_TextCloth	14.60	0.64	-13.96	**53.25**	**23.45**
64-67_Footwear	20.75	2.52	-18.24	4.59	3.14
68-71_StoneGlas	12.17	6.34	-5.83	0.46	0.62
72-83_Metals	12.38	13.99	1.61	2.54	3.05
84-85_MachElec	15.18	11.97	-3.21	**9.26**	**36.25**
86-89_Transport	1.18	20.48	19.30	**0.44**	**6.67**
90-99_Miscellan	3.92	15.10	11.18	**1.03**	**6.39**

Source: UN-Trains Database.
* Average over the year of implementation and the two previous years (1994-1995-1996).
** Average over the three more recent years where data is available (2015-2016-2017).

Table D.12.b Changes in Tunisian imports from the EU by sectors after the AA implementation (Average annual growth rates and Shares in exports)

	Average annual growth rates 1995-1999	Average annual growth rates 2000-2017	Difference in percentage points	Share in total imports in the AA implementation year*	Share in total imports from EU in last year of data availability**
01-05_Animal	1.49	8.09	6.60	0.98	0.64
06-15_Vegetable	35.10	13.86	-21.23	3.77	3.62
16-24_FoodProd	13.45	5.88	-7.57	1.58	1.61
25-26_Minerals	-0.56	6.34	6.90	1.10	0.34
27-27_Fuels	4.68	12.82	8.14	**4.45**	**9.32**
28-38_Chemicals	6.38	4.77	-1.60	7.18	9.21
39-40_PlastiRub	8.52	6.55	-1.98	**4.33**	**7.33**
41-43_HidesSkin	18.48	3.55	**-14.93**	1.81	2.02
44-49_Wood	8.94	4.15	-4.79	3.56	3.80
50-63_TextCloth	12.38	-0.71	-13.09	**29.61**	**11.50**
64-67_Footwear	20.29	5.04	**-15.25**	0.59	0.87
68-71_StoneGlas	9.25	4.41	-4.84	1.19	1.11
72-83_Metals	11.71	6.61	-5.09	**6.73**	**9.53**
84-85_MachElec	5.27	4.28	-0.98	21.19	23.91
86-89_Transport	13.25	5.96	-7.29	**8.58**	**11.61**
90-99_Miscellan	8.90	4.26	-4.64	3.34	3.59

Source: UN-Trains Database.

* Average over the year of implementation and the two previous years (1994-1995-1996).

** Average over the three more recent years where data is available (2015-2016-2017).

Table D.13 Sectoral Aggregation of the CGE model

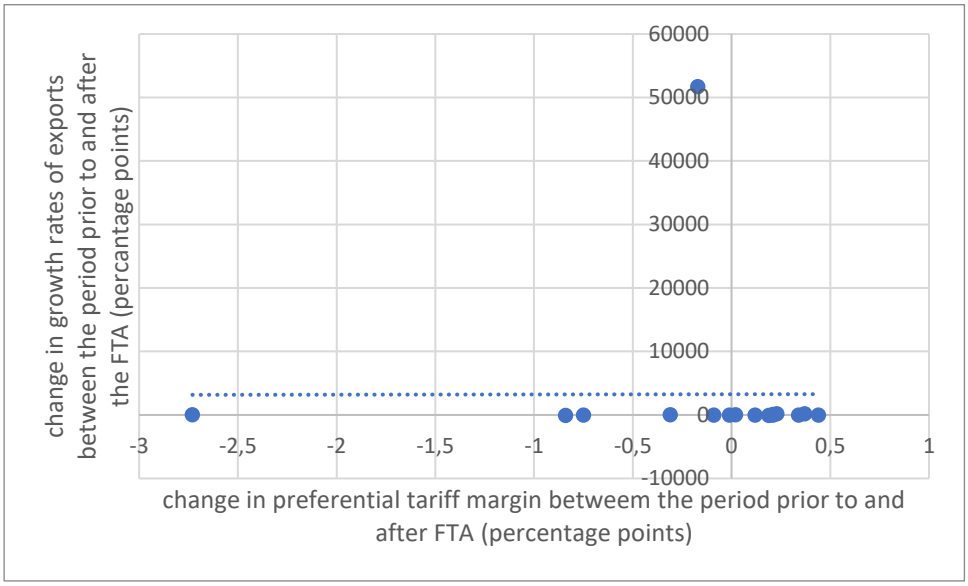
CGE sector	GTAP sector codes
Live ruminants and horses	ctl
Red Meat	cmt
White Meat	omt
Dairy products	rmk, mil
Vegetables, fruit and nuts	v_f
Vegetable oils	vol
Wheat	wht
Other Cereals	pdr, gro, pcr
Processed food	ofd
Beverages and tobacco	b_t
Other agri-food products	osd, c_b, pfb, ocr, oap, wol, sgr
Fishery and forestry	frs, fsh
Fossil fuels	coa, oil, gas, p_c
Minerals	omn, nmm
Chemical, rubber and plastic products	crp
Textiles	tex
Wearing apparel	wap
Leather products	lea
Metals and metal products	i_s, nfm, fmp
Electronic equipment	ele
Motor vehicles and parts	mvh
Other transport equipment	otn
Other Machinery and equipment	ome
Other manufactures	lum, ppp, omf, ely, gdt
Transport services	otp, wtp, atp
Other services	wtr, cns, trd, cmn, ofi, isr, obs, ros, osg, dwe

Source: compilation by the Directorate General for Trade, European Commission.

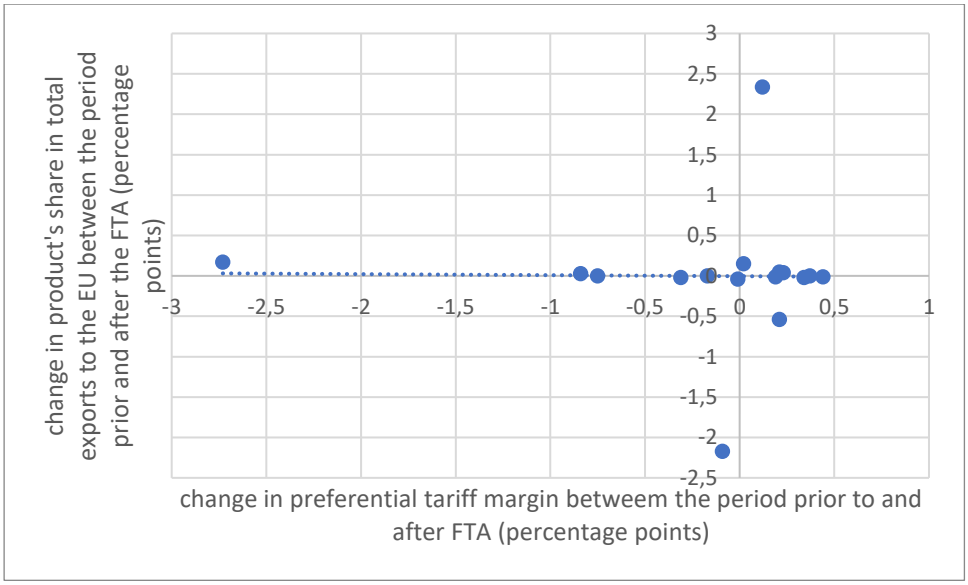
D.3 Annex Figures Accompanying Chapter 3. Economic Analysis

Figure D.1 Algeria: Correlation of preferential tariff margin changes in the EU market with changes in exports to the EU

Panel A. Changes in average growth rates of exports to the EU



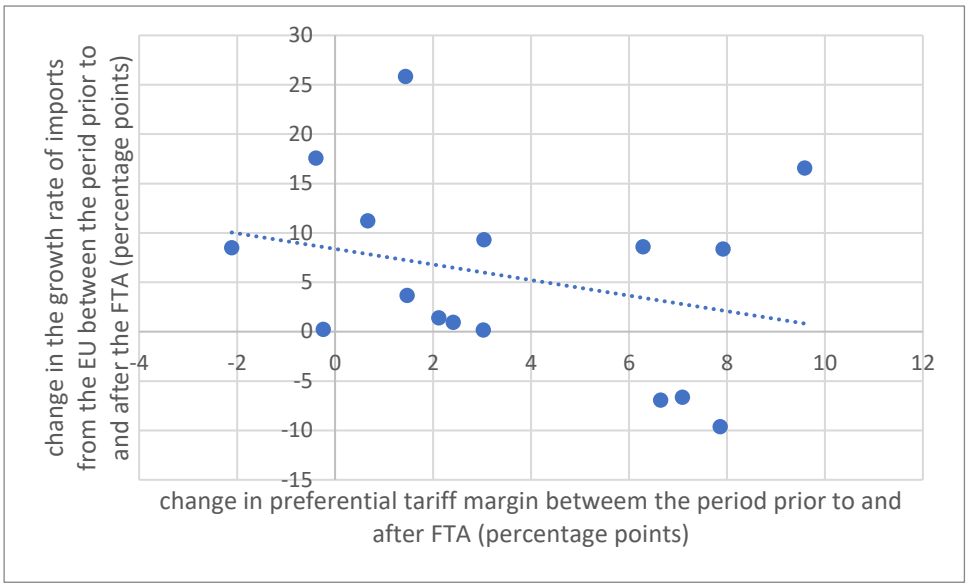
Panel B. Changes in shares of specific products in SMCs' overall exports to the EU



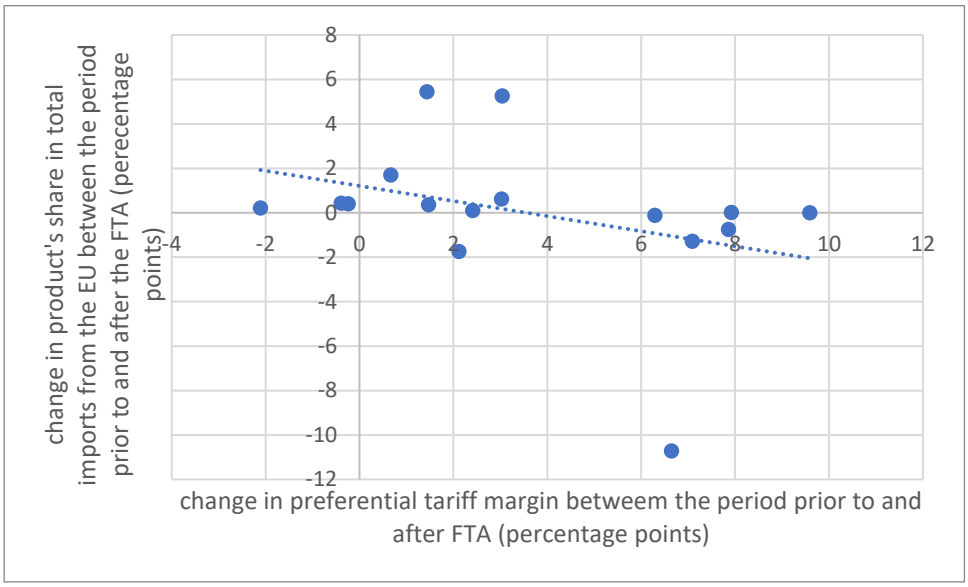
Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure D.2 Algeria: Correlation of preferential tariff margin changes in SMC markets with changes in imports from the EU

Panel A. Changes in average growth rates of imports from the EU



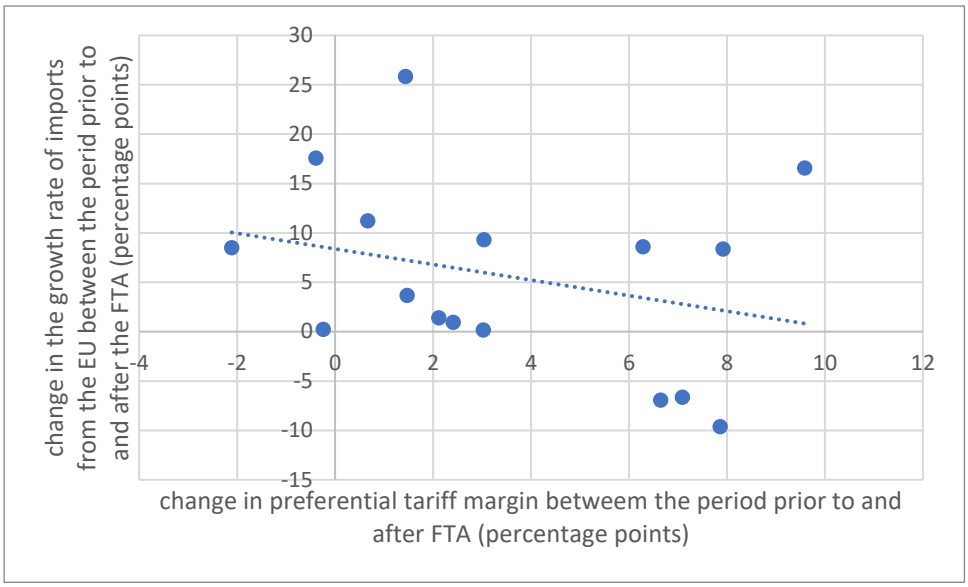
Panel B. Changes in shares of specific products in SMCs' overall imports from the EU



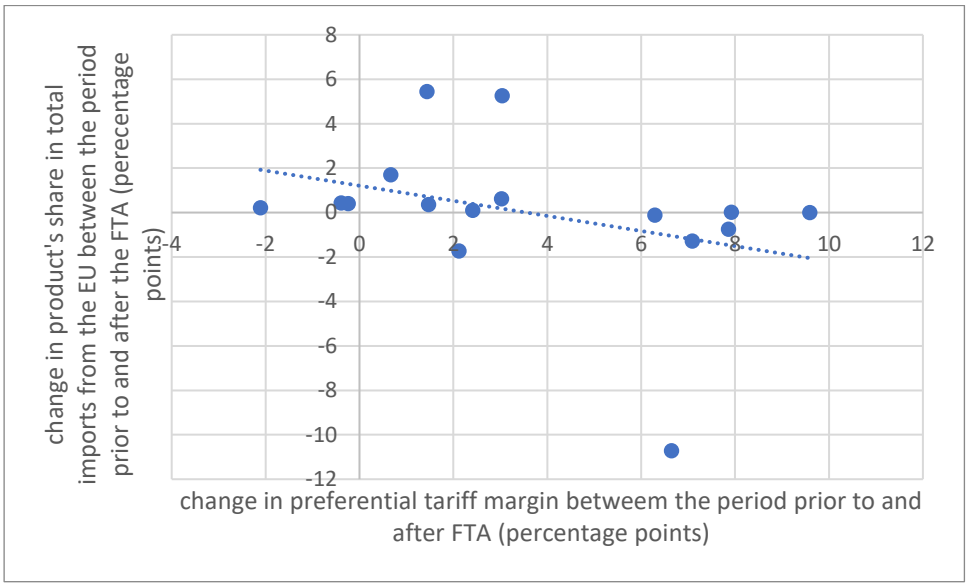
Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure D.2 Algeria: Correlation of preferential tariff margin changes in SMC markets with changes in imports from the EU

Panel A. Changes in average growth rates of imports from the EU



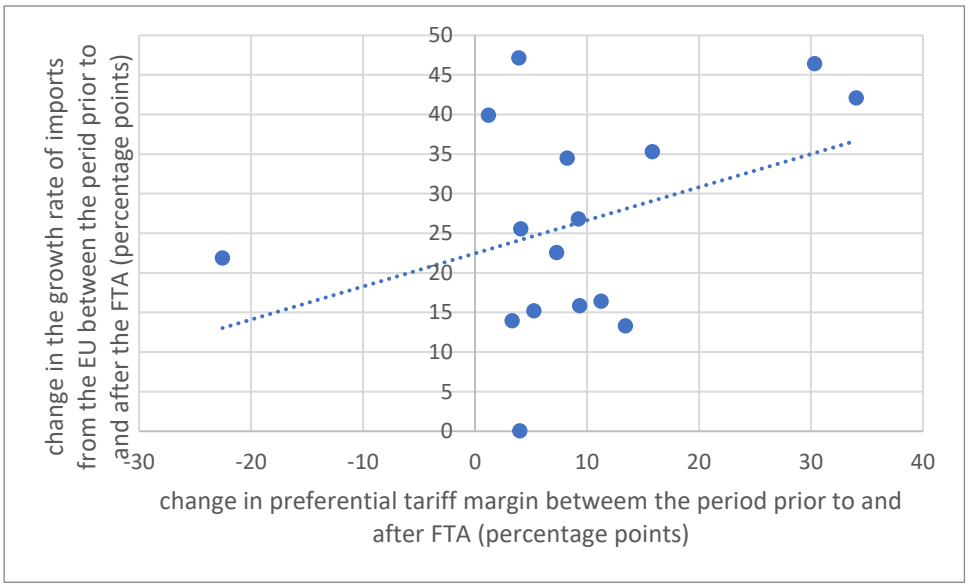
Panel B. Changes in shares of specific products in SMCs' overall imports from the EU



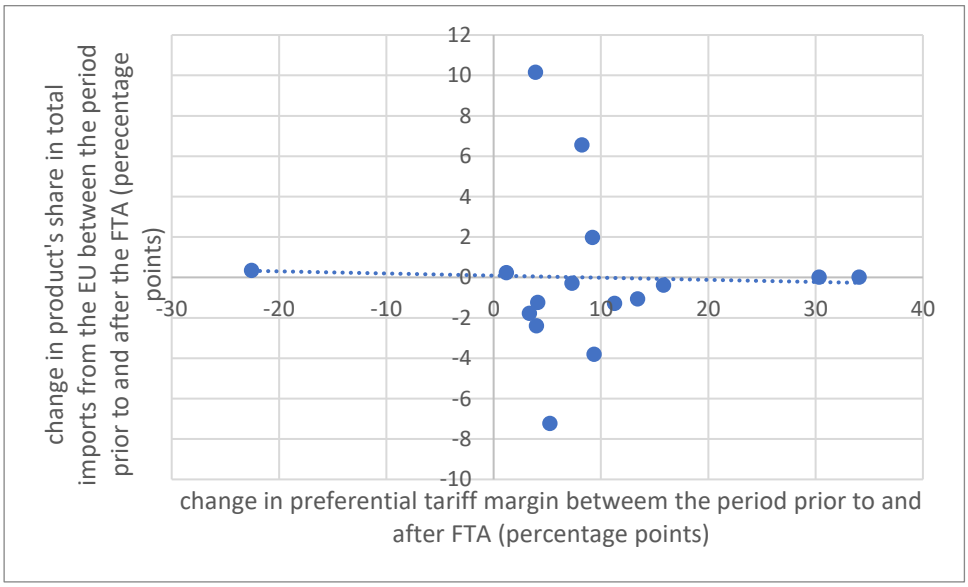
Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure D.4 Egypt: Correlation of preferential tariff margin changes in SMC markets with changes in imports from the EU

Panel A. Changes in average growth rates of imports from the EU



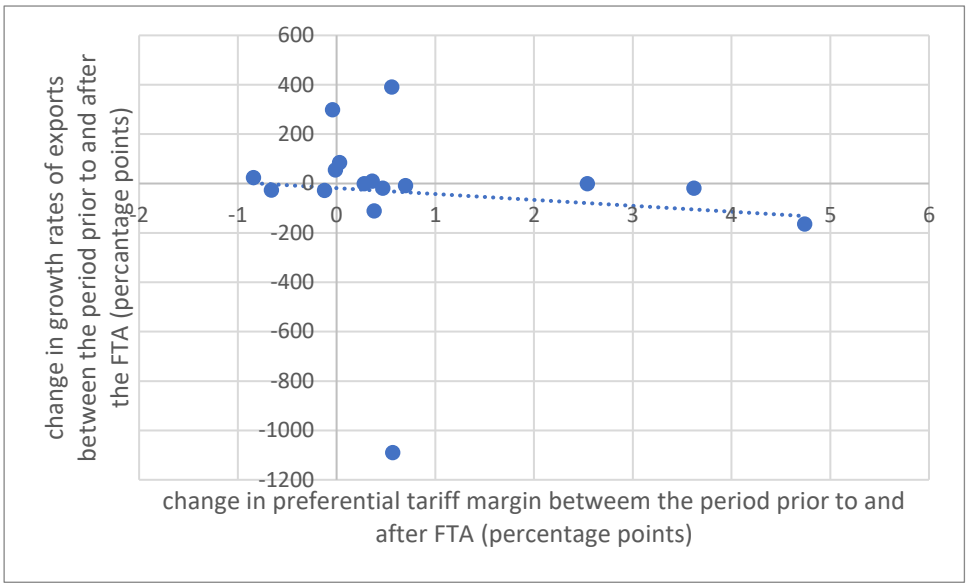
Panel B. Changes in shares of specific products in SMCs' overall imports from the EU



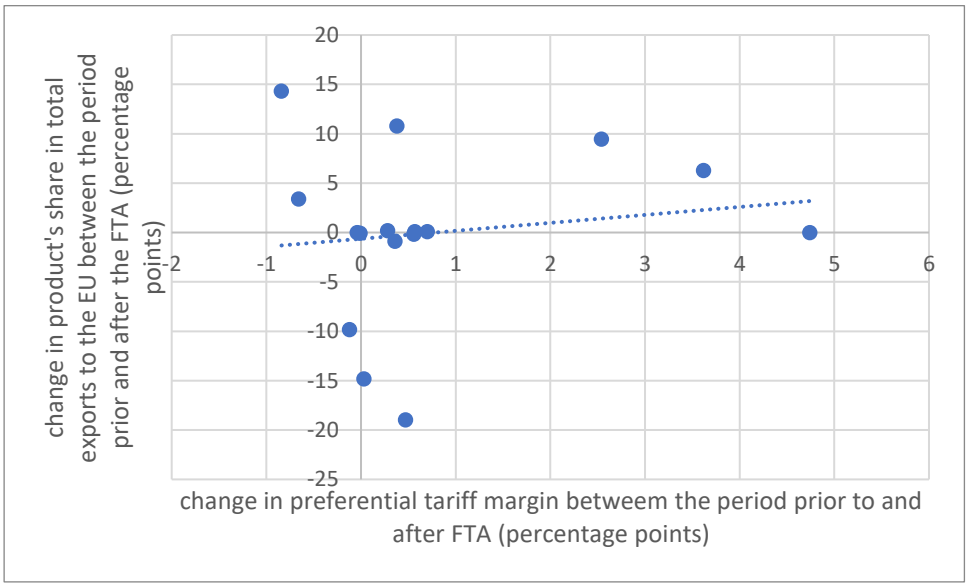
Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure D.5 Jordan: Correlation of preferential tariff margin changes in the EU market with changes in exports to the EU

Panel A. Changes in average growth rates of exports to the EU



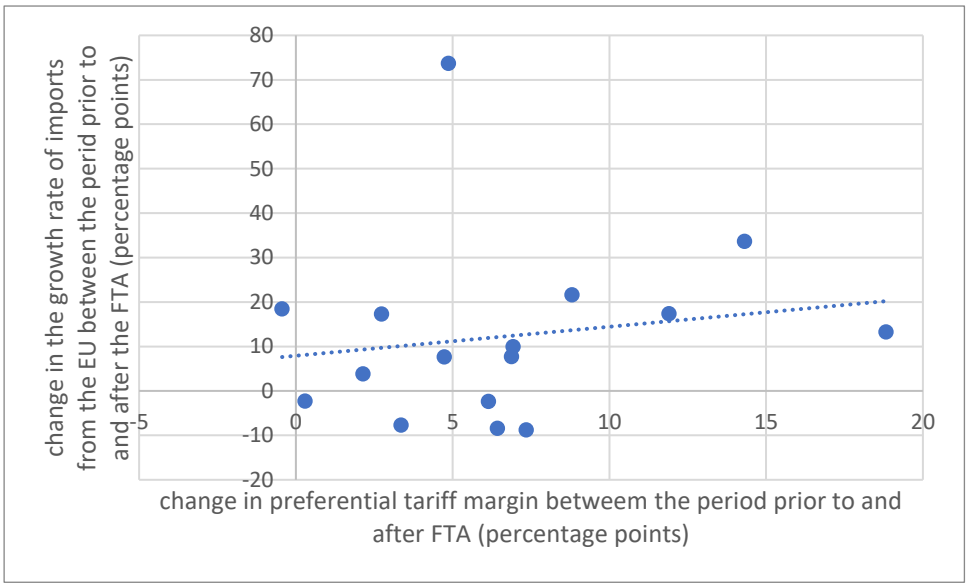
Panel B. Changes in shares of specific products in SMCs' overall exports to the EU



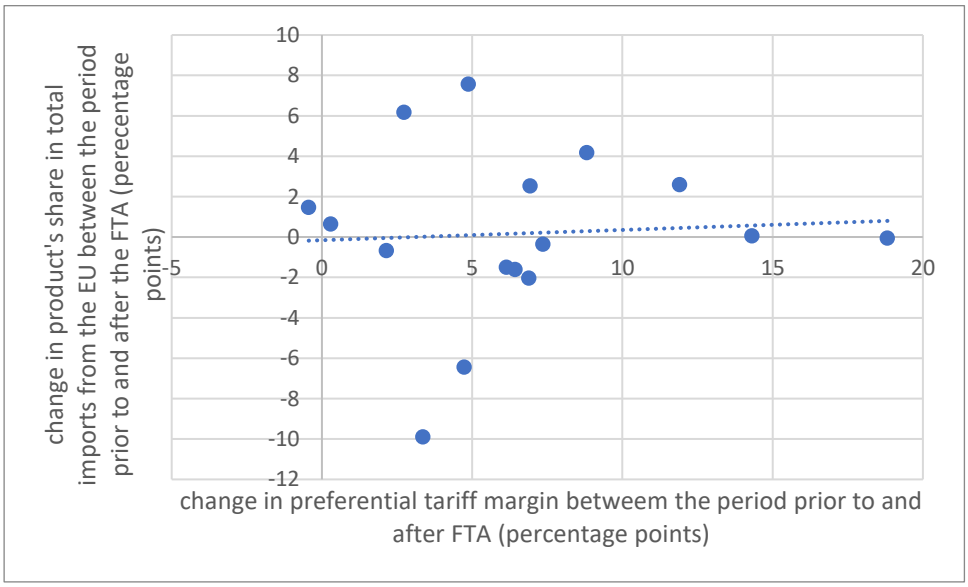
Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure D.6 Jordan: Correlation of preferential tariff margin changes in SMC markets with changes in imports from the EU

Panel A. Changes in average growth rates of imports from the EU



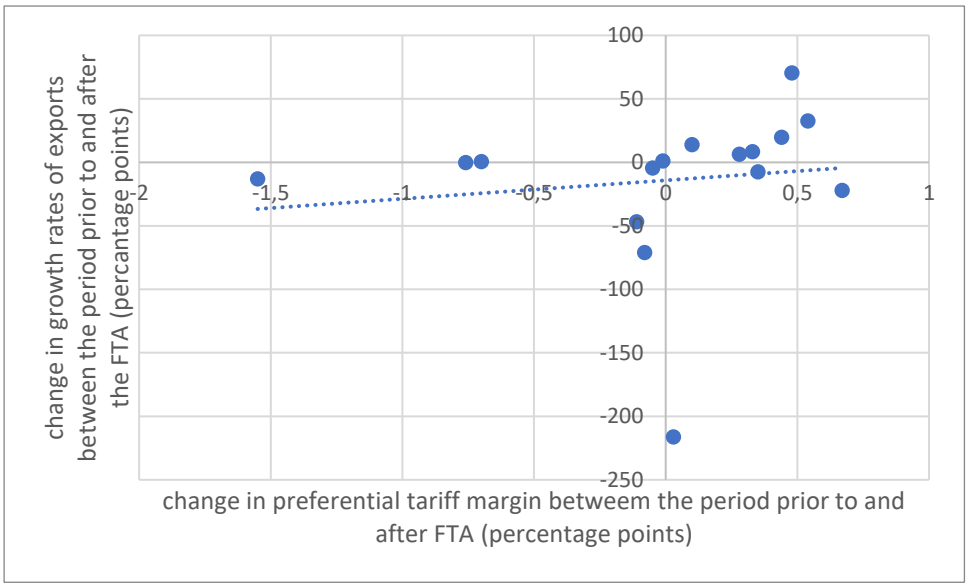
Panel B. Changes in shares of specific products in SMCs' overall imports from the EU



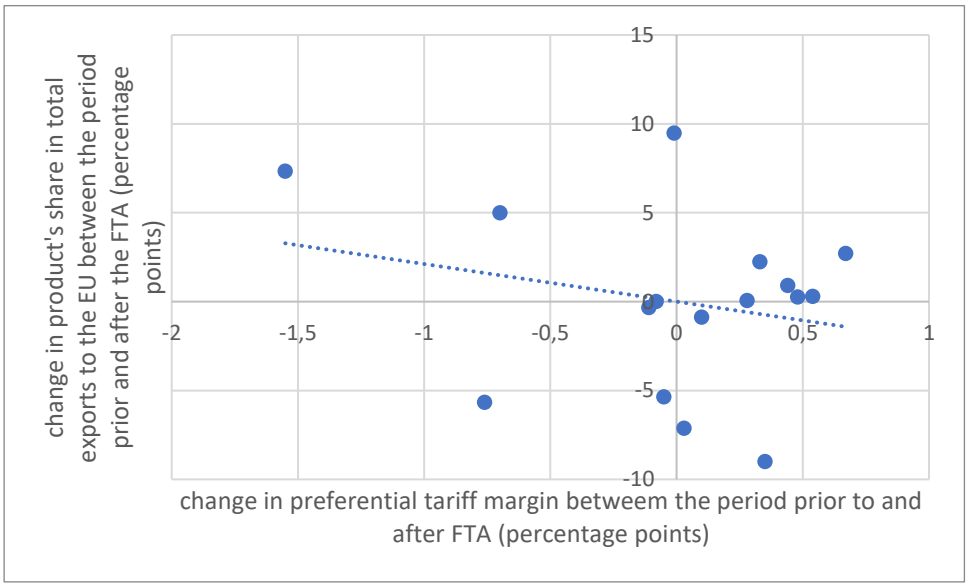
Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure D.7 Lebanon: Correlation of preferential tariff margin changes in the EU market with changes in exports to the EU

Panel A. Changes in average growth rates of exports to the EU



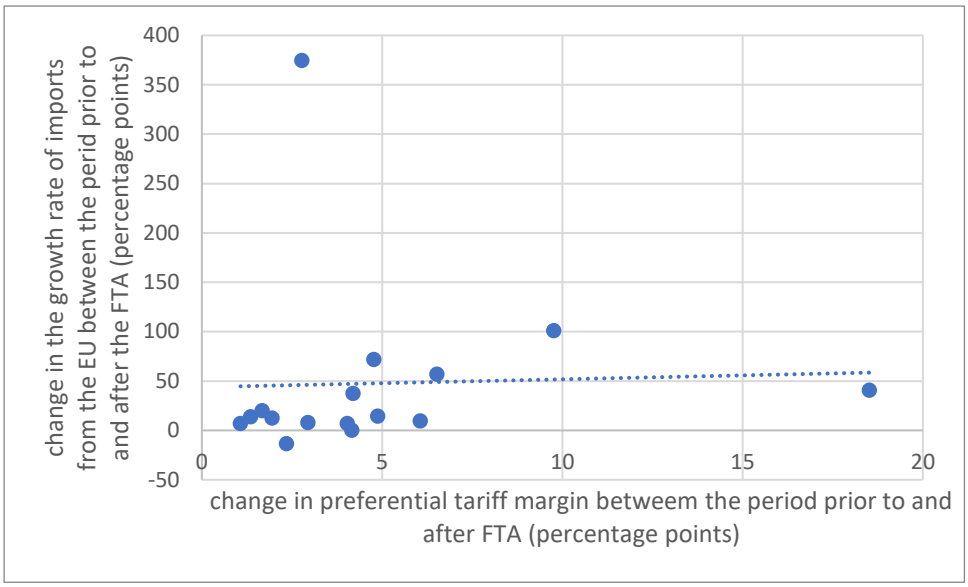
Panel B. Changes in shares of specific products in SMCs' overall exports to the EU



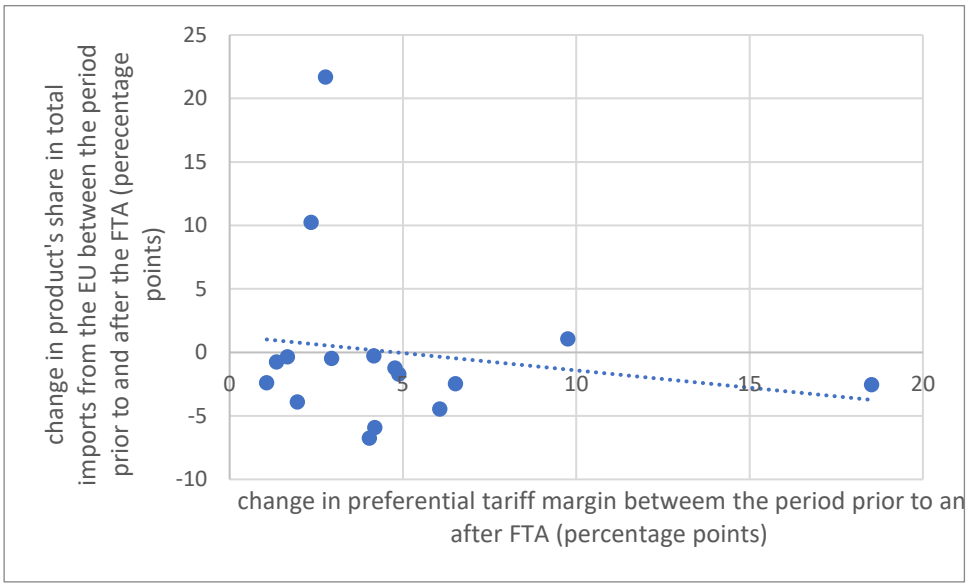
Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure D.8 Lebanon: Correlation of preferential tariff margin changes in SMC markets with changes in imports from the EU

Panel A. Changes in average growth rates of imports from the EU



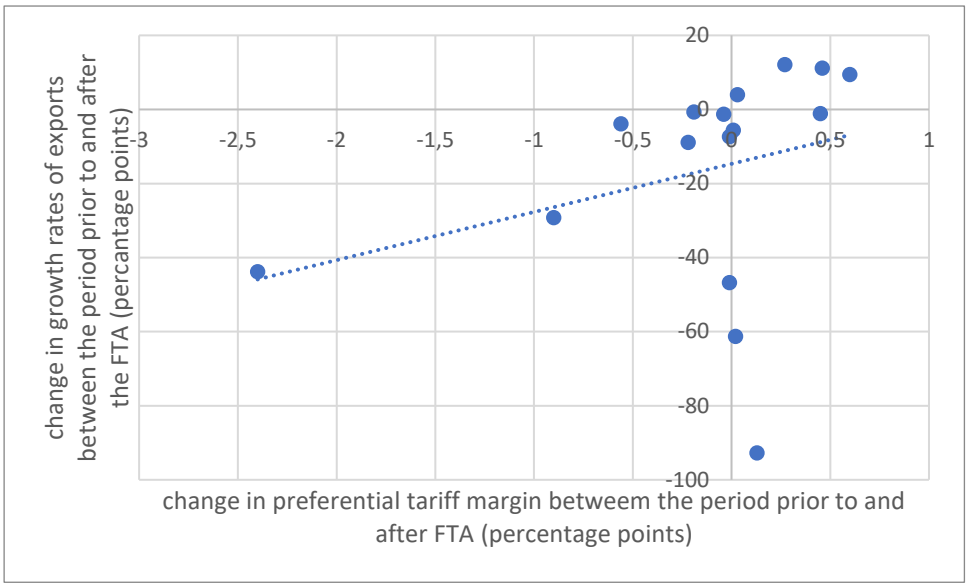
Panel B. Changes in shares of specific products in SMCs' overall imports from the EU



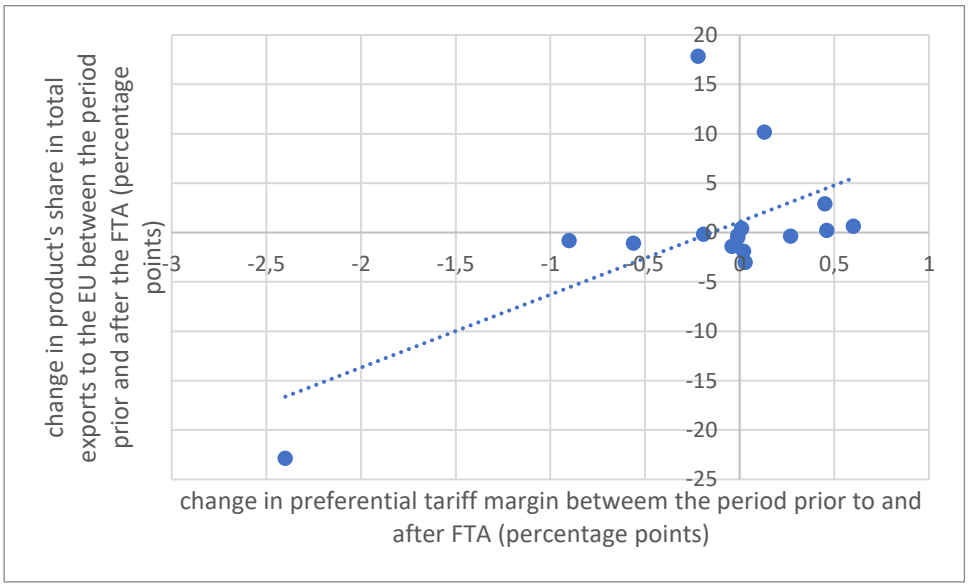
Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure D.9 Morocco: Correlation of preferential tariff margin changes in the EU market with changes in exports to the EU

Panel A. Changes in average growth rates of exports to the EU



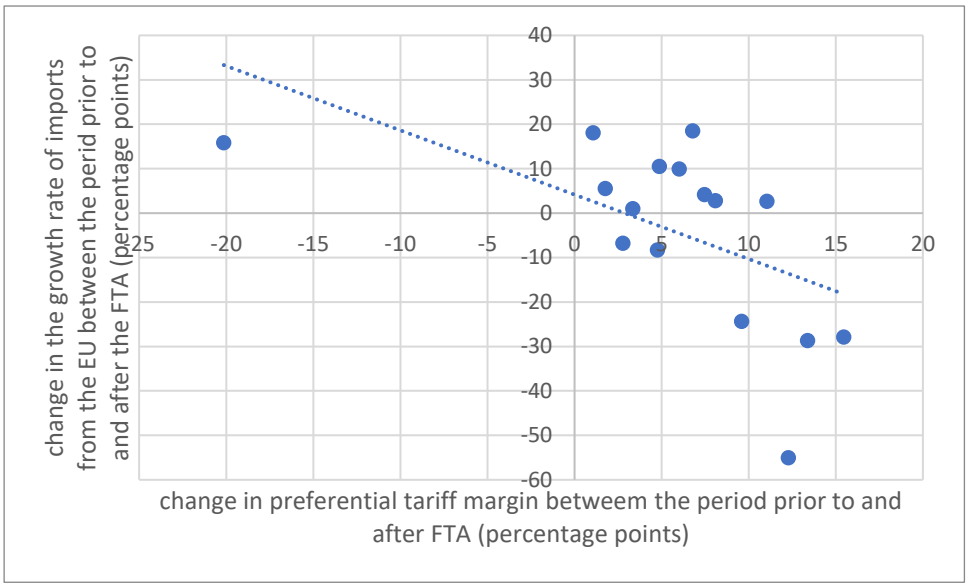
Panel B. Changes in shares of specific products in SMCs' overall exports to the EU



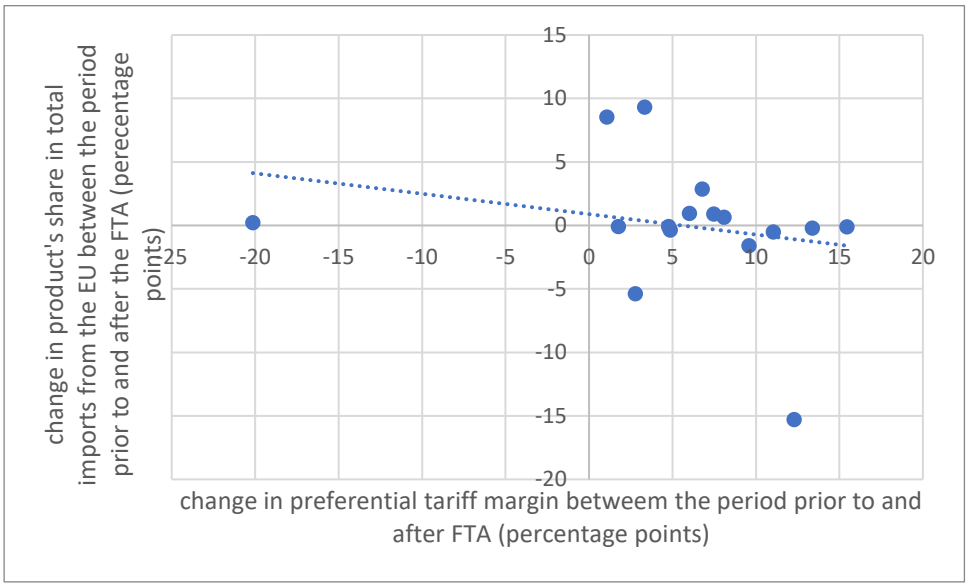
Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure D.10 Morocco: Correlation of preferential tariff margin changes in SMC markets with changes in imports from the EU

Panel A. Changes in average growth rates of imports from the EU



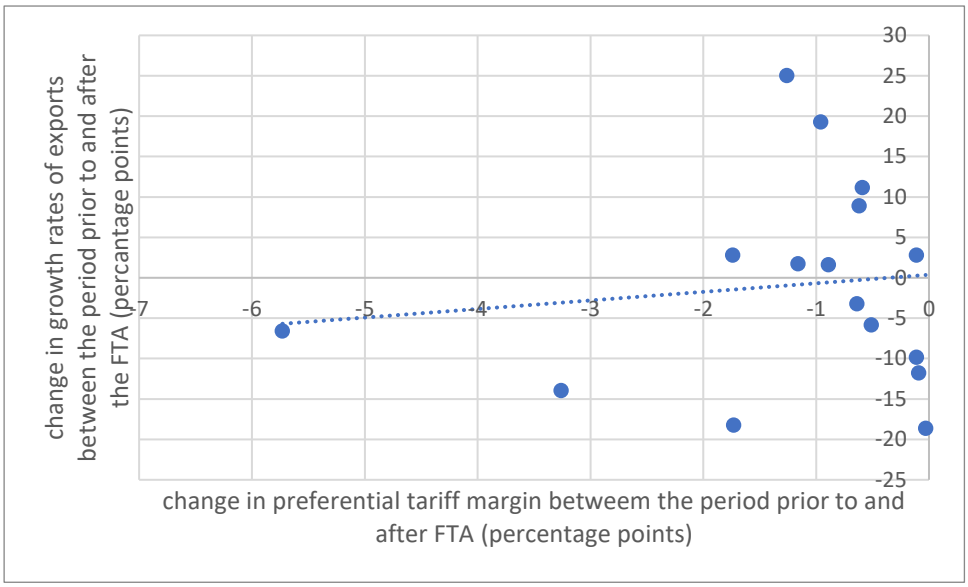
Panel B. Changes in shares of specific products in SMCs' overall imports from the EU



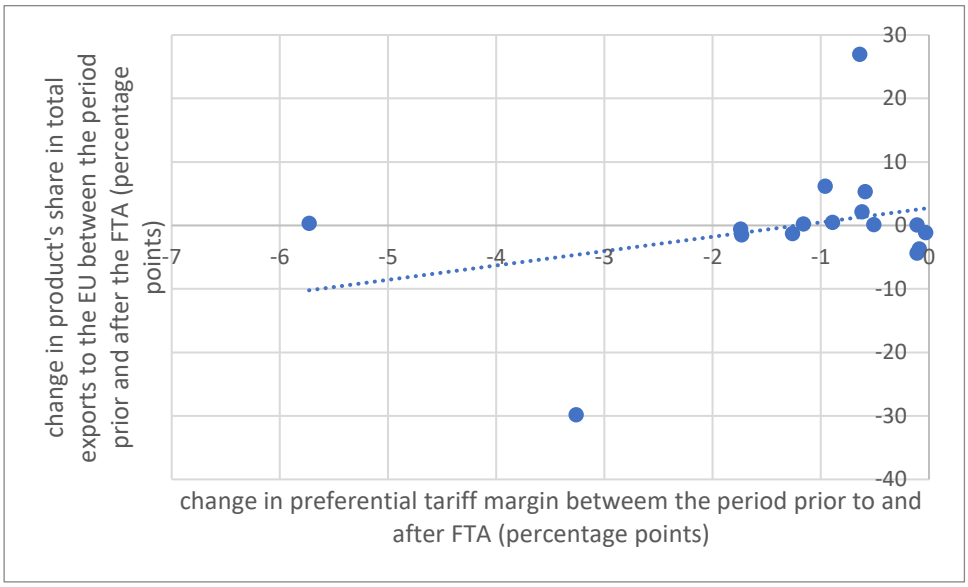
Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure D.11 Tunisia: Correlation of preferential tariff margin changes in the EU market with changes in exports to the EU

Panel A. Changes in average growth rates of exports to the EU



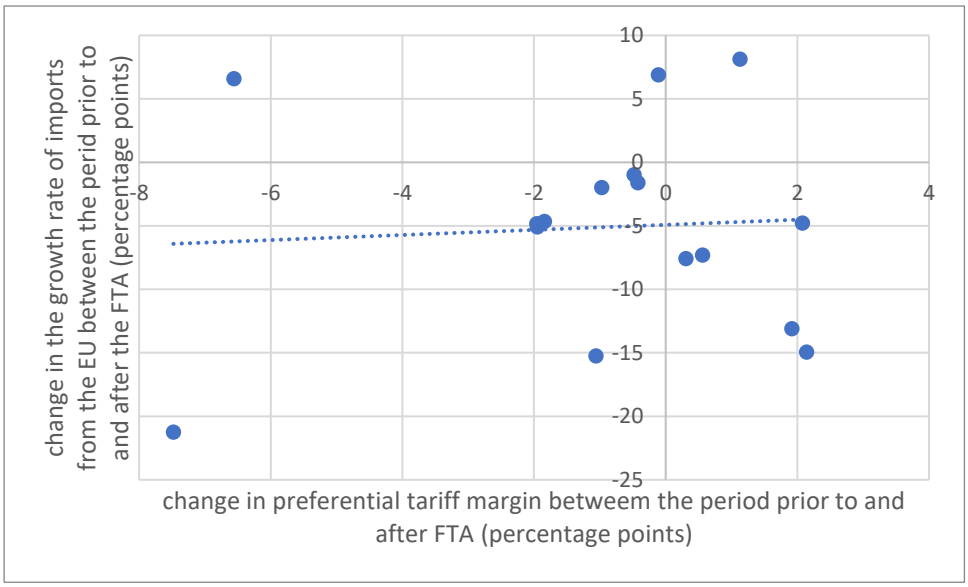
Panel B. Changes in shares of specific products in SMCs' overall exports to the EU



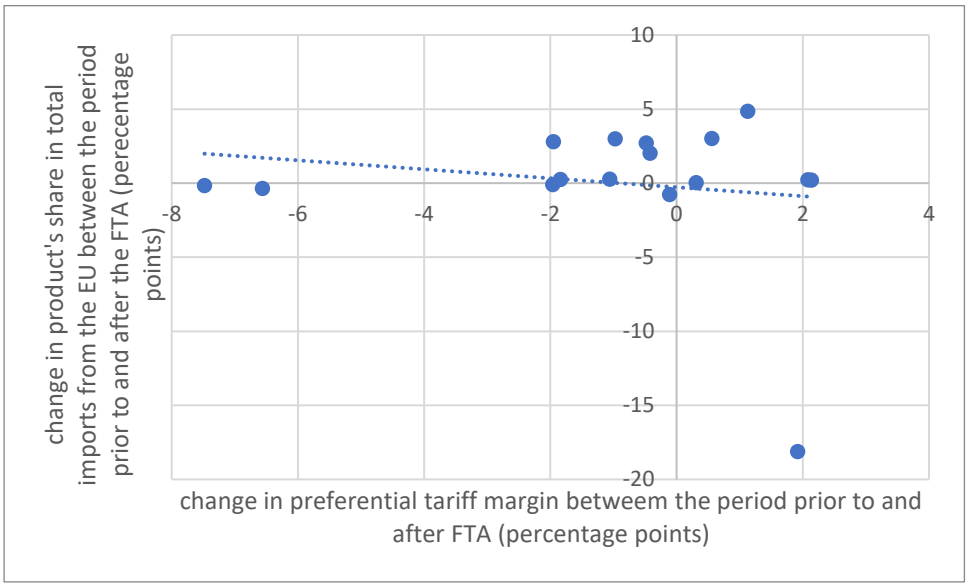
Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

Figure D.12 Tunisia: Correlation of preferential tariff margin changes in SMC markets with changes in imports from the EU

Panel A. Changes in average growth rates of imports from the EU



Panel B. Changes in shares of specific products in SMCs' overall imports from the EU



Source: own calculation on the basis of data from UN-Comtrade Database, extracted from WITS.

D.2 Results of model-based analysis of six individual Euro-Med FTAs

Egypt

The following table presents the impact of the FTA between the EU and Egypt on bilateral trade in goods and services between the two partners in terms of absolute and percentage changes. The Free Trade Agreement includes the EU-Egypt Agreement liberalising trade in agricultural, processed agricultural and fisheries products that is a protocol to the FTA. The latter agreement modified the tariff schedules when it came into force.

Table D.14 Effects of the FTA on bilateral trade between Egypt and the EU, 2018

Variable	million EUR	%
Exports to the EU	1,510	11%
Imports from the EU	4,515	34%

Sources: DG Trade, European Commission using the MIRAGE model.

Exports from Egypt of goods and services to the EU increase by about 11%. Related imports from the EU by 34%. In absolute terms, this is 1.5 billion EUR more of bilateral exports and 4.5 billion more of bilateral imports.

This triggers a GDP increase of 0.4% for Egypt and an equivalent welfare increase. In absolute terms, GDP increases by 860 million EUR. As regards welfare, its increase in absolute terms represents somewhat less than 800 million EUR.

Table D.15 Macroeconomic effects of the FTA on Egypt, 2018

Variable	million EUR	%
GDP	861	0.38%
Welfare	795	0.39%

Sources: DG Trade, European Commission using the MIRAGE model.

Wages for both high and low-skilled workers increase by a bit less than 0.6%. The increase for high skilled workers is slightly higher as can be seen in the table below. Consumer prices fall by 0.05%.

Table D.16 Effects of the FTA on wages and consumer prices in Egypt, 2018

	%
Low-skilled	0.55%
High-skilled	0.59%
CPI	-0.05%

Sources: DG Trade, European Commission using the MIRAGE model.

The next table shows the development of Egypt's trade with the EU under the FTA.

Table D.17 Effect of the FTA on Egypt's trade with the EU, 2018

	Change in Exports		Change in imports	
CGE sector	**Relative**	**Million EUR**	**Relative**	**Million EUR**
Live ruminants and horses	9%	0	1%	0
Red Meat	-3%	0	15%	1
White Meat	883%	3	105%	1
Dairy products	1280%	15	16%	23
Vegetables, fruit and nuts	34%	112	33%	63
Vegetable oils	83%	2	47%	6
Wheat	4%	0	0%	0
Other Cereals	122%	18	0%	0
Processed food	39%	56	14%	41
Beverages and tobacco	31%	14	1%	2
Other agri-food products	4%	5	60%	53
Fishery and Forestry	25%	2	7%	2

	Change in Exports		Change in imports	
Fossil fuels	2%	76	57%	455
Minerals	8%	19	29%	74
Chemical, rubber and plastic products	27%	287	80%	1286
Textiles	48%	280	89%	98
Wearing apparel	89%	319	498%	33
Leather products	34%	38	1223%	16
Metals and metal products	18%	162	38%	453
Electronic equipment	0%	0	13%	51
Motor vehicles and parts	44%	21	184%	385
Other transport equipment	20%	3	30%	151
Other Machinery and equipment	19%	78	37%	970
Other manufactures	2%	4	36%	337
Transport Services	1%	16	0%	-1
Other services	-1%	-20	1%	14
Total	**11%**	**1,510**	**33%**	**4,515**

Sources: DG Trade, European Commission using the MIRAGE model.

It triggers large percentage increases in Egypt's agricultural exports to the EU. However, save for the fruit and vegetables sector where the FTA resulted in significant additional value of exports, the absolute increases are moderate. They are more pronounced for industrial products, especially in the wearing apparel, textiles as well as chemicals, rubber and plastics sectors, who together make up for about 60% of the overall increases in bilateral exports. Relative increases in imports from the EU to Egypt are concentrated in manufacturing products and significant across the board, in particular in the apparel leather sectors. Given their strong baseline level of trade, the absolute increases in imports from the EU are highest in the sectors of chemicals, rubber and plastics, other machinery and equipment as well as fossil fuels. Together, these sectors account for about 60% of overall increases in Egypt's bilateral imports.

The effect on output is presented in the table below.

Table D.18 Effect of the FTA on output by sector in Egypt, 2018

CGE sector	Relative Change	Change in million EUR
Live ruminants and horses	0.0%	0
Red Meat	-0.8%	-16
White Meat	-0.5%	-5
Dairy products	-0.4%	-26
Vegetables, fruit and nuts	0.0%	2
Vegetable oils	1.0%	2
Wheat	-0.5%	-18
Other Cereals	-0.2%	-18
Processed food	-0.1%	-16
Beverages and tobacco	0.3%	26
Other agri-food products	-0.2%	-22
Fishery and Forestry	0.0%	-1
Fossil fuels	-0.4%	-168
Minerals	-0.3%	-30
Chemical, rubber and plastic products	-1.7%	-230
Textiles	1.0%	179
Wearing apparel	1.5%	256
Leather products	3.1%	31
Metals and metal products	-0.4%	-70

CGE sector	Relative Change	Change in million EUR
Electronic equipment	-0.3%	-16
Motor vehicles and parts	-1.9%	-100
Other transport equipment	-0.7%	-10
Other Machinery and equipment	2.1%	35
Other manufactures	-1.0%	-213
Transport Services	0.4%	83
Other services	0.0%	-35

Sources: DG Trade, European Commission using the MIRAGE model.

Significant absolute increases in output for the textiles and wearing apparel sectors in Egypt track the strong performance of these sectors as regards additional exports to the EU. Despite strong increases in bilateral exports, the chemicals, rubber and plastics sector contracts, which can be partly explained by an absolutely higher increase in bilateral imports. Increased bilateral imports also correlate with reduced output for a few other sectors such as fossil fuels, automotives and other manufacturing. CO_2 emissions decrease by about 1.1 Mt overall. This is shown in the following table. Sectoral increases, where they occur, do not exhibit a strong correlation with sectoral export performance.

Table D.19 Effect of the FTA on Egypt's CO_2 emissions, 2018

CGE agent	Relative Change	Change in 1000 t
Households	0.6%	220.8
Sectors of the economy		
Live ruminants and horses	0.2%	0.0
Red Meat	-1.4%	-1.2
White Meat	-1.0%	-0.2
Dairy products	-0.9%	-1.3
Vegetables, fruit and nuts	-0.3%	-5.4
Vegetable oils	0.4%	0.0
Wheat	-0.6%	-5.9
Other Cereals	-0.1%	-1.6
Processed food	0.1%	1.6
Beverages and tobacco	-0.3%	-0.1
Other agri-food products	-0.3%	-8.3
Fishery and Forestry	0.1%	0.3
Fossil fuels	-0.3%	-49.4
Minerals	-0.6%	-39.7
Chemical, rubber and plastic products	-1.6%	-134.1
Textiles	1.1%	9.1
Wearing apparel	0.9%	0.7
Leather products	3.2%	0.4
Metals and metal products	-0.4%	-36.1
Electronic equipment	-1.2%	-2.4
Motor vehicles and parts	-3.0%	-15.5
Other transport equipment	-2.0%	-2.3
Other Machinery and equipment	1.9%	2.4
Other manufactures	-1.2%	-1082.1
Transport Services	0.2%	82.6
Other services	-0.1%	-5.7
Total	**-0.5%**	**-1,073.4**

Sources: DG Trade, European Commission using the MIRAGE model.

The table below shows the impact on imports of Egypt's goods and services from third countries, in particular selected other Southern Mediterranean partners as well as Turkey, with which the EU is in a custom union, and LDCs.

Table D.20 Effects of the FTA with Egypt on its imports from third countries, million EUR, 2018

Jordan	-6
Morocco	-9
Tunisia	-8
Turkey	-235
LDC	-22
Rest of Northern Africa	-30
Rest of Western Asia	-34
Israel	-6
Gulf countries	-304
China	-744
Rest of the world	-1407

Sources: DG Trade, European Commission using the MIRAGE model.

Imports from the three other Southern Mediterranean countries for which the CGE model is used decrease by about 20 million EUR, which is a relatively small effect as compared to increases in imports from the EU by about 4.5 billion. It should be noted that the simulation of trade diversion compares the situation with and without the EU-Egypt FTA, but keeps FTAs between other partners and, in this case, between the Agadir Agreement partners (including Egypt, Jordan, Morocco) untouched. This can explain why an FTA with the EU would have some impact on imports from the other three Southern Mediterranean partners. Imports from Turkey are simulated to decrease by 230 million EUR and those from LDCs by about 20 million EUR. Imports from the EU seem to have replaced some imports from China, and some other third countries from outside the region, most of which do not have a Free Trade Agreement with Egypt.

Jordan

The following table presents the impact of the Free Trade Agreement between the EU and Jordan (hereafter in this section "*Free Trade Agreement or FTA*") on bilateral trade in goods and services between the two partners in terms of absolute and percentage changes. The Free Trade Agreement includes the EU-Jordan Agreement liberalising trade in agricultural, processed agricultural and fisheries products that is a protocol to the FTA. This protocol modified the tariff schedules when it came into force.

The country's exports to the EU increased by 3%. This means by about 45 million EUR according to the CGE simulations. Bilateral imports increased by 22% or somewhat more than 900 million EUR.

Table D.21 Effects of the FTA on bilateral trade between Jordan and the EU, 2018

Variable	million EUR	%
Exports to the EU	45	3%
Imports from the EU	920	22%

Sources: DG Trade, European Commission using the MIRAGE model.

The next table shows macroeconomic impacts for Jordan. GDP is simulated to grow by 0.4% or about 100 million EUR. As regards welfare, it increases by 0.1% or 40 million EUR.

Table D.22 Macroeconomic effects of the FTA on Jordan, 2018

Variable	million EUR	%
GDP	105	0.39%
Welfare	41	0.11%

Sources: DG Trade, European Commission using the MIRAGE model.

Wages increase by about 0.1% whereas high-skilled workers see slightly higher wage increases than low- skilled workers, as can be seen in the table below. Consumer prices are simulated to decrease by about 0.4%. This provides for a higher boost to purchasing power than wage gains.

Table D.23 Effects of the FTA on wages and consumer prices in Jordan, 2018

	%
Low-skilled	0.09%
High-skilled	0.11%
CPI	-0.44%

Sources: DG Trade, European Commission using the MIRAGE model.

The following table reports simulation results on the impact of bilateral exports from Jordan to the EU by sector.

Table D.24 Effect of the FTA on Jordan's trade with the EU, 2018

	Change in Exports		Change in imports	
CGE sector	**Relative**	**Million EUR**	**Relative**	**Million EUR**
Live ruminants and horses	32%	0	-1%	0
Red Meat	2123%	0	2%	0
White Meat	513%	1	22%	7
Dairy products	2%	0	15%	6
Vegetables, fruit and nuts	38%	5	67%	6
Vegetable oils	10%	0	86%	3
Wheat	847%	0	-1%	-1
Other Cereals	106%	1	0%	0
Processed food	33%	1	37%	47
Beverages and tobacco	120%	2	2%	2
Other agri-food products	5%	0	25%	12
Fishery and Forestry	1%	0	10%	0
Fossil fuels	6%	1	115%	206
Minerals	8%	6	46%	26
Chemical, rubber and plastic products	5%	4	11%	76
Textiles	72%	4	74%	21
Wearing apparel	82%	5	164%	24
Leather products	16%	0	335%	9
Metals and metal products	7%	3	80%	67
Electronic equipment	8%	0	35%	27
Motor vehicles and parts	27%	0	23%	51
Other transport equipment	11%	0	18%	44
Other Machinery and equipment	8%	0	42%	182
Other manufactures	3%	1	48%	114
Transport Services	1%	7	-1%	-3
Other services	1%	3	-1%	-5
Total	**3%**	**45**	**22%**	**920**

Sources: DG Trade, European Commission using the MIRAGE model.

Increases in Jordan's exports to the EU as a result of the FTA are strong in relative terms in a couple of agricultural sectors. Due to the low level of baseline trade, this does not show in the

absolute numbers, though. Here, increases are dominated by transport services[897], minerals and fruit, vegetables and nuts, accounting for about 40% of overall increases in bilateral exports.

Jordan's additional imports from the EU are concentrated in the manufacturing sectors. While relative increases are strongest in the leather and wearing apparel sectors, imports in the fossil fuels, other machinery and equipment as well as other manufacturing sectors are increasing most strongly in absolute terms accounting together for a bit more than half of the overall increase triggered by the agreement.

The following table presents changes in output for Jordan on a sectoral basis as simulated by the CGE model.

Table D.25 Effect of the FTA on output by sector in Jordan, 2018

CGE sector	Relative Change	Change in million EUR
Live ruminants and horses	0.5%	2
Red Meat	1.3%	1
White Meat	-0.1%	-1
Dairy products	-0.8%	-1
Vegetables, fruit and nuts	0.3%	3
Vegetable oils	0.3%	1
Wheat	1.4%	1
Other Cereals	0.7%	1
Processed food	-1.9%	-18
Beverages and tobacco	0.1%	0
Other agri-food products	-0.3%	-2
Fishery and Forestry	0.0%	0
Fossil fuels	-0.3%	-9
Minerals	-0.3%	-6
Chemical, rubber and plastic products	0.5%	15
Textiles	0.5%	2
Wearing apparel	-0.3%	-3
Leather products	-1.5%	-1
Metals and metal products	0.3%	2
Electronic equipment	-0.7%	-1
Motor vehicles and parts	0.8%	0
Other transport equipment	-6.7%	-1
Other Machinery and equipment	-2.8%	-7
Other manufactures	-1.3%	-41
Transport Services	0.4%	22
Other services	0.0%	-2

Sources: DG Trade, European Commission using the MIRAGE model.

Increases in output in the chemicals, rubber and plastics sector seem not to go along with a particularly strong performance on exports. This is in contrast to transport services, where for both exports and output the sector is positively and significantly affected. Contractions of some manufacturing sectors seem to go hand in hand with increased imports from the EU.

CO_2 emissions shown in the table below decrease overall as well as for essentially all sectors. In the case of the other manufactures sector, there is a coincidence between a significant increase in

[897] Services liberalization is not modelled and the increase in exports might therefore be surprising. Note, however, that the relative increase with 1% is rather low and only in connection with a high baseline trade level, this leads to significant absolute effects. In the absence of policy liberalization, it is driven by an overall increase in the country's competitiveness.

imports and a significant decrease in emissions, which could partially be explained by cleaner production in the EU, while elsewhere such a connection cannot be established.

Table D.26 Effect of the FTA on Jordan's CO_2 emissions, 2018

CGE agent	Relative Change	Change in 1000 t
Households	-0.4%	-19.8
Sectors of the economy		
Live ruminants and horses	-1.2%	0.0
Red Meat	0.8%	0.0
White Meat	-0.5%	-0.2
Dairy products	-1.2%	-0.1
Vegetables, fruit and nuts	-1.3%	0.0
Vegetable oils	-0.2%	0.0
Wheat	-0.3%	0.0
Other Cereals	0.2%	0.0
Processed food	-2.3%	-1.3
Beverages and tobacco	-0.4%	-0.1
Other agri-food products	-0.9%	0.0
Fishery and Forestry	-1.6%	0.0
Fossil fuels	-0.9%	-5.5
Minerals	-0.8%	-3.4
Chemical, rubber and plastic products	0.1%	0.2
Textiles	0.1%	0.0
Wearing apparel	-0.7%	-0.2
Leather products	-2.0%	0.0
Metals and metal products	-0.2%	-0.3
Electronic equipment	-1.3%	-0.4
Motor vehicles and parts	0.3%	0.1
Other transport equipment	-6.7%	-0.4
Other Machinery and equipment	-3.1%	-1.5
Other manufactures	-1.9%	-157.9
Transport Services	-0.1%	-3.8
Other services	-0.5%	-7.8
Total	**-0.9%**	**-202.5**

Sources: DG Trade, European Commission using the MIRAGE model.

The table below shows the impact on imports of Jordan's goods and services from third countries, in particular selected other Southern Mediterranean partners as well as Turkey, with which the EU is in a custom union, and LDCs.

Table D.27 Effects of the EUROMED Agreements on Jordan's imports from third countries, million EUR, 2018

Egypt	-29
Morocco	-2
Tunisia	-1
Turkey	-38
LDC	-2
Rest of Northern Africa	-1
Rest of Western Asia	-35
Israel	-8
Gulf countries	0
China	-177
Rest of the world	-289

Sources: DG Trade, European Commission using the MIRAGE model.

Imports from the three other Southern Mediterranean countries for which the CGE model is used decrease by 30 million EUR, essentially all of which from Egypt. This should be compared to an overall increase of imports from the EU of 920 million EUR and hence the relative effect is rather moderate. It should be noted that the simulation of trade diversion compares the situation with and without the EU-Jordan FTA, but keeps FTAs between other partners and, in this case, between the Agadir Agreement partners (including Egypt, Jordan, Morocco) untouched. This can explain why an FTA with the EU would have some impact on imports from the other three Southern Mediterranean partners. Turkey's exports to Jordan are simulated to go down by 40 million EUR whereas imports from LDCs do not change visibly. Jordan's imports from China and the other third countries outside the region turn out to be affected more strongly.

Morocco

The following table presents the impact of the Free Trade Agreement between the EU and Morocco (hereafter in this section "*Free Trade Agreement or FTA*") on bilateral trade in goods and services between the two partners in terms of absolute[898] and percentage changes. The Free Trade Agreement includes the EU-Morocco Agreement liberalising trade in agricultural, processed agricultural and fisheries products that is a protocol to the FTA. This protocol modified the tariff schedules when it came into force.

Table D.28 Effects of the FTA on bilateral trade between Morocco and the EU, 2018

Variable	million EUR	%
Exports to the EU	3,122	23%
Imports from the EU	5,589	43%

Sources: DG Trade, European Commission using the MIRAGE model.

Thanks to the FTA, Morocco's exports of goods and services to the EU increase by 23% or 3.1 billion EUR. As regards imports (using the so-called incoterm Free on Board (fob)), they increase by 43%. This represents 5.6 billion EUR.

The GDP of Morocco presented in the next table increases by about 0.6%. This means by slightly more than 500 million EUR. The welfare effect is somewhat smaller with 0.4% corresponding to a bit less than 300 million EUR.

Table D.29 Macroeconomic effects of the FTA on Morocco, 2018

Variable	million EUR	%
GDP	514	0.57%
Welfare	292	0.37%

Sources: DG Trade, European Commission using the MIRAGE model.

[898] US Dollars were converted to Euro as $1.392 to €1 for all numbers coming from the MIRAGE simulations.

Wages, presented in the table below, increase more strongly for low-skilled workers than for high-skilled ones, with about 1.5% and 1.1%, respectively. Consumer prices (measured by the Consumer Price Index (CPI) fall by about 0.01%. This is not significantly adding to the increase in purchasing power.

Table D.30 Effects of the FTA on wages and consumer prices in Morocco, 2018

	%
Low-skilled	1.52%
High-skilled	1.09%
CPI	-0.01%

Sources: DG Trade, European Commission using the MIRAGE model.

The next table reports the impact of the FTA on Moroccan trade with the EU by sector.

Table D.31 Effect of the FTA on Morocco's trade with the EU, 2018

	Change in Exports		Change in imports	
CGE sector	**Relative**	**Million EUR**	**Relative**	**Million EUR**
Live ruminants and horses	-3%	0	37%	15
Red Meat	-4%	-1	53%	4
White Meat	4940%	38	108%	1
Dairy products	584%	6	35%	18
Vegetables, fruit and nuts	32%	245	33%	13
Vegetable oils	151%	31	21%	5
Wheat	341%	17	3%	26
Other Cereals	-1%	0	48%	23
Processed food	25%	219	30%	62
Beverages and tobacco	14%	1	55%	27
Other agri-food products	1%	1	18%	26
Fishery and Forestry	23%	17	30%	18
Fossil fuels	8%	10	74%	1009
Minerals	1%	7	44%	138
Chemical, rubber and plastic products	13%	115	46%	738
Textiles	75%	294	75%	501
Wearing apparel	88%	1260	126%	57
Leather products	26%	149	162%	67
Metals and metal products	12%	38	65%	628
Electronic equipment	6%	9	19%	79
Motor vehicles and parts	56%	103	23%	310
Other transport equipment	14%	27	16%	48
Other Machinery and equipment	29%	570	63%	1144
Other manufactures	3%	7	80%	626
Transport Services	-1%	-16	0%	1
Other services	-1%	-28	0%	5
Total	**23%**	**3,122**	**43%**	**5,589**

Sources: DG Trade, European Commission using the MIRAGE model.

For Moroccan exports to the EU, in relative terms, there are strong changes in the agri-food sectors. But absolute changes dominate in the manufacturing sector. This is true, in particular, in the sectors of wearing apparel, textiles and other machinery and equipment. Together, these three sectors account for 68% of all bilateral export gains. The automotive sector with an increase in exports of 56%, corresponding to about 100 million EUR, is also significant. There are also significant gains in exports of vegetables, fruits and nuts and processed food due to the FTA.

Absolute and relative increases in bilateral imports of Morocco from the EU are concentrated in the manufacturing sectors. In relative terms, wearing apparel, leather products and other machinery and equipment account for the highest increases, each more than doubling. In absolute terms, the sectors of fossil fuels[899], chemical, rubber and plastics as well as other machinery and equipment see the biggest increases together accounting for about 52% of the overall increase. But there are also important increases in agri-food imports, where the processed food and cereals (wheat and other cereals combined) sectors are the most important.

The next table shows the effect of the FTA on output by sectors of the Moroccan economy.

Table D.32 Effect of the FTA on output by sector in Morocco, 2018

CGE sector	Relative Change	Change in million EUR
Live ruminants and horses	-2.5%	-32
Red Meat	-0.6%	-14
White Meat	3.4%	37
Dairy products	-1.4%	-30
Vegetables, fruit and nuts	3.3%	145
Vegetable oils	3.8%	20
Wheat	-0.3%	-15
Other Cereals	-0.9%	-18
Processed food	1.2%	90
Beverages and tobacco	2.1%	31
Other agri-food products	1.8%	167
Fishery and Forestry	-0.1%	-1
Fossil fuels	-2.3%	-213
Minerals	-2.6%	-270
Chemical, rubber and plastic products	-2.5%	-366
Textiles	10.7%	394
Wearing apparel	22.8%	1051
Leather products	1.1%	48
Metals and metal products	-6.0%	-419
Electronic equipment	0.3%	11
Motor vehicles and parts	0.4%	8
Other transport equipment	0.2%	2
Other Machinery and equipment	-0.8%	-56
Other manufactures	-4.9%	-598
Transport Services	-0.7%	-95
Other services	-0.4%	-366

Sources: DG Trade, European Commission using the MIRAGE model.

Morocco's output by sector increases most strongly in the wearing apparel, textiles and other agri-food sectors. The connection to the trade effects seems to be weak, also where additional imports from the EU are concerned: Only chemicals, as one of the three sectors where bilateral imports rise most strongly, features among the sectors where output in Morocco contracts most.

The table below shows the impact on CO_2 emissions of households and by sector of the economy.

[899] Exports of the EU in this sector in general are mainly in tariff lines of refinery products and petrochemicals.

Table D.33 Effect of the FTA on Morocco's CO_2 emissions, 2018

CGE agent	Relative Change	Change in 1000 t
Households	0.9%	94.1
Sectors of the economy		
Live ruminants and horses	-2.2%	-0.9
Red Meat	-0.3%	-0.3
White Meat	3.9%	0.6
Dairy products	-1.0%	-0.5
Vegetables, fruit and nuts	4.3%	58.4
Vegetable oils	5.1%	0.3
Wheat	-0.2%	-2.7
Other Cereals	-0.8%	-5.1
Processed food	2.1%	3.6
Beverages and tobacco	2.2%	0.4
Other agri-food products	2.2%	19.8
Fishery and Forestry	0.0%	-0.1
Fossil fuels	-2.3%	-44.3
Minerals	-2.6%	-120.4
Chemical, rubber and plastic products	-2.4%	-33.4
Textiles	11.5%	9.5
Wearing apparel	25.2%	6.6
Leather products	2.3%	0.1
Metals and metal products	-5.9%	-47.4
Electronic equipment	0.4%	0.2
Motor vehicles and parts	0.1%	0.0
Other transport equipment	0.2%	0.0
Other Machinery and equipment	-0.3%	-0.6
Other manufactures	-5.0%	-1296.4
Transport Services	-0.8%	-118.7
Other services	-0.3%	-2.3
Total	**-2.2%**	**-1,479.4**

Sources: DG Trade, European Commission using the MIRAGE model.

CO_2 emissions overall decrease by about 1.5 Mt. Emissions by sector are roughly proportional to output and turn out to increase in some cases despite the overall decrease. This seems not to be systematically linked to the trade effects, though.

The table below shows the impact on imports of Morocco's goods and services from third countries, in particular selected other Southern Mediterranean partners as well as Turkey, which is in a custom union with the EU, and LDC.

Table D.34 Effects of the FTA with Morocco on its imports from third countries, million EUR, 2018

Egypt	**-59**
Jordan	-1
Tunisia	-34
Turkey	-194
LDC	-4
Rest of Northern Africa	-139
Rest of Western Asia	-181
Israel	0
Gulf countries	-285
China	-455
Rest of the world	-1155

Sources: DG Trade, European Commission using the MIRAGE model.

The roughly 5.6 billion EUR of additional imports from the EU do not turn out to trigger a significant amount of trade diversion. Imports from the three other Southern Mediterranean countries for which the CGE model is used fall by about 90 million EUR and from Turkey by about 190 million EUR. It should be noted that the simulation of trade diversion compares the situation with and without the EU-Morocco FTA, but keeps FTAs between other partners and, in this case, between the Agadir Agreement partners (including Egypt, Jordan, Morocco) untouched. This can explain why an FTA with the EU would have some impact on imports from the other three Southern Mediterranean partners. Imports from LDCs do not change significantly. Imports from the EU seem to have replaced some imports from China, the Gulf countries as well as some other third countries from outside the region, most of which do not have a Free Trade Agreement with Morocco.

Tunisia

The following table presents the impact of the Free Trade Agreement between the EU and Tunisia (hereafter "*Free Trade Agreement or FTA*") on bilateral trade in goods and services between the two partners in terms of absolute and percentage changes.

Table D.35 Effects of the FTA on bilateral trade between Tunisia and the EU, 2018

Variable	million EUR	%
Exports to the EU	2,643	25%
Imports from the EU	4,188	57%

Sources: DG Trade, European Commission using the MIRAGE model.

Tunisia's exports to the EU increase by 25%. This represents 2.6 billion EUR. In contrast, bilateral imports increase by 57% or 4.2 billion EUR.

Tunisia's GDP, shown in the next table, increases by about 1.5%. This represents about 600 million EUR. Welfare increases by about the same percentage, which in absolute terms amounts to 465 million EUR.

Table D.36 Macroeconomic effects of the FTA on Tunisia, 2018

Variable	million EUR	%
GDP	600	1.47%
Welfare	465	1.46%

Sources: DG Trade, European Commission using the MIRAGE model.

Wages for both skill segments increase roughly on par. The increase amounts to about 3.3% for low-skilled workers and 3.4% for high-skilled workers as can be seen in the table below. Consumer prices decline by about 0.3% adding to this increase in workers purchasing power.

Table D.37 Effects of the FTA on wages and consumer prices in Tunisia, 2018

	%
Low-skilled	3.30%
High-skilled	3.40%
CPI	-0.28%

Sources: DG Trade, European Commission using the MIRAGE model.

The following table breaks impacts on Tunisia's trade with the EU down by sectors of the economy.

Table D.38 Effect of the FTA on Tunisia's trade with the EU, 2018

	Change in Exports		Change in imports	
CGE sector	**Relative**	**Million EUR**	**Relative**	**Million EUR**
Live ruminants and horses	-6%	0	4%	1
Red Meat	22%	1	9%	0
White Meat	-14%	-1	11%	0
Dairy products	-6%	-1	4%	1
Vegetables, fruit and nuts	4%	6	3%	1
Vegetable oils	173%	121	11%	4
Wheat	-9%	0	6%	10
Other Cereals	-4%	0	0%	0
Processed food	14%	22	18%	18
Beverages and tobacco	18%	4	20%	9
Other agri-food products	-1%	0	17%	10
Fishery and Forestry	24%	5	6%	1
Fossil fuels	3%	43	21%	189
Minerals	5%	6	42%	46
Chemical, rubber and plastic products	26%	116	62%	566
Textiles	65%	318	113%	619
Wearing apparel	111%	1127	161%	121
Leather products	71%	263	246%	227
Metals and metal products	15%	61	64%	409
Electronic equipment	2%	24	14%	68
Motor vehicles and parts	12%	43	51%	299
Other transport equipment	36%	69	17%	28
Other Machinery and equipment	21%	483	99%	1231
Other manufactures	0%	1	120%	303
Transport Services	-4%	-23	3%	8
Other services	-6%	-46	5%	22
Total	**25%**	**2,643**	**58%**	**4,188**

Sources: DG Trade, European Commission using the MIRAGE model.

Vegetable oils, in the case of Tunisia mostly olive oil, is the sector seeing the biggest percentage increase in bilateral exports from Tunisia to the EU with 173%. This also represents a sizeable increase in absolute terms. Second and third are wearing apparel and leather products. In absolute terms, the largest increases in exports to the EU are witnessed by the wearing apparel, textiles and other machinery and equipment sectors, together accounting for more than 70% of all additional bilateral exports. Whereas for the other three countries analysed with CGE, the increase in agri-food exports[900] accounts for about one quarter and in the case of Jordan even half of the total export gains, this is much less for Tunisia, where this share is significantly below one tenth (7.6%).

[900] Including Processed food, also referred to as PAPs (processed agricultural products).

Tunisian imports from the EU of textiles, wearing apparel and leather products also increase strongly. These imports grew by some 113% and up to 246%. In absolute terms, other machinery and equipment, textiles and chemicals, rubber and plastic are more important, though, making up for almost 60% of all additional exports to Tunisia.

The following tables presents results for output by sector of the Tunisian economy.

Table D.39 Effect of the FTA on output by sector in Tunisia, 2018

CGE sector	Relative Change	Change in million EUR
Live ruminants and horses	-1.7%	-3
Red Meat	-1.2%	-4
White Meat	-1.5%	-3
Dairy products	-0.9%	-16
Vegetables, fruit and nuts	-1.2%	-22
Vegetable oils	7.1%	69
Wheat	-5.3%	-30
Other Cereals	-2.6%	-2
Processed food	-0.7%	-27
Beverages and tobacco	-0.5%	-1
Other agri-food products	-0.6%	-8
Fishery and Forestry	0.1%	0
Fossil fuels	-1.3%	-44
Minerals	-2.5%	-52
Chemical, rubber and plastic products	-2.0%	-78
Textiles	17.9%	275
Wearing apparel	64.7%	833
Leather products	24.6%	154
Metals and metal products	-3.9%	-70
Electronic equipment	0.0%	0
Motor vehicles and parts	-4.7%	-43
Other transport equipment	17.6%	47
Other Machinery and equipment	4.8%	145
Other manufactures	-4.7%	-219
Transport Services	-1.7%	-53
Other services	-0.2%	-63

Sources: DG Trade, European Commission using the MIRAGE model.

Wearing apparel, also the strongest sector in terms of Tunisian absolute export gains, expands most strongly in terms of output, in absolute as well as relative terms. Textiles and leather products follow as second and third. Increased imports from the EU do not seem to exert a systematic pressure on sectoral output. Only chemicals, rubber and plastics see some contraction as a sector with both a significant increase in bilateral imports as well as a decrease in output.

CO_2 emissions shown in the table below decrease by about 0.9 Mt. An increase notably in the wearing apparel sector could be to some extent linked to increased output, which in turn has been linked to increased exports to the EU above.

Table D.40 Effect of the FTA on Tunisia's CO_2 emissions, 2018

CGE agent	Relative Change	Change in 1000 t
Households	0.9%	36.2
Sectors of the economy		
Live ruminants and horses	-1.8%	-0.5
Red Meat	-2.5%	-0.4
White Meat	-3.7%	-0.2
Dairy products	-3.4%	-4.6
Vegetables, fruit and nuts	-1.0%	-5.4
Vegetable oils	7.8%	1.7
Wheat	-4.9%	-8.1
Other Cereals	-2.3%	-0.5
Processed food	-4.1%	-5.3
Beverages and tobacco	-1.4%	-0.3
Other agri-food products	-0.4%	-1.0
Fishery and Forestry	1.1%	0.8
Fossil fuels	-0.9%	-0.5
Minerals	-5.1%	-131.9
Chemical, rubber and plastic products	-2.6%	-19.4
Textiles	14.8%	5.8
Wearing apparel	58.5%	41.8
Leather products	20.1%	1.7
Metals and metal products	-4.4%	-11.1
Electronic equipment	-0.5%	-0.3
Motor vehicles and parts	-5.3%	-1.0
Other transport equipment	14.8%	0.6
Other Machinery and equipment	5.5%	2.2
Other manufactures	-6.7%	-704.4
Transport Services	-1.7%	-125.2
Other services	-1.9%	-17.5
Total	**-3.4%**	**-947.0**

Sources: DG Trade, European Commission using the MIRAGE model.

The table below shows the impact on imports of Tunisia's goods and services from third countries, in particular selected other Southern Mediterranean partners for as well as Turkey who is a custom union with the EU and LDCs.

Table D.41 Effects of the FTA with Tunisia on its imports from third countries, million EUR, 2018

Egypt	**-26**
Jordan	-3
Morocco	-20
Turkey	-333
LDC	-6
Rest of Northern Africa	-61
Rest of Western Asia	-8
Israel	0
Gulf countries	-56
China	-443
Rest of the world	-739

Sources: DG Trade, European Commission using the MIRAGE model.

The 4.2 billion EUR increase in imports from the EU displaces a relative small amount of imports from the other three Southern Mediterranean countries for which the CGE model is used, i.e. some 50 million EUR as well as 330 million EUR from Turkey and only about 6 million EUR from LDCs. It should be noted that the simulation of trade diversion compares the situation with and without the EU-Tunisia FTA, but keeps FTAs between other partners and, in this case, between the Agadir Agreement partners (including Egypt, Jordan, Morocco) untouched. This can explain why an FTA with the EU would have some impact on imports from the other three Southern Mediterranean partners. Imports from the EU seem to have replaced some imports from China as well as some other third countries, most of which do not have a Free Trade Agreement with Tunisia.

Combined effects on the EU

Table D.42 Effects of the FTAs with Egypt, Jordan, Morocco and Tunisia on macroeconomic indicators in the EU, 2018

Variable		Egypt FTA	Jordan FTA	Morocco FTA	Tunisia FTA	Total
GDP	%	0.01%	0.00%	0.00%	0.01%	**0.02%**
	million EUR	929	167	658	892	**2,646**
Welfare	%	0.01%	0.00%	0.01%	0.01%	**0.03%**
	million EUR	1,199	232	1,047	1,187	**3,665**
Wages	low skilled	0.02%	0.01%	0.02%	0.02%	**0.07%**
	high skilled	0.02%	0.01%	0.02%	0.02%	**0.07%**
CPI	%	0.02%	0.00%	0.01%	0.01%	**0.04%**
Exports to the four	%	12%	2%	15%	11%	**40%**
Southern Mediterranean countries	million EUR	4,478	908	5,537	4,143	**15,066**
Imports from the four	%	4%	0%	8%	7%	**19%**
Southern Mediterranean countries	million EUR	1,513	56	3,134	2,636	**7,338**

Sources: DG Trade, European Commission using the MIRAGE model.

The table above shows the effects of the four FTAs on the EU and sums them up to a combined effect in the rightmost column. The simulations of the four FTAs are run separately, but a test run has revealed that running them jointly does not change the results significantly for both the EU and the partner countries. The EU's GDP increases by 0.02% as per the simulations or 2.6 billion EUR. Welfare increases by 0.03%, corresponding to about 3.7 billion. Wages increase on par for both skill segments with about 0.07%. This goes in parallel with an increase of price levels measured by the CPI by 0.04%, which renders the net increase in purchasing power somewhat smaller. Total exports of goods and services from the EU to the four countries combined increase by about 40% or 15 billion EUR. Imports from these partners increase by 19% or about 7 billion EUR. The impact of the FTA with Egypt seems to have the strongest macroeconomic effect, despite the trade effect falling behind that of the FTA with Morocco or Tunisia.

Table D.42 Effect of the FTAs with Egypt, Jordan, Morocco and Tunisia on output by sector in the EU, 2018

	Change in million EUR from the FTA with					
CGE sector	Egypt	Jordan	Morocco	Tunisia	**Total**	**Total in %**
Live ruminants and horses	-7	-1	5	-6	**-9**	**-0.02%**
Red Meat	-10	-2	-6	-12	**-30**	**-0.03%**
White Meat	-15	5	-66	-8	**-85**	**-0.05%**
Dairy products	-14	8	-25	-18	**-50**	**-0.02%**
Vegetables, fruit and nuts	-75	-3	-300	-23	**-401**	**-0.46%**
Vegetable oils	-12	1	-55	-196	**-262**	**-0.51%**
Wheat	-11	-3	-3	1	**-15**	**-0.04%**
Other Cereals	-30	-1	10	-8	**-28**	**-0.06%**
Processed food	-58	43	-241	-33	**-289**	**-0.05%**
Beverages and tobacco	-15	0	29	1	**14**	**0.00%**
Other agri-food products	-2	7	-67	-74	**-136**	**-0.06%**
Fishery and Forestry	-3	0	1	-5	**-7**	**-0.01%**
Fossil fuels	28	61	230	-39	**280**	**0.03%**
Minerals	27	18	157	12	**214**	**0.06%**
Chemical, rubber and plastic products	651	-48	276	127	**1,006**	**0.06%**
Textiles	-216	8	217	355	**364**	**0.21%**
Wearing apparel	-129	13	-563	-423	**-1,102**	**-1.09%**
Leather products	-44	3	-35	70	**-5**	**-0.01%**
Metals and metal products	36	-4	568	107	**708**	**0.06%**
Electronic equipment	-203	-26	-121	-147	**-496**	**-0.17%**
Motor vehicles and parts	253	31	95	157	**536**	**0.06%**
Other transport equipment	17	16	-97	-153	**-217**	**-0.08%**
Other Machinery and equipment	123	14	173	138	**447**	**0.03%**
Other manufactures	146	87	615	151	**999**	**0.05%**
Transport Services	-114	-37	-82	-57	**-291**	**-0.01%**
Other services	-191	-39	-455	-190	**-876**	**0.00%**

Sources: DG Trade, European Commission using the MIRAGE model.

Output effects on the EU shown in the table above are relatively moderate given the asymmetric size of the two economic blocks. Relative decreases are concentrated in the sectors of wearing apparel, vegetable oils and fruits vegetables and nuts. But in absolute term, these are very small. Positive impacts on output are more evenly spread. In the cases of chemicals, rubber and plastics, this increase correlates with an above average performance in terms of exports. Such a correlation cannot systematically be established for other sectors, though.

Table D.43 Effect of the FTAs with Egypt, Jordan, Morocco and Tunisia on CO_2 emissions in the EU, 2018

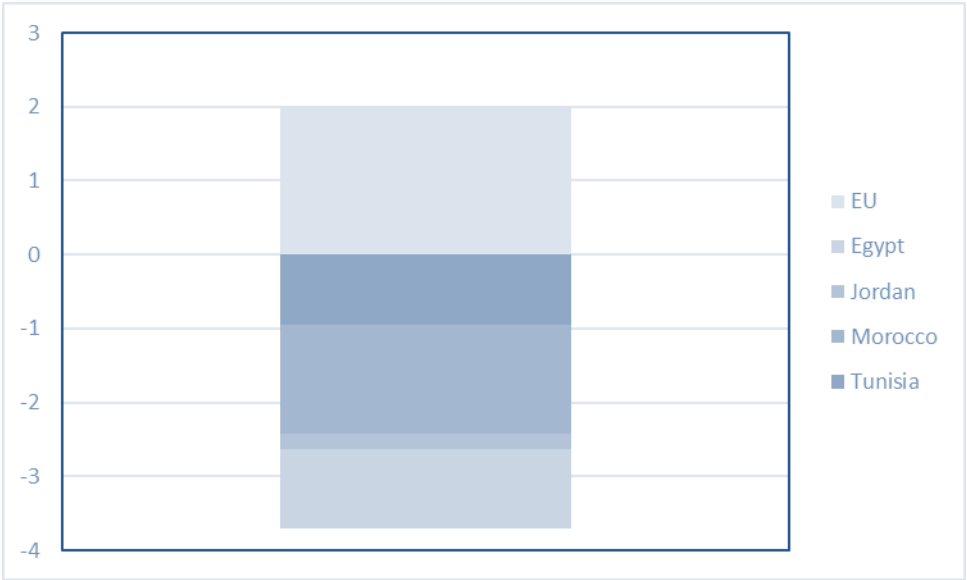
	Change in million t from the FTA with					
CGE sector	MOR	TUN	EGY	JOR	**Total**	**Total in %**
Households	0.04	0.18	0.11	0.14	0.47	0.07%
Sectors of the Economy						
Live ruminants and horses	0.00	0.00	0.00	0.00	0.00	0.00%
Red Meat	0.00	0.00	0.00	0.00	0.00	-0.02%
White Meat	0.00	0.00	0.00	0.00	0.00	-0.04%
Dairy products	0.00	0.00	0.00	0.00	0.00	0.00%
Vegetables, fruit and nuts	0.00	0.00	-0.02	0.00	-0.03	-0.45%

	Change in million t from the FTA with					
Vegetable oils	0.00	0.00	0.00	0.00	-0.01	-0.49%
Wheat	0.00	0.00	0.00	0.00	0.00	-0.02%
Other Cereals	0.00	-0.01	0.00	0.00	0.00	-0.05%
Processed food	0.00	0.00	-0.01	0.00	-0.01	-0.04%
Beverages and tobacco	0.00	0.00	0.00	0.00	0.00	0.02%
Other agri-food products	0.00	0.00	-0.01	-0.01	-0.01	-0.04%
Fishery and Forestry	0.00	0.00	0.00	0.00	0.00	0.01%
Fossil fuels	0.01	0.02	0.08	0.00	0.11	0.07%
Minerals	0.00	0.01	0.05	0.01	0.07	0.08%
Chemical, rubber and plastic products	0.00	0.05	0.03	0.01	0.09	0.10%
Textiles	0.00	-0.01	0.01	0.01	0.02	0.33%
Wearing apparel	0.00	0.00	-0.01	0.00	-0.01	-1.07%
Leather products	0.00	0.00	0.00	0.00	0.00	0.06%
Metals and metal products	0.00	0.01	0.05	0.02	0.07	0.09%
Electronic equipment	0.00	0.00	0.00	0.00	0.00	-0.16%
Motor vehicles and parts	0.00	0.00	0.00	0.00	0.01	0.08%
Other transport equipment	0.00	0.00	0.00	0.00	0.00	-0.07%
Other Machinery and equipment	0.00	0.00	0.00	0.00	0.01	0.06%
Other manufactures	0.07	0.22	0.56	0.21	1.07	0.08%
Transport Services	-0.02	0.02	0.06	0.06	0.12	0.01%
Other services	0.00	0.02	0.01	0.01	0.03	0.02%
Total	0.11	0.52	0.90	0.47	2.00	0.05%

Sources: DG Trade, European Commission using the MIRAGE model.

CO_2 emissions by sector track closely the output. In total, the EU's emissions increase by about 0.05% or 2 Mt. The aggregate of other manufactures, which contributes most to this increase, does not stand out in terms of bilateral export performance. Its overall contribution is about half of the overall effect. Increased emissions from households, driven by the overall increase in purchase power, are a more important factor. Sectors subject to strong increases in bilateral imports face decreases of their CO2 emissions and balance out the impact on emissions and when added to the impact on emissions by the southern Mediterranean partner countries, the overall result is a decrease in CO_2 emissions by 1.7 million tons as shown in the graph below.

Figure D.13 Effect of the FTAs of the EU with Egypt, Jordan, Morocco and Tunisia on CO_2 emissions, million tons



Combined effects on key third countries

The table below shows the simulated impact of the FTAs with the four Southern Mediterranean partners for whom the CGE model is used on LDCs. Both GDP and welfare decease slightly with 0.01%. Wages for both skill categories fall slightly by 0.03%, which is counteracted by a decrease in the CPI of 0.02%. Exports to the four southern Mediterranean countries in the CGE model decrease by 3% or about 35 million EUR, whereas imports from the region increase by 2.2% or about 70 million EUR. Trade with the EU decreases by about 0.3%, both imports and exports. In monetary terms, this is about 140 million EUR of exports and an equivalent amount of imports.

Table D.44 Effects of the FTAs with Egypt, Jordan, Morocco and Tunisia on macroeconomic indicators in the LDCs, 2018

Variable		Egypt FTA	Jordan FTA	Morocco FTA	Tunisia FTA	Total
GDP	%	0.00%	0.00%	0.00%	0.00%	**-0.01%**
	million EUR	-12	-1	-24	-21	**-58**
Welfare	%	0.00%	0.00%	-0.01%	0.00%	**-0.01%**
	million EUR	-18	-2	-33	-26	**-79**
Wages	low skilled	-0.01%	0.00%	-0.01%	-0.01%	**-0.03%**
	high skilled	-0.01%	0.00%	-0.01%	-0.01%	**-0.03%**
CPI	%	0.00%	0.00%	-0.01%	-0.01%	**-0.02%**
Exports to the four	%	-1.9%	-0.2%	-0.4%	-0.6%	**-3.1%**
Southern Mediterranean countries	million EUR	-22	-3	-4	-6	**-35**
Imports from the four	%	0.7%	0.1%	0.7%	0.7%	**2.2%**
Southern Mediterranean countries	million EUR	22	3	21	20	**65**
Exports to the	%	0.0%	0.0%	-0.1%	-0.2%	**-0.3%**
EU	million EUR	-12	7	-66	-69	**-139**
Imports from	%	-0.1%	0.0%	-0.1%	-0.1%	**-0.3%**
the EU	million EUR	-43	-9	-47	-39	**-138**

Sources: DG Trade, European Commission using the MIRAGE model.

The following table presents the same indicators for Turkey. Being closely integrated with the EU given the EU-Turkey Custom union that covers industrial products, as well as Turkey's close trade links with the Southern Mediterranean region the results are somewhat more pronounced, though still very small. GDP decreases by 0.02% (140 million EUR) and welfare by 0.03% (220 million EUR). Wages for both skill categories fall by 0.09%. The impact on purchasing power is dampened by a fall in the CPI of 0.07%. Exports to the four Southern Mediterranean partners fall by 11% or slightly less than 800 million EUR. Imports increase by 2.9% or about 60 million EUR.

Exports to the EU from Turkey increase by about 0.2% or 150 million EUR, whereas imports from the EU to Turkey decrease by 0.4% or 340 million EUR. The trade effects on Turkey are mainly caused by increased relative competitiveness of the Southern Mediterranean countries compared to Turkish products both on their home markets as well as in Turkey. This allows the Southern Mediterranean countries to improve their bilateral current account balance with Turkey, which in turn adjusts by improving its own current account balance with the EU.

Table D.45 Effects of the FTAs with Egypt, Jordan, Morocco and Tunisia on macroeconomic indicators in Turkey, 2018

Variable		Egypt FTA	Jordan FTA	Morocco FTA	Tunisia FTA	Total
GDP	%	-0.01%	0.00%	0.00%	-0.01%	**-0.02%**
	million EUR	-43	-6	-26	-62	**-137**
Welfare	%	-0.01%	0.00%	-0.01%	-0.02%	**-0.03%**
	million EUR	-60	-8	-52	-98	**-217**
Wages	low skilled	-0.02%	0.00%	-0.03%	-0.04%	**-0.09%**
	high skilled	-0.02%	0.00%	-0.03%	-0.04%	**-0.09%**
CPI	%	-0.02%	0.00%	-0.02%	-0.03%	**-0.07%**
Exports to the four	%	-3.3%	-0.5%	-2.7%	-4.6%	**-11.1%**
Southern Mediterranean countries	million EUR	-233	-38	-192	-328	**-792**
Imports from the four	%	1.4%	0.1%	0.8%	0.7%	**2.9%**
Southern Mediterranean countries	million EUR	27	1	16	14	**57**
Exports to the	%	0.1%	0.0%	0.0%	0.1%	**0.2%**
EU	million EUR	71	22	-1	58	**150**
Imports from	%	-0.1%	0.0%	-0.1%	-0.1%	**-0.4%**
the EU	million EUR	-101	-18	-107	-117	**-343**

Sources: DG Trade, European Commission using the MIRAGE model.

Algeria and Lebanon - PE Results

The results for Algeria and Lebanon are produced with a partial equilibrium model. The only indicator this model produces is bilateral trade flows for goods. Using concordance tables, these are translated into bilateral trade flows at the GTAP sector level in order to allow for at least some comparability between the results produced by the two model types. [901]

Algeria

The next table shows the impact on Algeria's exports of goods to the EU. Impacts are strongly concentrated in the chemicals, rubber and plastics as well as fossil fuels sectors, despite some significant relative increases in a few other sectors (e.g. processed food or vegetables, fruits and nuts), which, however, do not amount to much in absolute terms. The two mentioned sectors account for almost 90% of total increases in bilateral exports to the tune of 251 million EUR.

Table D.46 Effect of the FTA on Algeria's exports to the EU, 2018

CGE sector	Relative Change	Change in million EUR
Live ruminants and horses	-	0
Red Meat	0%	0
White Meat	0%	0
Dairy products	0%	0
Vegetables, fruit and nuts	18%	7
Vegetable oils	41%	0
Wheat	0%	0
Other Cereals	-	0
Processed food	81%	8
Beverages and tobacco	76%	2
Other agri-food products	0%	0
Fishery and Forestry	113%	1

[901] The World Bank Product Concordance has been used: https://wits.worldbank.org/product_concordance.htm.

CGE sector	Relative Change	Change in million EUR
Fossil fuels	0%	79
Minerals	3%	2
Chemical, rubber and plastic products	34%	142
Textiles	20%	0
Wearing apparel	74%	0
Leather products	7%	1
Metals and metal products	17%	2
Electronic equipment	13%	1
Motor vehicles and parts	17%	0
Other transport equipment	7%	1
Other Machinery and equipment	17%	6
Other manufactures	2%	0
Total Goods	**1%**	**251**

Source: DG Trade, European Commission using own PE Simulations.

The table below reports the effect on bilateral imports of Algeria from the EU. In total, Algeria's bilateral imports increase by 21% or 3.1 billion EUR. Strong relative effects are triggered by the FTA in the textiles, apparel and leather sectors. The absolute effects are, however, strongest in the chemicals, rubber and plastics as well as metals and other machinery and equipment sectors, with an increase in bilateral imports of more 700 million EUR in each of these. More than two thirds of all extra imports occur in these three sectors.

These figures may at first glance suggest that the impact of the FTA on the trade relationship is somewhat imbalanced. It is, however, important to point out in this context that Algeria's main export to the EU are fossil fuels. The latter enter the EU duty-free quota free even without a trade agreement under the so-called MFN conditions.[902]

Table D.47 Effect of the FTA on Algeria's imports from the EU, 2018

CGE sector	Relative Change	Change in million EUR
Live ruminants and horses	0%	0
Red Meat	0%	0
White Meat	0%	0
Dairy products	0%	0
Vegetables, fruit and nuts	2%	2
Vegetable oils	0%	0
Wheat	0%	0
Other Cereals	0%	0
Processed food	8%	41
Beverages and tobacco	8%	14
Other agri-food products	3%	2
Fishery and Forestry	20%	2
Fossil fuels	8%	99
Minerals	38%	109
Chemical, rubber and plastic products	28%	751
Textiles	75%	43
Wearing apparel	104%	24
Leather products	103%	15
Metals and metal products	43%	711

[902] Despite Algeria not being a WTO member, the EU grants MFN conditions to Algeria, as it does to all countries.

CGE sector	Relative Change	Change in million EUR
Electronic equipment	28%	100
Motor vehicles and parts	14%	233
Other transport equipment	14%	43
Other Machinery and equipment	24%	713
Other manufactures	25%	213
Total Goods	**21%**	**3,114**

Source: DG Trade, European Commission using own PE Simulations.

Lebanon

Lebanon's goods exports to the EU increase by 24% or about 90 million EUR under the FTA as is shown in the following table. About two thirds of this increase occurs in three sectors: processed food, chemicals rubber and plastics, and wearing apparel. Notably some agricultural sectors, in particular cereals, experience large relative increases but with very small underlying baseline trade flows.

Table D.48 Effect of the FTA on Lebanon's exports to the EU, 2018

CGE sector	Relative Change	Change in million EUR
Live ruminants and horses	-	0
Red Meat	0%	0
White Meat	241%	0
Dairy products	-	0
Vegetables, fruit and nuts	37%	1
Vegetable oils	43%	2
Wheat	445%	0
Other Cereals	617%	0
Processed food	119%	23
Beverages and tobacco	25%	3
Other agri-food products	63%	9
Fishery and Forestry	0%	0
Fossil fuels	1%	0
Minerals	11%	0
Chemical, rubber and plastic products	42%	24
Textiles	29%	1
Wearing apparel	126%	12
Leather products	29%	2
Metals and metal products	5%	7
Electronic equipment	1%	0
Motor vehicles and parts	71%	1
Other transport equipment	9%	0
Other Machinery and equipment	13%	3
Other manufactures	6%	3
Total Goods	**24%**	**89**

Source: DG Trade, European Commission using own PE Simulations.

Bilateral imports of goods to Lebanon from the EU increase by 15% or about 900 million EUR. Roughly half of this increase occurs in the sectors of chemicals, rubber and plastics, motor vehicles and other machinery and equipment. Exports of other manufactures and fossil fuels also increase significantly.

Table D.49 Effect of the FTA on Lebanon's imports from the EU, 2018

CGE sector	Relative Change	Change in million EUR
Live ruminants and horses	0%	0
Red Meat	4%	0
White Meat	6%	2
Dairy products	7%	12
Vegetables, fruit and nuts	16%	3
Vegetable oils	5%	1
Wheat	0%	0
Other Cereals	0%	0
Processed food	13%	39
Beverages and tobacco	9%	9
Other agri-food products	18%	10
Fishery and Forestry	0%	0
Fossil fuels	5%	102
Minerals	18%	36
Chemical, rubber and plastic products	23%	221
Textiles	17%	8
Wearing apparel	37%	33
Leather products	68%	25
Metals and metal products	24%	38
Electronic equipment	16%	17
Motor vehicles and parts	22%	123
Other transport equipment	9%	6
Other Machinery and equipment	25%	114
Other manufactures	26%	110
Total Goods	**15%**	**909**

Source: DG Trade, European Commission using own PE Simulations.

D3. Additional material on analysis of factors determining the degree to which SMCs could use the opportunities stemming from the FTAs

This part of the Annex D accompanies Chapter 3's *Section 3.5 on Analysis of factors determining the degree to which SMCs could use the opportunities stemming from the FTAs.*

D.3.1 Rules of origin

(see also section 3.5.1 Rules of origin as the key determinant of the ability to take advantage of tariff preferences)

To assess the consequences of adopting the PEM Protocol, the rules applied in the initial Euro-Med FTA protocols and in the PEM Protocol were compared. Because the differences between the FTA protocols are minor, the original protocol of the FTA with Morocco (which is exactly the same as Tunisia's) was used as an example for this comparison. The results are presented in Table D.50. The first two panels of the table present the incidence, that is the shares of products covered by the different categories of rules (WO, VA, CTC or SP, see Box 3.2 in Chapter 3) calculated at the HS 6-digit level, as well as their combinations, in the PEM and the EU-Morocco FTA, for seven broad products categories. There are two types of rule combination: either two requirements need to be jointly met (e.g. VA & CTC) or two alternative categories of rules need to be met (e.g. VA or CTC). The differences in incidence between the two RoO protocols are presented in the third panel of the table. To complete the comparison Table D.51 presents the level of aggregation at which the product-specific RoO apply in the two protocols.

Table D.50 Comparison of incidence by type of rule and rule combination in the original EU-Morocco FTA and the PEM Protocol

Distribution of product lines by rule type in the original EU-Morocco FTA:

Sector	WO	VC	CTC	TR	VC or CTC	VC or TR	CTC or TR	VC & CTC	VC & TR	CTC & VC or VC	TR & VC or TR
Agri-food	29%	3%	51%	5%	0%	0%	0%	4%	0%	0%	0%
Materials	0%	3%	59%	23%	0%	0%	2%	11%	0%	0%	0%
Chemicals	0%	20%	75%	1%	0%	0%	1%	2%	0%	0%	0%
Textiles	0%	1%	13%	64%	0%	0%	2%	0%	0%	0%	17%
Adv. Manuf. and Machinery	0%	40%	0%	0%	8%	0%	0%	0%	0%	51%	0%
Automotive	0%	81%	1%	0%	0%	0%	0%	0%	0%	18%	0%
Manufacturing and Electronics	0%	47%	13%	0%	0%	0%	0%	2%	0%	37%	0%

Distribution of product lines by rule type in the PEM Protocol:

Sector	WO	VC	CTC	TR	VC or CTC	VC or TR	CTC or TR	VC & CTC	VC & TR	CTC & VC or VC	TR & VC or TR
Agri-food	65%	2%	6%	2%	0%	0%	0%	5%	0%	0%	0%
Materials	0%	4%	60%	22%	0%	0%	3%	10%	0%	0%	0%
Chemicals	0%	20%	10%	1%	64%	1%	1%	1%	0%	0%	0%
Textiles	0%	1%	12%	65%	0%	0%	1%	0%	0%	0%	18%
Adv. Manuf. and Machinery	0%	43%	0%	0%	8%	0%	0%	0%	0%	49%	0%
Automotive	0%	78%	0%	0%	1%	0%	0%	0%	0%	20%	0%
Manufacturing and Electronics	0%	47%	10%	1%	4%	0%	0%	1%	0%	37%	0%

Difference PEM Protocol – EU Morocco FTA (in percentage points)

Sector	WO	VC	CTC	TR	VC or CTC	VC or TR	CTC or TR	VC & CTC	VC & TR	CTC & VC or VC	TR & VC or TR
Agri-food	+36	-1	+45	-3	0	0	0	+1	0	0	0
Materials	0	+1	+1	-1	0	0	0	-1	0	0	0
Chemicals	0	+	-65	-1	+64	+1	0	-1	0	0	0
Textiles	0	0	-1	+1	0	0	0	0	0	0	0
Adv. Manuf. and Machinery	0	+2	0	0	0	0	0	0	0	-2	0
Automotive	0	-2	-1	0	+1	0	0	0	0	+2	0
Manuf. & Electronics	0	0	-3	0	+4	0	0	-1	0	0	0

Source: own elaboration based on the original RoO protocols of respective agreements.

Table D.51 The level of application of product-specific RoO in the EU-Morocco FTA and the PEM Protocol

Distribution of product lines by level of aggregation of rules in the EU-Morocco FTA:

	All materials	Chapter	Heading	6dig	TARIC*	Specific group(s) of textile/chemical products	Mixed
Agri-food	1%	13%	74%	1%	0%	0%	11%
Materials	0%	1%	79%	2%	0%	0%	17%
Chemicals	5%	0%	75%	0%	2%	0%	18%
Textiles	1%	0%	16%	0%	0%	80%	3%
Adv. Manuf. & Machinery	40%	0%	0%	0%	0%	0%	60%
Automotive	81%	0%	1%	0%	0%	0%	18%
Manuf. & Electronics	46%	0%	13%	0%	0%	0%	41%

Difference PEM Protocol– EU Morocco FTA (in percentage points)							
	All materials	Chapter	Heading	6dig	TARIC*	Specific group(s) of textile/chemical products	Mixed
Agri-food	0	+59	-57	-1	0	0	-2
Materials	0	0	0	0	0	0	-1
Chemicals	0	0	-64	0	-1	0	+65
Textiles	0	0	-1	0	0	+1	0
Adv. Manuf. and Machinery	+2	0	0	0	0	0	-2
Automotive	-2	0	-1	0	0	0	+4
Manufacturing and Electronics	0	0	-4	0	0	0	+4

* Tariff-line level.
Source: own elaboration based on the original RoO protocols of respective agreements.

In the **Agri-food** sector the main difference is the share of 6-digit lines that have a 'Wholly Obtained (WO)' rule, compared to a 'CTC' rule. In the PEM Protocol, around 65% of all agri-food lines have a WO rule and only around 6% a 'pure' CTC rule. In contrast, in the AA the WO share is just under 30%, whereas the CTC share is around 51%. This difference is mainly explained by the fact that in the EU-Morocco FTA certain agri-food chapters are not specified in the schedule, in which case they are assumed to have a CTC rule.[903] In most of these cases, the same chapters have a WO rule in the PEM. This is the case, for example, for chapter 1 (live animals), most of chapter 9 (Coffee, tea, maté and spices), chapter 10 (Cereals), chapter 12 (Oil seeds and oleaginous fruits) and chapter 14 (Vegetable plaiting materials; vegetable products not elsewhere specified or included). This explains both why a smaller share of agri-food lines has a WO rule in the EU-Morocco FTA, and why the CTC rule accounts for a higher share.

The main difference in the level of aggregation at which RoO apply in the Agri-food sector is the share of products that have a rule applying at the chapter level, compared to the heading level. This is closely related to the discussion above; for the cases where the PEM Protocol has a WO rule, this usually operates at the chapter level. However, in cases where a sector is omitted in the EU-Morocco FTA, and thus a CTC rule applies, the rule applies at a heading level. There are some other differences that add to the differential between chapter and heading rules, for example with respect to chapter 4 (dairy products). In the PEM Protocol, the WO rule applies at the chapter level, whereas in the EU-Morocco FTA some headings under chapter 4 have a rule allowing any material to be used, with certain exceptions, applying at the heading level.

Overall, the fact that a larger proportion of HS lines are subject to the Wholly-Obtained rule in the PEM Protocol for the Agri-food sector, suggests that the restrictiveness of RoO in the sector may have increased if the HS lines concerned are processed agricultural products. In the case of unprocessed raw agricultural products, the WO rule is arguably not more restrictive than the change in the tariffs classification (CTC).

In **Materials,** overall there are very small differences between the PEM Convention and the EU-Morocco FTA, both with respect to differences in rules, and the level of aggregation at which the rules apply. The differences that do exist may, at least in part, be down to differences in HS nomenclatures. Overall, the introduction of the PEM Protocol is not deemed as having had a large impact on RoO restrictiveness in this sector.

In **Chemicals,** the key difference is the share of HS lines that fall under a 'CTC' rule compared to a 'VA or CTC' rule. In the PEM Protocol, around 64% of all tariff lines in this sector fall under a rule that gives a choice between a change in tariff heading (CTC) rule or a Value Content (VC) rule. In contrast, the EU-Morocco FTA 75% of all chemical product lines are subject to a 'pure' CTC rule. In both protocols, a 'CTC with flexibility' rule applies in this sector, meaning that some materials of the same heading can be used, up to a certain level usually defined as a percentage of the ex-works price. This is the case, for example, in the case of the most of chapter 28 (Inorganic chemicals) as well as to most of chapter 29 (Organic chemicals), chapter 31 (Fertilizers), chapter 32 (Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring

[903] Indeed, the Morocco AA contains a provision, in 2.1 in note 2 of Annex I to the Origin Protocol which states: *"In the case of any heading not in the list or any part of a heading that is not in the list, the 'change of heading' rule set out in Article 7(1) applies."* Thus, where a heading has not been specifically mentioned, a CTC rule applies. The PEM does not contain such a provision.

matter; paints and varnishes) and others. In the PEM Protocol, there is a choice between either adhering to the 'CTC with flexibility rule' or a Value Content (or Value Added) rule.

The main difference in the level of aggregation at which RoO apply in the Chemicals sector is the share of product lines subject to application of rules at the heading level, and the share which has a mix of different levels. This relates back to the discussion on differences in rules (see Box 3.2). In the PEM Protocol, a large share of chemical product lines have either a CTC or a VC rule. In most cases these rules operate at different aggregation levels, where the CTC rule usually applies at the heading level and the VC rule usually covers all materials. Such a product line would then be given a 'mixed' aggregation level. However, in the EU-Morocco FTA, many of these products only have a CTC rule, which operates purely at the heading level.

Overall, the PEM Protocol seems to have resulted in less restrictive RoO in the Chemicals sector.

In the **Textiles** sector**,** only small differences are observed between the two protocols, both with respect to the rules and the level of aggregation. Overall, both the PEM Protocol and the FTA apply a Technical Requirement (TR) rule to most textile products (around 65% of product lines in both protocols), and in the case of around 17-18% of product lines there is a choice between either a 'pure TR' rule, or a combined 'TR and VC" rule. In the PEM Protocol, for example, the headings 5407 and 5408 (woven fabrics) have been broken down into two different categories, products incorporating rubber thread, and those that do not. For the former, a 'pure TR' rule applies, whereby there is a processing rule requiring that single yarn is used in production. However, for the second category ('other'), either a TR rule applies, whereby the manufacturing needs to be performed from coir yarn, natural fibres etc., *or* a combined TR and VC rule applies. The second category of this heading ('other') is therefore classified as 'either a TR rule or a TR&VC rule'.

This example shows that the specificity of the textile sector in these RoO protocols is to require a double-transformation process in the Technical Requirement rule. For most products the PEM and the FTA contain identical 'double-transformation' in the TR rules, although we have identified three cases where the PEM Protocol contains a double TR rule, while the FTA does not (headings 5903, 5907 and 6213-6214). In both protocols, there are also some products to which a 'SP or VA&SP' rule applies, but where this is the case it is not a double SP rule. This particularly relates to certain headings under chapter 62 (Articles of apparel and clothing accessories, not knitted or crocheted) and chapter 63 (Other made-up textile articles; sets; worn clothing and worn textile articles).

The issue of double transformation in RoO applied to textiles in the Euro-Med FTAs was raised on a number of occasions during the public consultations and local workshops in Tunisia and Morocco (See Section 2). Sector representatives and academics consider double transformation as one of the main problems in using the preferential tariffs of these FTAs. They consider that the conditions provided for in RoO protocols of the "Everything But Arms" (EBA) Agreement[904] are less restrictive that those concerning the Euro-Med FTAs. In the EBA, which covers low and lower middle-income countries, only one transformation is required for the product to be considered originating. In the meetings, it has been suggested that an extension of the single processing principle to SMCs would be a welcome improvement. This is also supported by the economic literature on RoO: Cadot and Ing (2014) for example showed that simplification of RoO should prioritise industries such as textiles and clothing, footwear and food in which some rules are particularly restrictive (specifically with the double processing rule in the textile sector), while these sectors are important for SMCs in terms of value added and job creation.

[904] For more details of this EBA Agreement, see https://ec.europa.eu/trade/policy/countries-and-regions/development/generalised-scheme-of-preferences/).

D.3.2 Trade-related assistance

(see also Chapter 3's Section 3.5.3 Trade-related Assistance)

Figure D.14 Aid for Trade by EU Institutions and selected EU member countries in the area of economic infrastructure and services, by category (mln EUR)

Note: This data presents disbursements by EU Institutions and the nineteen EU members in the CRS category II. Economic Infrastructure by subcategory.
Source: Creditor Reporting System database, http://www.oecd.org/dac/stats/crsguide.htm, OECD.

Figure D.15 Aid for Trade by EU Institutions and selected EU member countries in the area of Production sectors, by category (mln EUR)

Note: This data presents disbursements by EU Institutions and the nineteen EU members in the CRS category III. Production sectors (excluding Trade Policies and Regulations) by subcategory
Source: Creditor Reporting System database, http://www.oecd.org/dac/stats/crsguide.htm, OECD.

D.3.4 The role of FDI and services trade

(see also Chapter 3's Section 3.5.5 Role of FDI and services trade)

Provisions of Euro-Med FTAs related to FDI and services

The texts of FTAs with **Egypt, Morocco, Tunisia** which were members of the WTO at the time of signing of their FTAs with the EU, contain similar provisions on FDI and services in Title III entitled Rights of Establishment and Services. In Article 31 of FTAs with **Morocco** and **Tunisia** (Article 29 and 30 in the case of **Egypt**), stipulates that the parties agree to widen the scope of the agreement in the future to cover the right of establishment of firms on the territory of the partner and call on the Association Council to make recommendations in this regard, taking into account the implementation of the most favourite nation (MFN) commitments and specific commitments made by each party under the GATS. The Association Council is also called for to make a first assessment of the achievement of these objectives no later than five years after the agreement enters into force.[116] The Association Council is also called to examine the international maritime transport sector with a view to making recommendations for liberalisation measures, while taking

into account the results of GATS negotiations on this matter. Article 32 (30 in the case of **Egypt**) further sets out some broad elements of such a subsequent agreement on services, by requiring for example reaffirmation of the GATS MFN commitments. In the case of **Morocco** and **Tunisia**, under the Title IV Payments, Capital, Competition and Other Economic Provisions, Article 34 (and in the case of **Egypt** Article 32) states that the parties to the agreement shall ensure that "from the entry into force of this Agreement, the capital relating to direct investments in **Morocco/Tunisia/Egypt** in companies formed in accordance with current laws can move freely and that the yield from such investments and any profit stemming therefrom can be liquidated and repatriated." This contrasts with the provisions on movement of other capital which is scheduled for full liberalisation "when the time is right" (Article 34.2 in the case of Morocco and Tunisia and 32.2 in the case of Egypt).

EU-**Jordan** FTA, signed in 1997, before the country joined the WTO in 2000, contains more extensive provisions in the area of services and FDI as compared to the agreements with SMCs who were WTO members at the time of signing the Euro-Med FTAs. In the area of services, Chapter 1 under Title III on Rights of Establishment and Services, ascertains a pre- and post-establishment MFN treatment of EU companies in Jordan and vice versa (Article 30), while excluding from such treatment air transport, inland waterways transport and maritime transport in Article 31 (although shipping agencies are granted MFN status). Article 33 contains a declaration of avoiding taking any more restrictive measures in the area of establishment than those existing on the date of signature of the Agreement. Article 34 contains provisions on employment of the trading partners' nationals in companies established in the other partner's territory (i.e. intra-corporate transferees). Article 35 states that the Association Council shall examine what steps are necessary to be taken to provide for the mutual recognition of qualifications in order to make it easier for the Community and Jordanian nationals to take up and pursue regulated professional activities in partners' territories. Chapter 2 of Title III of the EU-**Jordan** FTA on Cross-Border Supply of Services, declares that parties will use their best endeavours to progressively allow supply of services across their borders and call on the Association Council to make recommendations for the implementation of this objective (Article 37). Article 38 contains an even broader (but also arguably not very committing) provision on the possibility of negotiating in the future specific additional services trade agreements covering areas of road, rail, inland waterways and air transport. In Article 39, regarding maritime transport, the parties undertake to apply effectively unrestricted access to the international market and traffic on a commercial basis. In Chapter 3 on General provisions in Article 40 the parties agree to further consider development of Title III of the agreement with a view to establishing an 'economic integration agreement' as defined in Article V of the General Agreement on Trade in Services (GATS) and the Association Council is called for to make a first assessment of the achievement of these objectives no later than five years after the agreement enters into force. It seems therefore that the text of the EU-**Jordan** FTA ensures similar conditions for bilateral FDI and services trade to that stipulated in FTAs with SMCs which were already WTO members at the time of signature (i.e. Egypt, Morocco and Tunisia).

Annex Table D.52 Global Competitiveness Index: the 12 pillars (SMCs, Asia and Latin America and MENA)

	Algeria		Egypt		Jordan		Lebanon		Morocco		Tunisia		Asia and Latin America		MENA
	2018	%Δ 2010-2018	2018	% Change 2010-2018	2018	% Change 2010-2018	2018	% Change 2010-2018	2018	% Change 2010-2018	2018	% Change 2010-2018	2018	2018
1st pillar: Institutions	3.6	4.7	3.9	-2.4	4.5	-2.9	3.2	-4.5	4.2	6.7	3.8	-27.2	3.9	4.3
2nd pillar: Infrastructure	3.6	2.1	4.1	4.0	4.3	5.6	2.8	12.6	4.4	17.0	3.8	-14.9	4.0	4.4
3rd pillar: Macroeconomic environment	4.6	-2.5	2.6	-22.8	3.8	-9.8	2.5	-31.3	4.9	-5.8	3.9	-22.5	4.9	4.4
4th pillar: Health and primary education	5.8	3.7	5.5	2.2	5.6	-1.6	5.8	-5.1	5.6	4.9	6.0	-4.5	5.7	5.8
5th pillar: Higher education and training	4.0	10.0	3.6	0.1	4.5	4.7	4.3	-5.4	3.6	1.8	4.1	-16.3	4.2	4.3
6th pillar: Goods market efficiency	3.6	2.0	4.1	5.4	4.5	3.3	4.4	-0.8	4.4	8.6	4.0	-15.5	4.3	4.4
7th pillar: Labor market efficiency	3.3	-12.7	3.2	-6.1	4.0	1.1	3.7	-6.6	3.6	3.1	3.1	-27.4	4.1	3.9
8th pillar: Financial market development	3.1	8.3	3.9	-2.8	4.0	-7.4	3.9	-10.3	3.9	-3.4	3.4	-20.7	4.2	3.9
9th pillar: Technological readiness	3.4	12.6	3.5	4.1	4.3	15.8	4.4	34.3	3.8	9.1	3.7	-3.4	3.9	4.4
10th pillar: Market size	4.8	12.1	5.1	5.9	3.6	11.4	3.6	6.4	4.3	7.4	3.9	3.8	4.3	4.3
11th pillar: Business sophistication	3.3	-0.4	3.8	-4.9	4.3	10.7	4.2	2.0	4.0	6.3	3.7	-15.3	4.1	4.2
12th pillar: Innovation	2.9	6.9	2.9	-1.7	3.6	16.0	3.4	28.3	3.1	5.6	3.1	-20.2	3.5	3.6

Source: WEF, GCI dataset (2019).

Table D.53 Pearson's Correlation of FDI inflows, Doing Business and GCI (percentage change 2010-2018)

Variable	Correlation Coefficient	p-value	Variable	Correlation Coefficient	p-value
Doing Business	0.71	*0.11*	**Goods Market Efficiency**	0.52	*0.29*
GCI	0.36	*0.49*	**Labour Market Efficiency**	0.50	*0.32*
Institutions	0.45	*0.37*	**Financial Market Development**	0.15	*0.77*
Infrastructure	0.58	*0.23*	**Technological Readiness**	-0.15	*0.78*
Macroeconomic Environment	0.29	*0.57*	**Market Size**	-0.20	*0.71*
Health&Primary education	0.61	*0.20*	**Business Sophistication**	0.26	*0.62*
Higher Education and Training	0.11	*0.84*	**Innovation**	-0.05	*0.93*

Source: UNCTAD, GCI and Author's calculations.

Variable	Correlation Coefficient	p-value	Variable	Correlation Coefficient	p-value
Doing Business	0.71	*0.11*	**Labour Market Efficiency**	0.50	*0.32*
Institutions	0.45	*0.37*	**Financial Market Development**	0.15	*0.77*
Infrastructure	0.58	*0.23*	**Technological Readiness**	-0.15	*0.78*
Macroeconomic Environment	0.29	*0.57*	**Market Size**	-0.20	*0.71*
Health&Primary education	0.61	*0.20*	**Business Sophistication**	0.26	*0.62*
Higher Education and Training	0.11	*0.84*	**Innovation**	-0.05	*0.93*
Goods Market Efficiency	0.52	*0.29*			

Table D.54 Pearson's Correlation Trade in Services, Tariffs and Trade in Goods (values, 1990-2018)

Tariff Measures	Indicator	Commercial Services		Commercial Services net of Travel		Transport		Communication, Computer, Insurance and Financial services	
		Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
Tariff Line Peaks -% Manuf	corr coeff	-0.61*	-0.63*	-0.58*	-0.55*	-0.43*	-0.41*	-0.55*	-0.46*
	p_value	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Applied Tariff Rate Simple Mean - Manuf	corr coeff	-0.46*	-0.53*	-0.44*	-0.47*	-0.29*	-0.31*	-0.49*	-0.39*
	p_value	*0*	*0*	*0*	*0*	*0.0037*	*0.002*	*0*	*0.0001*
Applied Tariff Rate Weighted Mean - Manuf	corr coeff	-0.38*	-0.47*	-0.35*	-0.42*	-0.18*	-0.22*	-0.50*	-0.37*
	p_value	*0.0001*	*0*	*0.0004*	*0*	*0.0757*	*0.0298*	*0*	*0.0002*
MFN Simple Mean - Manuf	corr coeff	-0.36*	-0.40*	-0.31*	-0.32*	-0.18*	-0.18*	-0.43*	-0.25*
	p_value	*0.0004*	*0.0001*	*0.0024*	*0.0014*	*0.0741*	*0.0738*	*0.0001*	*0.0124*
MFN Weighted Mean - Manuf	corr coeff	-0.32*	-0.44*	-0.29*	-0.38*	-0.14	-0.17*	-0.49*	-0.34*
	p_value	*0.0014*	*0*	*0.0048*	*0.0002*	*0.1815*	*0.0889*	*0*	*0.0007*
Goods Exports	corr coeff	0.11	0.45*	0.20*	0.58*	0.25	0.46*	-0.02	0.56*
	p_value	*0.1829*	*0*	*0.0126*	*0*	*0.0022*	*0*	*0.7999*	*0*
Goods Imports	corr coeff	0.61*	0.77*	0.66*	0.85	0.68*	0.76*	0.28*	0.69*
	p_value	*0*	*0*	*0*	*0*	*0*	*0*	*0.0012*	*0*

Source: WDI and Author's computations.

Table D.55 Pearson' and Spearman's correlation matrix (Services Value Added - 1990-2018)

Variables		Service VA (%GDP)	Service VA (Per Worker)	Variables		Service VA (%GDP)	Service VA (Per Worker)
		Pearson's correlation				Spearman's correlation	
Tariff Line Peaks -% Manuf	corr coeff	-0.38*	-0.35*	Goods Exports	corr coeff	-0.4442*	-0.13
	p_value	*0.0001*	*0.0003*		p_value	*0*	*0.139*
Applied Tariff Rate Simple Mean - Manuf	corr coeff	-0.37*	-0.38*	Goods Imports	corr coeff	-0.2014*	0.04
	p_value	*0.0001*	*0.0001*		p_value	*0.0141*	*0.607*
Applied Tariff Rate Weighted Mean - Manuf	corr coeff	-0.33*	-0.38*	Commercial Services Net of Travel - Import	corr coeff	-0.0882	-0.02
	p_value	*0.0007*	*0.0001*		p_value	*0.2862*	*0.7943*
MFN Simple Mean - Manuf	corr coeff	-0.45*	-0.48*	Transport - Import	corr coeff	-0.2723*	-0.29*
	p_value	*0*	*0*		p_value	*0.0008*	*0.0007*
MFN Weighted Mean - Manuf	corr coeff	-0.37*	-0.42*	**Communication, Computer, Insurance and Financial services**	corr coeff	-0.1395*	-0.01
	p_value	*0.0001*	*0*		p_value	*0.0908*	*0.9022*

Source: WDI and Author's computations.

Regression Results: Trade in services and trade in goods

The Euro-Med FTAs, despite not including any provision on services, may have an indirect impact on trade in services. Indeed, the increase in trade in goods due to the FTA may increase the demand of commercial services such as Transport and Communication, Computer, Insurance and Financial services.

To test whether this hypothesis is correct, we run the following regression:

$$CommercialService_{i,j}^{x} = f\left(goods\ export_{ij};\ goods\ imports_{i,j}; tariffs_{i,j}; service\_VA_{i,j};\ AA\_dummy_{i};\ year_{i}\right)$$

Where Commercial Service is computed as Total Commercial Service, Commercial Service net of Travel, Transport and Communication, Computer, Insurance and Financial services (all expressed in current USD). Goods exports and imports are the total amount of goods imported and exported from the World and are expressed in current USD; tariffs is computed as the simple mean applied tariff is the unweighted average of effectively applied rates for all products subject to tariffs calculated for all traded goods (the results are consistent also with other tariff variables such as MNF or the share of tariff peaks); service_VA control for the size and productivity of the domestic service sector and it's measured as the share of service employment in total employment and the share of service value added per worker. Finally, we introduce a dummy to capture the period from the AA implementation and 2018 (Post_AA) and the period between the AA implementation and the financial crisis (Post_AA_FC). We control for country fixed effects and year. We report heteroschedasticity-robust standard errors.

Results (Table D.20-D.) show a strong link between trade in goods and the export of commercial services, although the impact of goods imports is more robust: an increase in import goods is correlated to an increase in commercial services' exports in all the regressions, while an increase in both goods exports and imports is strongly correlated only to an increase in Transport. The correlation between trade in service and tariffs is negative but it is significant only for Communication, Computer, Insurance and Financial services' export. A decrease in the tariffs on goods seems more correlated to an increase in exports in this sector than in Transport or commercial services in general. Finally, the positive coefficient of the AA dummy suggests that the exports of commercial services (net of Travel) have increased in the aftermath of the FTA. However, the dummy is not significant for Transport and the increase in the exports and imports of Communication, Computer, Insurance and Financial service is limited to the period between the AA implementation and the financial crisis. Finally, imports of commercial services are positive correlated to an increase in imports of goods but not of exports.

The regression results confirm the indirect effect of the FTA on services trade through the expansions of trade in goods. However, except for Transport, imports of goods seem the main driver of an increase in trade in services.

Table D.56 Regression Results Commercial Services - Exports (Current USD)

VARIABLES	(1) Commercial_Serv Exp	(2) Commercial_Serv Exp	(3) Commercial_Serv Exp	(4) Commercial_Serv Exp	(5) Commercial_Serv Exp	(6) Commercial_Serv Exp
GoodsExports_CurrentUSD	0.125*	0.0814	0.0255	0.0342	0.0318	0.0408
	(0.0510)	(0.0563)	(0.0390)	(0.0517)	(0.0424)	(0.0511)
GoodsImports_CurrentUSD	0.173*	0.206**	0.235**	0.251***	0.241**	0.256***
	(0.0726)	(0.0598)	(0.0800)	(0.0523)	(0.0815)	(0.0527)
AppTariffRate_SMean_PercManuf	-6.394e+07	-5.819e+07				
	(4.793e+07)	(4.142e+07)				
Empl_Service_Perc_TotEmpl	-5.592e+07			-1.922e+08	1.286e+08	
	(1.869e+08)			(1.673e+08)	(1.881e+08)	
Service_VA_PercGDP		-1.533e+08	1.731e+08			-1.889e+08
		(1.434e+08)	(1.758e+08)			(1.651e+08)
Post_AA			2.590e+09**	2.139e+09		
			(8.448e+08)	(1.132e+09)		
Post_AA_FC					1.603e+09*	1.444e+09
					(7.492e+08)	(9.202e+08)
year	4.131e+07	5.819e+07	-9.203e+07	1.276e+07	-4.394e+07	3.963e+07
	(1.504e+08)	(1.053e+08)	(1.122e+08)	(9.687e+07)	(1.194e+08)	(1.070e+08)
Constant	-7.608e+10	-1.048e+11	1.765e+11	-1.425e+10	8.289e+10	-6.803e+10
	(2.999e+11)	(2.129e+11)	(2.197e+11)	(1.874e+11)	(2.342e+11)	(2.080e+11)
Observations	94	95	145	148	145	148
R-squared	0.755	0.767	0.774	0.820	0.762	0.813
Number of countryname_c	6	6	6	6	6	6
r2_a	0.741	0.754	0.766	0.814	0.753	0.806

Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Table D.57 Regression Results Commercial Services - Imports (Current USD)

VARIABLES	(1) Commercial Serv Imp	(2) Commercial_Serv Imp	(3) Commercial_Serv Imp	(4) Commercial_Serv Imp	(5) Commercial_Serv Imp	(6) Commercial_Serv Imp
GoodsExports_CurrentUSD	0.0303	0.0367	0.0110	0.0103	0.0144	0.0144
	(0.0197)	(0.0401)	(0.0203)	(0.0270)	(0.0206)	(0.0277)
GoodsImports_CurrentUSD	0.202***	0.202**	0.216***	0.221***	0.219***	0.223***
	(0.0425)	(0.0539)	(0.0446)	(0.0433)	(0.0452)	(0.0445)
AppTariffRate_SMean_PercManuf	4.601e+07	3.947e+07				
	(3.044e+07)	(2.487e+07)				
Empl_Service_Perc_TotEmpl	3.240e+07			-1.624e+07	6.350e+07	
	(1.100e+08)			(8.545e+07)	(1.157e+08)	
Service_VA_PercGDP		3.723e+07	8.989e+07			-1.255e+07
		(8.986e+07)	(1.111e+08)			(8.422e+07)
Post_AA			1.187e+09	9.107e+08		
			(9.361e+08)	(6.800e+08)		
Post_AA_FC					6.311e+08	4.607e+08
					(9.227e+08)	(6.629e+08)
year	9.090e+07	6.606e+07	-5.375e+07	-2.391e+07	-2.650e+07	-6.945e+06
	(1.058e+08)	(9.144e+07)	(4.999e+07)	(3.107e+07)	(5.415e+07)	(3.640e+07)
Constant	-1.834e+11	-1.339e+11	1.037e+11	4.952e+10	5.069e+10	1.550e+10
	(2.140e+11)	(1.877e+11)	(9.627e+10)	(6.206e+10)	(1.049e+11)	(7.335e+10)
Observations	94	95	145	148	145	148
R-squared	0.874	0.872	0.876	0.868	0.870	0.864
Number of countryname_c	6	6	6	6	6	6
r2_a	0.867	0.864	0.872	0.863	0.866	0.859

Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Table D.58 Regression Results Commercial Service Exports Net of Travel - Exports (Current USD)

VARIABLES	(1) CommServ_Net_ Travel_Exp	(2) CommServ_Net Travel_Exp	(3) CommServ_Net Travel_Exp	(4) CommServ_Net Travel_Exp	(5) CommServ_Net Travel_Exp	(6) CommServ_Net Travel_Exp
GoodsExports_CurrentUSD	0.0594***	0.0601*	0.00728	0.0362	0.0103	0.0385
	(0.0104)	(0.0292)	(0.00991)	(0.0247)	(0.0102)	(0.0247)
GoodsImports_CurrentUSD	0.117**	0.109*	0.145**	0.144**	0.149**	0.146**
	(0.0433)	(0.0426)	(0.0440)	(0.0393)	(0.0450)	(0.0390)
AppTariffRate_SMean_PercManuf	-3.429e+07	-3.782e+07				
	(2.466e+07)	(2.161e+07)				
Empl_Service_Perc_TotEmpl		2.159e+07		8.336e+06	2.167e+08	
		(9.174e+07)		(1.007e+08)	(1.206e+08)	
Service_VA_PercGDP	1.094e+08		2.330e+08			8.915e+06
	(1.056e+08)		(1.173e+08)			(1.006e+08)
Post_AA			1.689e+09*	9.391e+08		
			(8.017e+08)	(8.230e+08)		
Post_AA_FC					1.264e+09	6.958e+08
					(6.914e+08)	(6.877e+08)
year	-2.380e+07	-7.772e+06	-1.214e+08*	-4.776e+07	-1.011e+08	-3.820e+07
	(7.645e+07)	(6.380e+07)	(6.010e+07)	(7.214e+07)	(6.263e+07)	(7.491e+07)
Constant	4.361e+10	1.624e+10	2.312e+11	9.558e+10	1.916e+11	7.646e+10
	(1.522e+11)	(1.287e+11)	(1.165e+11)	(1.397e+11)	(1.219e+11)	(1.455e+11)
Observations	94	95	145	148	145	148
R-squared	0.786	0.779	0.772	0.754	0.762	0.750
Number of countryname_c	6	6	6	6	6	6
r2_a	0.774	0.766	0.764	0.745	0.754	0.742

Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Table D.59 Regression Results Commercial Service Exports Net of Travel - Imports (Current USD)

VARIABLES	(1) CommServ_Net Travel_Imp	(2) CommServ_Net Travel_Imp	(3) CommServ_Net Travel_Imp	(4) CommServ_Net Travel_Imp	(5) CommServ_Net Travel_Imp	(6) CommServ_Net Travel_Imp
GoodsExports_CurrentUSD	0.0230	0.0334	0.0176	0.0141	0.0203	0.0174
	(0.0122)	(0.0287)	(0.0119)	(0.0192)	(0.0122)	(0.0200)
GoodsImports_CurrentUSD	0.186***	0.181***	0.192***	0.195***	0.194***	0.196***
	(0.0278)	(0.0363)	(0.0303)	(0.0310)	(0.0310)	(0.0321)
AppTariffRate_SMean_PercManuf	3.332e+07	2.811e+07*				
	(1.695e+07)	(1.281e+07)				
Empl_Service_Perc_TotEmpl		4.696e+07		90,156	4.799e+07	
		(6.698e+07)		(6.340e+07)	(8.138e+07)	
Service_VA_PercGDP	3.083e+07		6.839e+07			3.011e+06
	(7.378e+07)		(7.963e+07)			(6.216e+07)
Post_AA			9.676e+08	7.661e+08		
			(7.138e+08)	(5.524e+08)		
Post_AA_FC					5.336e+08	4.001e+08
					(7.290e+08)	(5.557e+08)
year	2.645e+07	7.719e+06	-7.487e+07	-5.444e+07	-5.362e+07	-4.062e+07
	(6.605e+07)	(5.178e+07)	(4.158e+07)	(2.867e+07)	(4.489e+07)	(3.195e+07)
Constant	-5.468e+10	-1.797e+10	1.464e+11	1.092e+11	1.051e+11	8.144e+10
	(1.324e+11)	(1.071e+11)	(7.992e+10)	(5.647e+10)	(8.674e+10)	(6.354e+10)
Observations	94	95	145	148	145	148
R-squared	0.879	0.881	0.873	0.865	0.868	0.861
Number of countryname_c	6	6	6	6	6	6
r2_a	0.873	0.874	0.869	0.860	0.863	0.856

Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Table D.60 Regression Results Transport- Exports (Current USD)

VARIABLES	(1) Transport Exports	(2) Transport Exports	(3) Transport Exports	(4) Transport Exports	(5) Transport Exports	(6) Transport Exports
GoodsExports_CurrentUSD	0.0471***	0.0470**	0.0138**	0.0203	0.0142**	0.0208
	(0.00750)	(0.0177)	(0.00377)	(0.0149)	(0.00357)	(0.0145)
GoodsImports_CurrentUSD	0.0906*	0.103**	0.106*	0.106**	0.106*	0.107**
	(0.0412)	(0.0395)	(0.0451)	(0.0396)	(0.0450)	(0.0398)
AppTariffRate_SMean_PercManuf	3.923e+06	4.913e+06				
	(1.559e+07)	(1.421e+07)				
Empl_Service_Perc_TotEmpl	-1.360e+08			-4.353e+07	-7.980e+07	
	(1.108e+08)			(4.749e+07)	(6.480e+07)	
Service_VA_PercGDP		-1.716e+07	-7.660e+07			-4.384e+07
		(4.437e+07)	(6.320e+07)			(4.763e+07)
Post_AA			1.232e+08	3.067e+08		
			(1.190e+08)	(2.928e+08)		
Post_AA_FC					5.743e+07	2.618e+08
					(1.233e+08)	(2.468e+08)
year	1.448e+07	-2.340e+07	-2.034e+07	-2.898e+07	-1.711e+07	-2.710e+07
	(6.336e+07)	(4.334e+07)	(4.470e+07)	(4.437e+07)	(4.937e+07)	(4.672e+07)
Constant	-2.242e+10	4.707e+10	4.432e+10	5.976e+10	3.803e+10	5.601e+10
	(1.213e+11)	(8.409e+10)	(8.691e+10)	(8.637e+10)	(9.604e+10)	(9.104e+10)
Observations	94	95	145	148	145	148
R-squared	0.815	0.793	0.763	0.803	0.762	0.802
Number of countryname_c	6	6	6	6	6	6
r2_a	0.805	0.781	0.754	0.796	0.754	0.795

Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Table D.61 Regression Results Transport- Imports (Current USD)

VARIABLES	(1) Transport Imports	(2) Transport Imports	(3) Transport Imports	(4) Transport Imports	(5) Transport Imports	(6) Transport Imports
GoodsExports_CurrentUSD	0.0234	0.0353*	0.00552	0.00963	0.00546	0.00972
	(0.0209)	(0.0164)	(0.0159)	(0.00923)	(0.0164)	(0.00951)
GoodsImports_CurrentUSD	0.0870*	0.0903*	0.0936*	0.0925*	0.0934*	0.0926*
	(0.0413)	(0.0394)	(0.0465)	(0.0454)	(0.0461)	(0.0451)
AppTariffRate_SMean_PercManuf	2.215e+07	1.960e+07				
	(1.317e+07)	(1.291e+07)				
Empl_Service_Perc_TotEmpl	-9.133e+07			-3.259e+06	-6.933e+07	
	(9.868e+07)			(3.436e+07)	(6.433e+07)	
Service_VA_PercGDP		3.227e+07	-6.893e+07			-3.300e+06
		(4.803e+07)	(6.475e+07)			(3.407e+07)
Post_AA			-1.023e+08	5.105e+07		
			(1.658e+08)	(1.946e+08)		
Post_AA_FC					-1.006e+08	4.281e+07
					(8.015e+07)	(1.388e+08)
year	2.668e+07	-1.684e+07	-8.900e+06	-2.739e+07	-8.918e+06	-2.705e+07
	(5.950e+07)	(3.030e+07)	(3.404e+07)	(2.820e+07)	(3.544e+07)	(3.016e+07)
Constant	-4.963e+10	3.097e+10	2.103e+10	5.454e+10	2.109e+10	5.386e+10
	(1.142e+11)	(5.981e+10)	(6.503e+10)	(5.443e+10)	(6.788e+10)	(5.832e+10)
Observations	94	95	145	148	145	148
R-squared	0.646	0.639	0.646	0.642	0.646	0.642
Number of countryname_c	6	6	6	6	6	6
r2_a	0.626	0.618	0.633	0.629	0.633	0.629

Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Table D.62 Regression Results Communication, Computer, Insurance and Financial Services- Exports (Current USD)

	(1) CommCompInsFin Exp	(2) CommCompInsFin Exp	(3) CommCompInsFin Exp	(4) CommCompInsFin Exp	(5) CommCompInsFin Exp	(6) CommCompInsFin Exp
GoodsExports_CurrentUSD	0.0146*	0.00451	-0.0117	0.00172	-0.0103	0.00157
	(0.00682)	(0.0357)	(0.0146)	(0.0192)	(0.0127)	(0.0208)
GoodsImports_CurrentUSD	0.0474*	0.0150	0.0423	0.0298	0.0460	0.0325
	(0.0215)	(0.0382)	(0.0307)	(0.0459)	(0.0317)	(0.0460)
AppTariffRate_SMean_PercManuf	-4.962e+07*	-4.936e+07***				
	(1.938e+07)	(1.090e+07)				
Empl_Service_Perc_TotEmpl	3.442e+08***			4.149e+07	2.746e+08**	
	(8.474e+07)			(6.816e+07)	(9.694e+07)	
Service_VA_PercGDP		8.710e+06	2.711e+08**			3.494e+07
		(1.294e+08)	(9.047e+07)			(7.259e+07)
Post_AA			1.931e+09	1.306e+09		
			(1.056e+09)	(9.126e+08)		
Post_AA_FC					1.819e+09*	1.299e+09
					(8.015e+08)	(6.752e+08)
year	-1.150e+08*	1.691e+07	-1.281e+08	-3.313e+07	-1.233e+08	-2.948e+07
	(4.768e+07)	(5.000e+07)	(7.262e+07)	(7.078e+07)	(6.245e+07)	(6.505e+07)
Constant	2.159e+11*	-3.130e+10	2.443e+11	6.544e+10	2.343e+11	5.843e+10
	(9.389e+10)	(9.494e+10)	(1.410e+11)	(1.384e+11)	(1.205e+11)	(1.270e+11)
Observations	80	81	125	127	125	127
R-squared	0.411	0.311	0.366	0.293	0.388	0.309
Number of countryname_c	6	6	6	6	6	6
r2_a	0.372	0.265	0.339	0.264	0.362	0.281

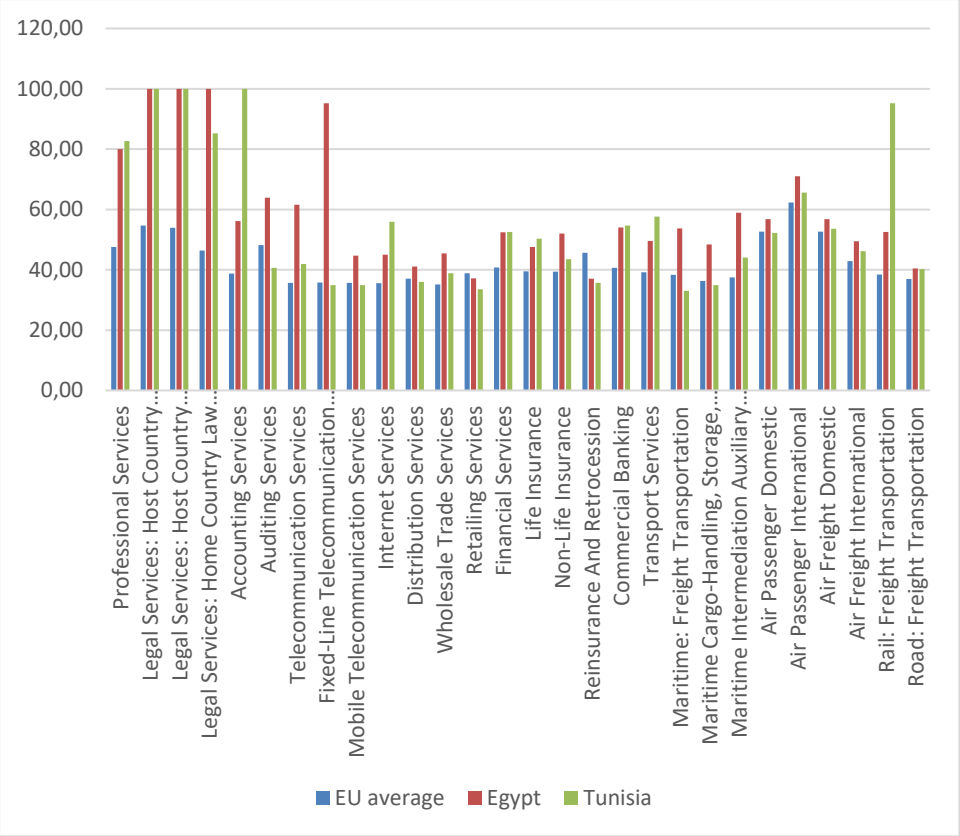
Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Table D.63 Regression Resutls Communication, Computer, Insurance and Financial Services- Imports (Current USD)

	(1) CommCompInsFin Imp	(2) CommCompInsFin Imp	(3) CommCompInsFin Imp	(4) CommCompInsFin Imp	(5) CommCompInsFin Imp	(6) CommCompInsFin Imp
GoodsExports_CurrentUSD	0.00168	0.0154	0.00763	0.00758	0.00779	0.00700
	(0.00571)	(0.0199)	(0.00636)	(0.0127)	(0.00520)	(0.0133)
GoodsImports_CurrentUSD	0.0920***	0.0732**	0.0767***	0.0763***	0.0790***	0.0781***
	(0.0133)	(0.0216)	(0.0119)	(0.0150)	(0.0119)	(0.0146)
AppTariffRate_SMean_PercManuf	8.131e+06	2.589e+06				
	(1.575e+07)	(1.144e+07)				
Empl_Service_Perc_TotEmpl	1.440e+08**			4.989e+07	1.760e+08**	
	(5.120e+07)			(4.475e+07)	(5.967e+07)	
Service_VA_PercGDP		7.055e+07	1.646e+08*			4.577e+07
		(5.104e+07)	(6.884e+07)			(4.657e+07)
Post_AA			1.302e+09	8.167e+08		
			(6.555e+08)	(5.470e+08)		
Post_AA_FC					1.389e+09**	9.215e+08*
					(5.129e+08)	(4.450e+08)
year	-3.913e+07	-2.406e+07	-1.085e+08**	-6.964e+07*	-1.138e+08**	-7.268e+07**
	(3.344e+07)	(3.421e+07)	(3.777e+07)	(3.062e+07)	(3.171e+07)	(2.645e+07)
Constant	7.149e+10	4.530e+10	2.091e+11**	1.373e+11*	2.189e+11**	1.436e+11**
	(6.741e+10)	(7.012e+10)	(7.201e+10)	(5.933e+10)	(6.042e+10)	(5.097e+10)
Observations	94	95	145	148	145	148
R-squared	0.591	0.583	0.595	0.546	0.624	0.565
Number of countryname_c	6	6	6	6	6	6
r2_a	0.567	0.559	0.580	0.530	0.611	0.550

Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

Figure D.16 Trade restrictions across services sectors in the EU, Egypt and Tunisia (2016)



Note: the EU average is a simple average across scores of all EU countries included in the dataset.
Source: WTO- World Bank Services Trade Restrictions Index available at http://i-tip.wto.org/services/.

D.3.5 Trading across borders and logistics performance – country-specific information

Trading across borders

Algeria's institutional development in this area appears to have stalled in the period 2015-2018, with most of the development occurring between 2006 and 2015 (compare Panels A and B above). Specifically, time required to complete export procedures in **Algeria** stood at 15 days in 2006 and 17 days in 2015. Beyond 2015 it appears the country, despite the evident stalling, still experienced some positive changes: time needed to complete all documentary and border compliance procedures amounted to 149 hours (i.e. 6.2 days) and 80 hours (3.33 days) respectively. As for import-related procedures, the years 2006-2015 brought an increase in the time needed to successfully complete them: in 2006 the process usually took 22 days while in 2015 it stood at 26 days.[905] The changes observed in the first phase could be associated with increasing the number of inspections carried out during trade processes, which made trade across borders more difficult (in 2008), as well as a much desirable upgrading of the infrastructure in the port of Algiers (in 2015)[906]. From 2015 to 2018, import-related documentary and border compliance periods stood at 249 hours (10.4 days) and 327 hours (13.625 days) respectively. Regarding export-related costs, they were at 3341 USD per container[907] in 2006 and at 1270 USD per container in 2015, which translated into a decrease of 64% between the beginning and end of the phase. Beyond 2015, the export-related costs[908] totalled 967 USD (374 USD for documentary and 593 USD for border compliance respectively). Costs associated with imports were lower and totalled 809 USD (400 USD and 409 USD for documentary and border compliance respectively). Until 2015, the number of

[905] Which indicates an increase of 18% between the beginning and end of the first phase.
[906] As per information available at https://www.doingbusiness.org/en/reforms/overview/economy/algeria last access 20 January 2020.
[907] In deflated terms.
[908] Beginning in 2015, the Doing Business approach switched from measuring costs „per container in deflated USD" to indicating costs of border and documentary compliance. This change makes the two phases (2006-2015 and 2015 and beyond) incomparable as far as monetary costs of export and import procedures are concerned.

documents was also an important factor decisive in trade processes – as regards exports, 9 documents were required between 2006 and 2014 inclusive; the number decreased to 8 in 2015[909].

Egypt's trade-related framework bloomed in the years 2006-2015, experiencing a growth of 48% in terms of shortening its distance to the frontier. Yet, this tendency weakened in 2015, when the country started deteriorating in the "distance-to-the-frontier" terms. The positive developments were visible in the time required for export-related procedures, which took 27 days in 2006; in 2008 they decreased to 15 days, and from 2011 to 2015 they stabilised at 12 days.[910] Beyond 2015, the time required for documentary and border procedures totalled 5.66 days, with 3.66 days (88 hours) allotted for documentary compliance and 2 days (48 hours) for border compliance. As for equivalent import procedures, between 2006 and 2015, the required time decreased by 53%, from 32 (2016) to 15 days (2015). The positive developments could be associated with improvements in custom administration (implemented in 2008) and upgraded port facilities at Alexandria (in 2009). At the same time, customs clearance accelerated, which, together with increased competition in the banking sector, helped reduce the time required to open a letter of credit.[911] Processing of paperwork was also made easier by implementation of electronic submission systems for export and import documents in 2011. In the years 2015-2016, import related documentary and border compliance totalled 13 days (8 days for documentary compliance [192 hours] and 5 days for border compliance [120 hours]); in the period 2017-2018 these periods extended, reaching 11.04 days (265 hours) for documentary and 10 days (240 hours) for border compliance. The deterioration in trade environment could be associated with imposing a cap on foreign exchange deposits and withdrawals for imports which translated into greater difficulties associated with obtaining and processing of relevant documents.[912] As for export- and import-related costs, they totalled, respectively, 2669 USD and 3341 USD per container in 2006. In 2015 these costs were significantly lower, at 790 USD and 1270 USD per container for exports and imports respectively.[913] Beyond 2015, export-related costs amounted to 358 USD (out of which documentary compliance amounted to 100 USD and the rest was associated with border compliance). In the case of imports, border compliance costs were unchanged, at 554 USD, but documentary compliance-related costs increased from 650 USD in 2015-2016 to 1000 USD from 2017 onwards. As for documents required for exports and imports, only the latter saw some amelioration and decreased from 11 in 2006 to 8 in 2007-2015; the former was unchanged at 8 throughout the period 2005-2015.

Jordan's first phase's development was less prominent than Egypt's (a decrease of 32% in terms of 'distance-to-the-frontier' - Panel A, Figure 3.92) and stagnated in the years 2015-2018. As for details, Jordanian export-related procedures saw a material amelioration in the period 2006-2015: starting from 28 days in 2006, the period gradually shortened, going through 17 days (2010) down to 12 days in 2015.[914] In the second phase, the time to export totalled 2.54 days in 2015-2016 (with documentary compliance at 0.25 days [6 hours[915]] and border compliance at 2.29 days [55 hours]) and fell slightly in 2016-2017 to 2.46 days (due to a slight decrease in border compliance, down to 2.208 days [53 hours[916]]). As for import-related time, it decreased less aggressively than in the case of exports, starting from 28 days in 2006, through 19 days in 2010 and down to 15 days in 2015.[917] In the years 2015-2018, time required to complete import-related procedures remained unchanged, at 5.52 days in total (with documentary compliance taking 2.29 days [55 hours[918]] and border compliance – 3.29 days [79 hours[919]]). The prominent changes observed in the first phase, both in relation to exports and imports, were fuelled by implementation, in 2010, of a risk-based inspection system with post-destination clearance for pre-approved traders[920] and allowing online submissions of customs declarations.[921] Further facilitations were introduced in

[909] It is important to note that no information regarding the number of relevant documents is available beyond the year 2015 for any of the analysed economies; the series has been discontinued.
[910] The observed change between 2006 and 2015 marks a decrease of 56%.
[911] As per information available at https://www.doingbusiness.org/en/reforms/overview/economy/egypt last access 20 January 2020.
[912] Ibidem.
[913] In the case of exports, a decrease of 74% was recorded (the year 2006 vs 2015); in the case of imports, the change amounted to 70%.
[914] Which makes a decrease of 57% in 2015, with 2006 as the base year.
[915] Second shortest time in the country sample, with only Tunisia enjoying a swifter process.
[916] The fourth score in the country sample.
[917] Which makes a decrease of 46% in 2015, with 2006 as the base year.
[918] Jordan ranks as the third in this category, among other countries in the sample.
[919] Jordan is the best-ranking economy in this category in the sample considered.
[920] This helped to reduce the number of containers due for physical inspection and allowing online submission of customs declarations.
[921] Via the ASYCUDA World electronic data interchange system.

2012 and 2015 respectively, in form of X-ray scanners for risk management systems and improving port infrastructure in Aqaba.[922] As for costs, those export-related remained volatile in the years 2006-2015, down from 1340 USD per container in 2006 to 825 USD in 2015.[923] In this area, Jordan experienced the third largest amelioration and was also, in 2015, the fourth least expensive economy as far as export procedures, translated into monetary costs per container, were concerned. The period 2015-2018 brought no changes in export-related costs, which totalled 231 USD (with 100 USD for documentary and 131 USD for border compliance[924]). As regards import costs, they emerged as both more volatile and higher than the export-related ones in the period 2006-2015, from 1777 USD in 2006 down to 1235 USD in 2015.[925] Beyond 2015, these costs amounted to 396 USD, with no changes over the four years of the analysis (with 190 USD for documentary and 206 USD for border compliance).[926] Exports procedures demanded 5 documents throughout the period 2006-2015; in the case of imports, the initial number of 12 documents (in 2006) fell to 7 in 2007 and stayed at this level for the rest of the period[927;928].

Lebanon's[929] trade-related institutional development was relatively small in the period 2006-2015, amounting to a progress of 14% only in terms of the 'distance-to-the-frontier'; in the years 2015-2018 the economy stalled, ranking as the third furthest from the frontier.[930] In particular, time required to complete export-related procedures displayed a downward trend, albeit a very weak one: in 2006, one needed 25 days to go through the relevant processes, in 2008-2009 the time lengthened to 26 days, only to fall in 2012 down to 22 days and to stabilise at this level for the three following years.[931] In the period 2015-2018, the time required for both documentary and border compliance stood at 6 days (with 2 days [48 hours[932]] for documentary and 4 days [96 hours[933]] for border compliance). The time required for imports emerged as equally unstable, starting at 34 days in 2006, going up to 38 days in 2008-2009 and down to 33 days (2010-2011), only to stabilise at 30 days in 2012-2015.[934] In the period 2015-2018 no changes were observed, with the total of 10.5 days required to comply both with documentary and border procedures (with 3 days [72 hours] for documentary and 7.5 days [180 hours[935]] for border compliance). As for export-related costs, they increased in 2006-2008, from 1264 USD up to 1322 USD per container, only to fall down to 1080 USD per container in 2015.[936] In the second phase, export-related costs totalled, unchanged, 580 USD (100 USD for documentary and 480 USD[937] for border compliance). Costs of imports increased by 39% between 2006 and 2015, starting from 981 USD per container in 2006 and going up to 1365 USD per container in 2015.[938] In later years, 925 USD were required to complete all the relevant import procedures (135 USD for documentary and 790 USD for border compliance). Exports and imports demanded, respectively 5 and 11 documents in the years 2006-2007; in both cases the number of paperwork pieces fell markedly: in 2008-2015 4 documents were required for exports and 7 for imports.

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[922] As per information available at https://www.doingbusiness.org/en/reforms/overview/economy/jordan last access 21 January 2020.
[923] Which marks a decrease of 38% in 2015, with 2006 as the base year.
[924] Documentary compliance in Jordan was the third highest score in the country sample whereas Jordanian border compliance was the cheapest among the 6 economies concerned.
[925] A decrease of 31% in 2015, with 2006 as the base year. Still, more prominent changes were recorded in Algeria, Morocco, and Egypt.
[926] Jordan's import-related border compliance costs were the lowest in the sample while documentary compliance costs were the third highest among the 6 economies considered.
[927] The observed reduction marked a decrease of 42% (2006 vs 2015) and emerged as the most prominent amelioration in the country sample in this aspect.
[928] Interestingly, streamlining of customs clearance processes, improvement of port infrastructure in Aqaba and advances in the utilisation of a single window in 2017, even though allegedly improving trading across borders, found little reflection in the analysed indices (as per information available at https://www.doingbusiness.org/en/reforms/overview/economy/jordan last access 21 January 2020).
[929] In the case of Lebanon, no relevant information pertaining to insitutional reforms recognised by the World Bank Doing Business reports and databaes is available.
[930] With Egypt and Algeria scoring even lower than Lebanon.
[931] Overall, a decrease of 12% was recorded; relatively weak if compared to other countries in the sample.
[932] Lebanon scored the fourth rank abong the six economies considered.
[933] It emerged as the longest period in the country sample, with Algerian (the second worst score) being 16 hours shorter.
[934] Overall change equalled -12% (2006 vs 2015), which is the smallest decrease recorded for the countries in the sample (the only increase was observed in Algeria +18%).
[935] Lebanese border compliance were the second longest in the six economies considered.
[936] Overall, an amelioration of 15% was observed between 2006 and 2015; this was also the second smallest positive change observed in the years 2006-2015 among the six economies considered – a slighter change was recorded in Morocco (-13%).
[937] Higer border compliance costs recorded only in Algeria.
[938] This was one of the two cases where increases were observed, with the second one being Tunisia (+8% in import-related costs between 2006 and 2015).

Morocco's institutional trade-related development also emerged as relatively weak (only +20% between 2006 and 2015 in terms of approaching the frontier), yet the country ranked the closest to the frontier in both periods among the six considered economies (see Panels A and B). As for the specific aspects of the Moroccan trade-relevant institutional environment, the time required for exports shortened significantly in the years 2006-2015, falling from 17 days (in 2006) through 13 days (in 2008-2011) and 11 (2012-2014) down to 10 days in 2015.[939] In the years 2015-2018 further, albeit smaller, amelioration was observed, with only 2 days required to comply with both documentary and border procedures in 2015 (1.125 days [27 hours] for documentary and 0.79 days [19 hours] for border procedures); in 2016 the time required for documentary procedures fell to 1.08 days (26 hours), shortening marginally the entire process. Time to import shortened more than in the case of exports – starting from 29 days in 2008, going through 18 (2008), 17 (2009), and 16 (2010-2011) down to 14 days in 2015.[940] Later, time to comply with import-related documentary and border procedures totalled, in 2015, 6.709 days (including 1.209 days for documentary and 5.5 days for border compliance) only to fall in 2017 to 5.49 days (out of which 1.08 days [26 hours] was allotted to documentary and 4.41 days [106 hours] to border compliance). The visible procedural amelioration was likely caused by implementation of risk-based inspection mechanisms in 2008 and, in 2017, by ameliorating the single-window solution (which worked to reduce border compliance time in imports). As for costs which accompanied exports in the period 2006-2015, they steadily decreased, from 682 USD per container in 2006 to 601 USD in 2010 and down to 595 USD per container in 2015.[941] Between 2015 and 2018 these costs totalled 223 USD (including 67 USD[942] for documentary and 156 USD[943] for border compliance). Import-related financial requirements stood at 1772 USD per container in 2006 and went down to 1027 USD in 2011 and down to 970 USD in 2015.[944] In later years, import costs amounted to 334 USD in total (with 116 USD for documentary and 228 USD for border compliance). Morocco worked to lower the number of documents required for both imports and exports whose required number in the years 2006-2008 stood at 7 and 6 respectively. In 2009, following the elimination of the container identification card, these numbers fell to 6 and 5 respectively; in 2015 Morocco further reduced the number of export documents, down to 4.[945]

Tunisia's trade-related institutional development was marginal in both phases (compare Panels A and B, Figure 3.92), placing the economy behind both Morocco and Jordan in 2018. Specifically, time needed to complete all export-related procedures declined from 16 days (2006-2007) to 15 days (2008-2009) and then to 13 days (2013-2014) only to increase substantially in 2015, up to 16 days. Paradoxically, in line with the changed methodological approach, the time required for both documentary and border compliance amounted to 0.625 days[946] in the period 2015-2018 (including 0.125 days [3 hours] for documentary and 0.5 days [12 hours] for border compliance). As for imports, the time required to conduct all the relevant procedures declined from 29 days (2006-2007) to 22 days (2008) through 23 days (2009) and down to 17 days in the years 2011-2014. The temporary increase was caused by introduction of a freight requirement in 2009.[947] Yet, in 2010 electronic submission of most documents was enabled, so that cargo could be cleared through a single-window system[948]; the following year upgrades in Tunisian electronic data interchange system for imports and exports were implemented, facilitating the assembly of import paperwork. In 2015 though, a substantial extension of this period, up to 20 days, occurred.[949] The increase in the time required both for imports and exports was caused by deterioration in port

[939] These changes can be seen as significant (-41% between 2006 and 2015), as more pronounced amelioration was recorded only in Egypt (-56%) and Jordan (-57%).
[940] This marks a change of 52%, the second greatest one in the sample (only Egypt recorded a bigger change, of 53%).
[941] This decrease was the smallest observed in the sample, amounting only to 13% between 2005 and 2015.
[942] 67 USD was the lowest cost in the country sample, as regards this category.
[943] Second lowest cost in the country sample, as regards this category, with only Jordan recording lower financial requirements.
[944] This translates into a decrease of 45% between 2006 and 2015.
[945] The exact nature of the action is not mentioned by the Doing Business, as per information available at https://www.doingbusiness.org/en/reforms/overview/economy/morocco last access 21 January 2020.
[946] The shortest time recorded in the sample, both as regards documentary and border compliance.
[947] The requirement demanded that if freight arrived at a port, it needed to be accompabnied by a unit of the customs authority (as per information available at https://www.doingbusiness.org/en/reforms/overview/economy/tunisia last access 21 January 2020).
[948] Interestingly, despite allowing for online submissions, traders were still required to bring original copies to customs for verifcation procedures (as per information available at https://www.doingbusiness.org/en/reforms/overview/economy/tunisia last access 21 January 2020).
[949] Still, this was the third shortest period in the country sample for that particular year. Overall, a positive change of 31% was recorded (2006-2015); still the change was not that large, when compared to other countries (only Lebanon recorded a smaller decrease -12%, whereas Algeria experienced a 18% growth in this area).

infrastructure and insufficient terminal space. On the other hand, according to the updated methodological approach, in 2015, the time required to comply with both documentary and border procedures totalled 6.455 days (including 1.125 days [27 hours] for documentary and 5.33 [128 hours] for border compliance). This period decreased from 2016 onwards, as the time required for border compliance fell down to 3.33 days (80 hours).[950] The observed ameliorations were due to increased efficiency at a Tunisian state-owned port managing company and improving infrastructure at the port of Rades. As for financial requirements, costs of exports declined from 1071 USD per container in 2006 to 805 USD per container in 2015.[951] In the years 2015-2018 the costs remained unchanged, totalling 575 USD (200 USD[952] required for documentary and 375 USD[953] for border compliance). Import-related costs increased between 2006 and 2009, from 846 USD per container up to 1098 USD per container. Yet, starting from 2009, these costs fell, reaching 976 USD per container in 2012 and 910 USD per container in 2015[954]. Throughout the period 2015-2018, the import-relevant costs of documentary and border compliance totalled 740 USD (including 144 USD for documentary and 569 USD[955] for border compliance). Despite the implemented reforms, the number of documents for both exports and imports remained unchanged in the period 2006-2015 and was at 4 and 6 pieces, respectively.

Logistics infrastructure performance

The countries in the sample varied as regards changes in the specific dimensions in the period 2007-2018. In the case of **Algeria (**Panel A, Figure D.17), no improvement[956] was recorded in the area of timeliness of deliveries. On the other hand, the most prominent positive development in assessments occurred for transit and information technology infrastructure. As for **Egypt** (Panel B, Figure D.17), which ranked the highest globally (#67) in 2018 among the countries in the sample, both timeliness of deliveries as well as tracking and tracing of consignments was pronounced to have ameliorated the least. At the same time, transport infrastructure and clearance customs procedures appeared to develop most.

Jordan, which ranked 52nd globally in 2007, fell to rank 84 in 2018 and emerged as one of the two economies in the sample to have experienced the least progress in terms of improving their logistics infrastructure. In fact, as far as the dimensions 'international shipments' and 'logistics competence' were concerned, the economy appears to have regressed significantly[957] (see Panel C, Figure D.17). The only two areas to have recorded marginal development were the quality of infrastructure and timeliness of deliveries[958]. In contrast, **Lebanese** trade-related logistic infrastructure experienced a significant shift between 2007 and 2018 (Panel D, below), with the smallest change in interviewees' assessments observed in the 'logistics competence' area and the largest increase registered in, a much improved, timeliness of shipments.[959]

As regards **Moroccan** trade-related logistics performance, the economy, despite falling down 15 ranks between the year 2007 and 2018 appears to have experienced marked progress in the area of shipment tracking and logistics competence.[960] A much less pronounced, but nonetheless positive, development was also registered in quality and swiftness of customs procedures (Panel E, Figure D.17). Still, the desirable changes were accompanied by a significant regress as regards the possibility to secure competitively priced international shipments.[961]

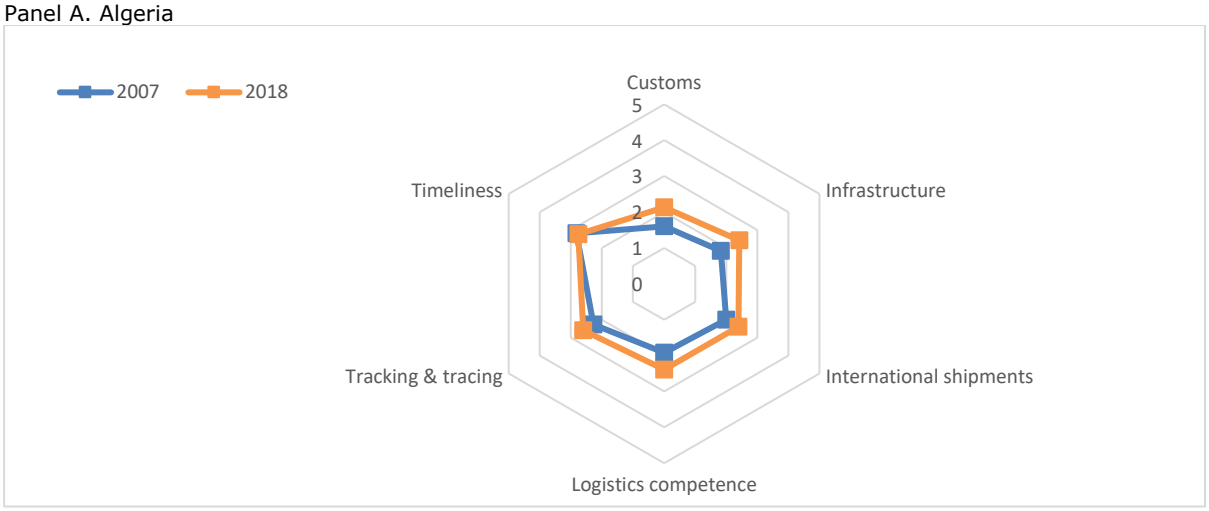
In the entire sample, **Tunisia** experienced the largest drop in the global comparison, falling by 45 ranks between 2007 and 2018. Deterioration of trade-related logistics infrastructure was observed across four out of the six dimensions (see Panel F, Figure D.17). The most pronounced regress occurred as regards the evaluation of the overall quality of transit infrastructure[962] and efficiency of clearance customs procedures[963] such as simplicity and predictability of formalities. Moreover,

[950] This marks a positive development, decreasing the time required for import border compliance by 38%; this is also the most pronounced decreased in this aspect observed across the economies in the country sample.
[951] This marks a decrease of 25% between 2006 and 2015. The costs registered in 2015, at 805 USD per container were the third lowest in the country sample, with Morocco and Egypt enjoying smaller financial requirements in this area in 2015 (at 595 USD and 625 USD per container respectively).
[952] The second highest score in the country sample, with only Algerian costs being higher.
[953] The third highest score in the country sample.
[954] A growth of 8% between 2006 and 2015 was registered.
[955] Higher financial requirements for border compliance registered only in Lebanon.
[956] A marginal deterioration of 0.6 was noted as regards this particular dimension.
[957] The deterioration of the two scores sat at -0.64 and -0.45 respectively.
[958] In both cases the amelioration was slight, amounting to +0.1.
[959] +0.07 and +0.51 respectvely.
[960] +0.51 and +0.37 respectively.
[961] Down by 0.17.
[962] Down by 0.73.
[963] Down by 0.45.

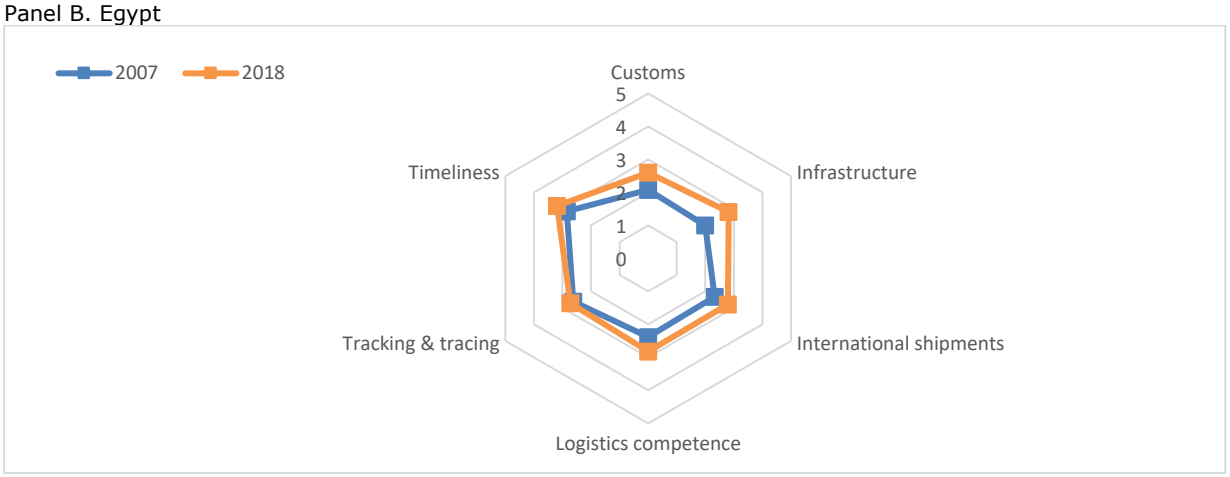
negative developments occurred also with regard to the availability of competitively priced shipment services. While there were also slumps in the assessments of the availability of competitively priced shipment services and logistics competence[964], a relatively large improvement was recorded for the timeliness of deliveries[965] (which was, next to a marginal positive change in the possibility of tracking and tracing of parcels[966], the only positive development recorded for this economy.

Figure D.17 Countries' individual performance in trade infrastructure

Panel A. Algeria

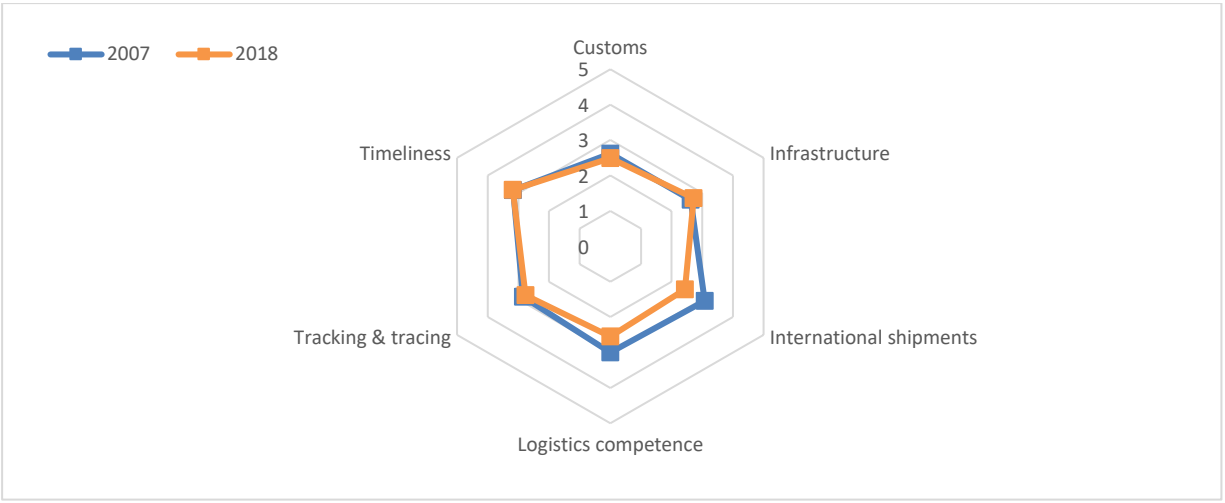


Panel B. Egypt

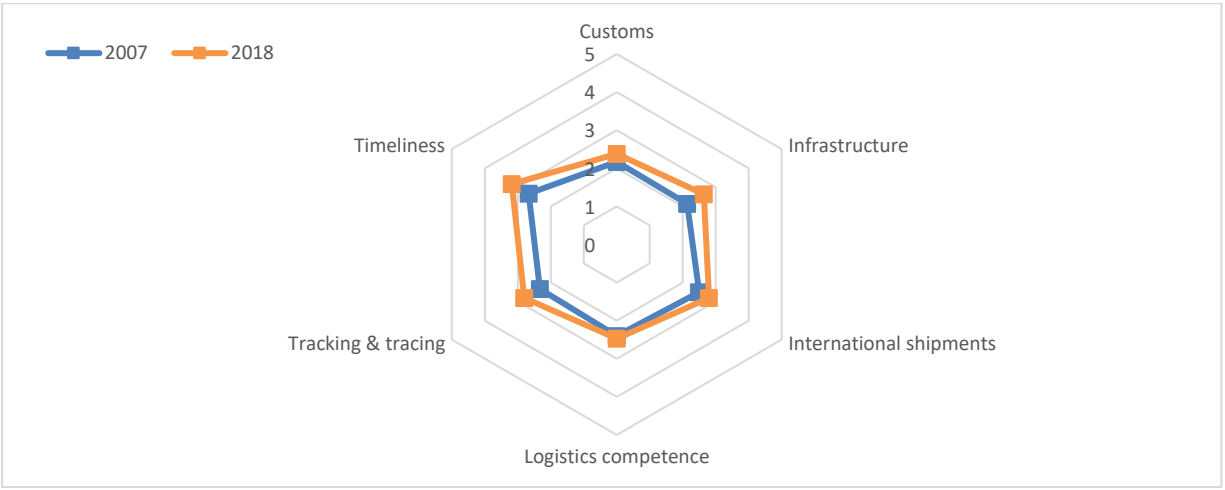


[964] Down by 0.36 and 0.13 respectively.
[965] Up by 0.44.
[966] Up by 0.03.

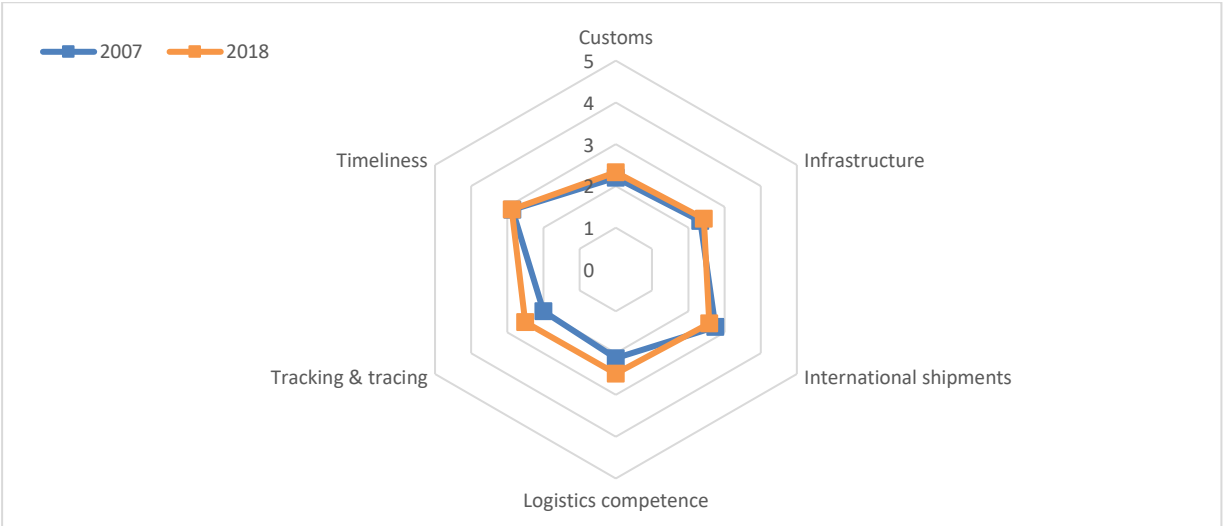
Panel C. Jordan



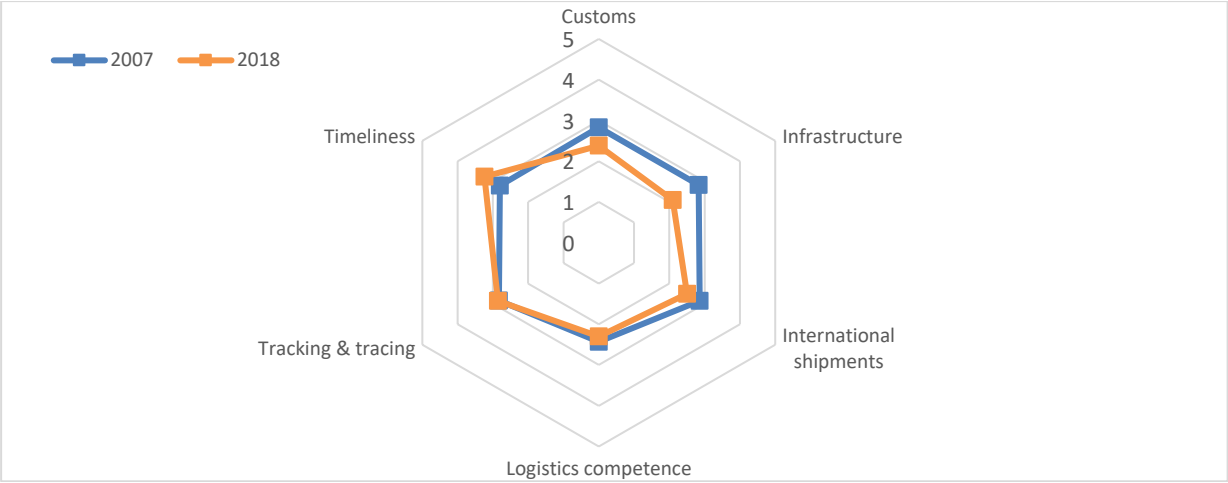
Panel D. Lebanon



Panel E. Morocco



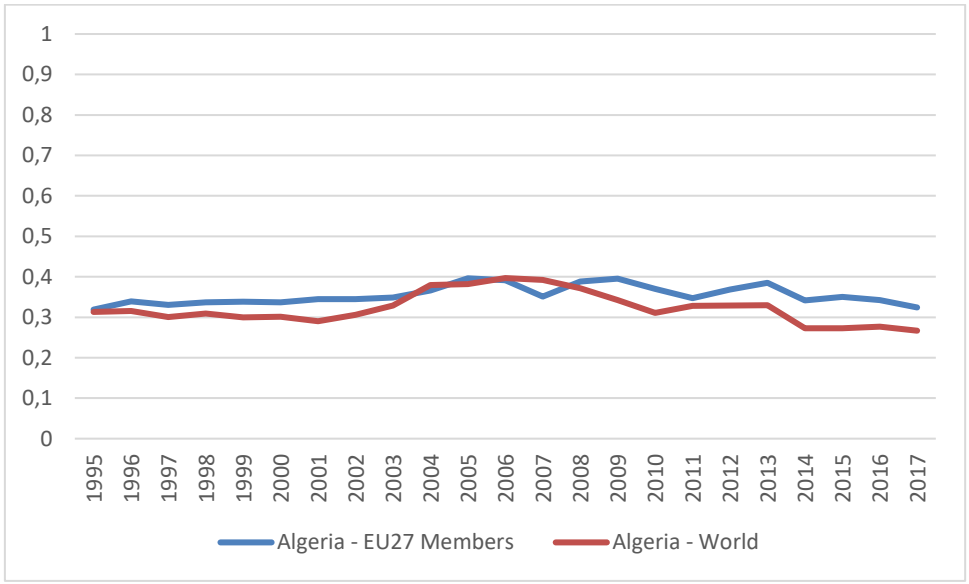
Panel F. Tunisia

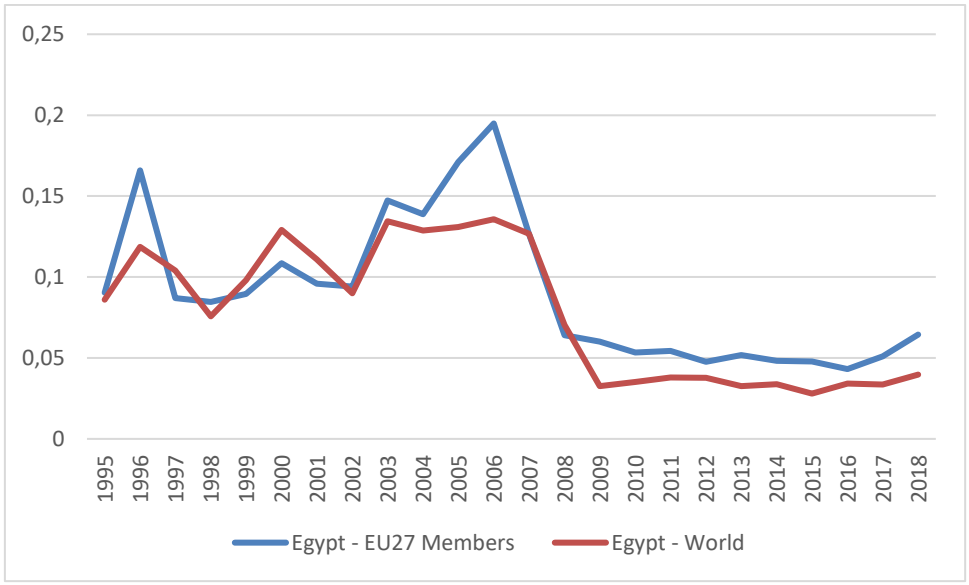


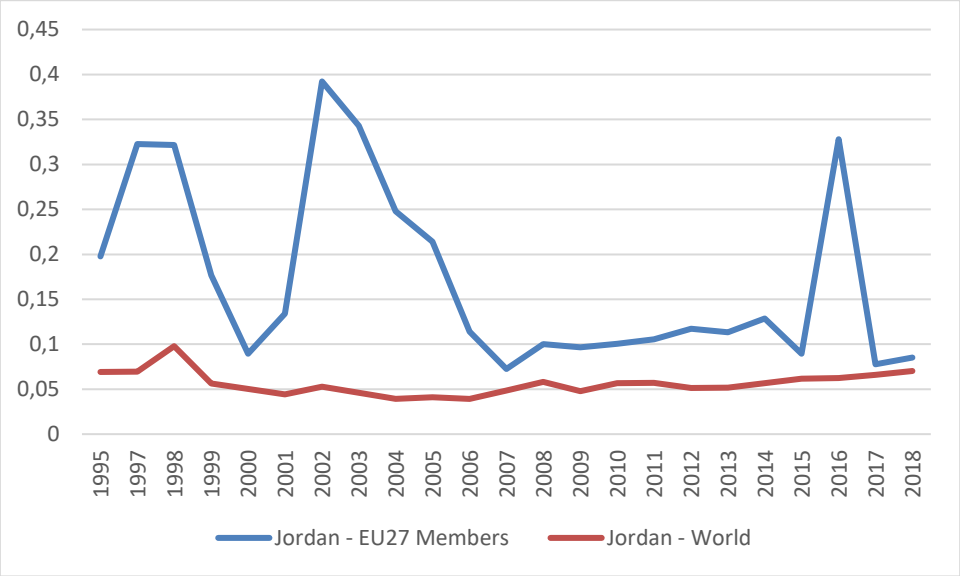
Source: Authors' own based on the data from World Bank https://lpi.worldbank.org/international/scorecard last access 22 January 2020.

D.3.6 Product complexity –additional information

Figure D.18 Concentration of SMC exports to the EU and all countries



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0
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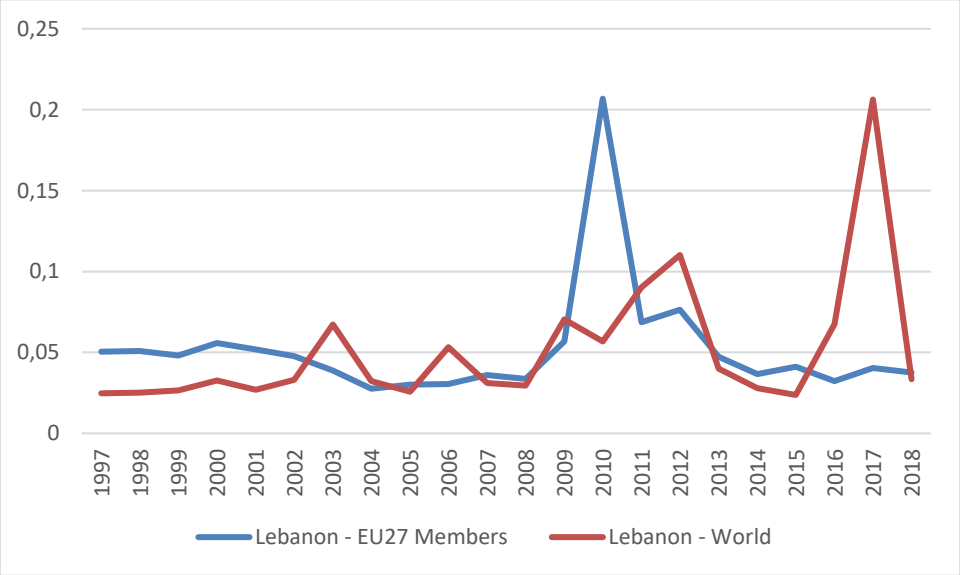
Jordan - EU27 Members
Jordan - World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0,2
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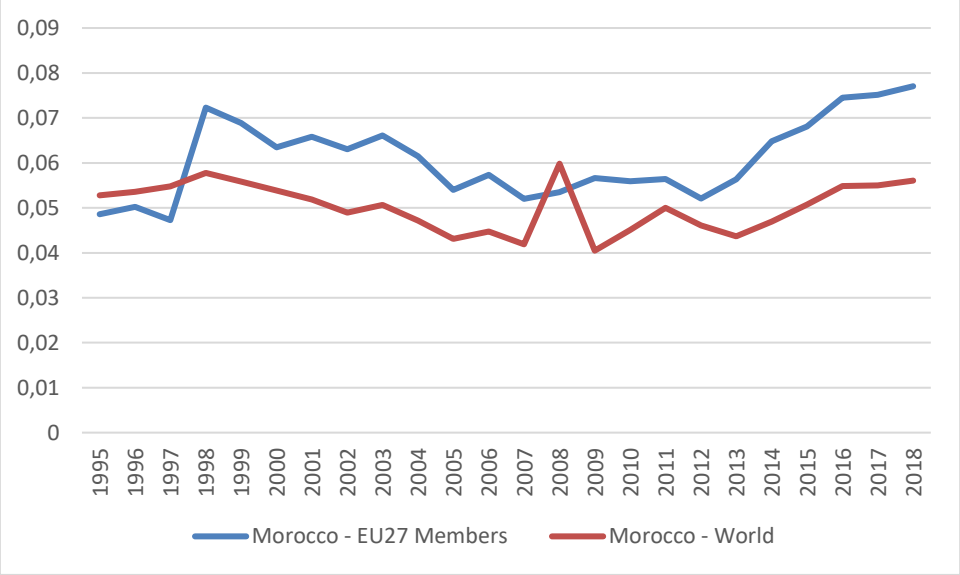
0,1
0,05
0
1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018
Lebanon - EU27 Members
Lebanon - World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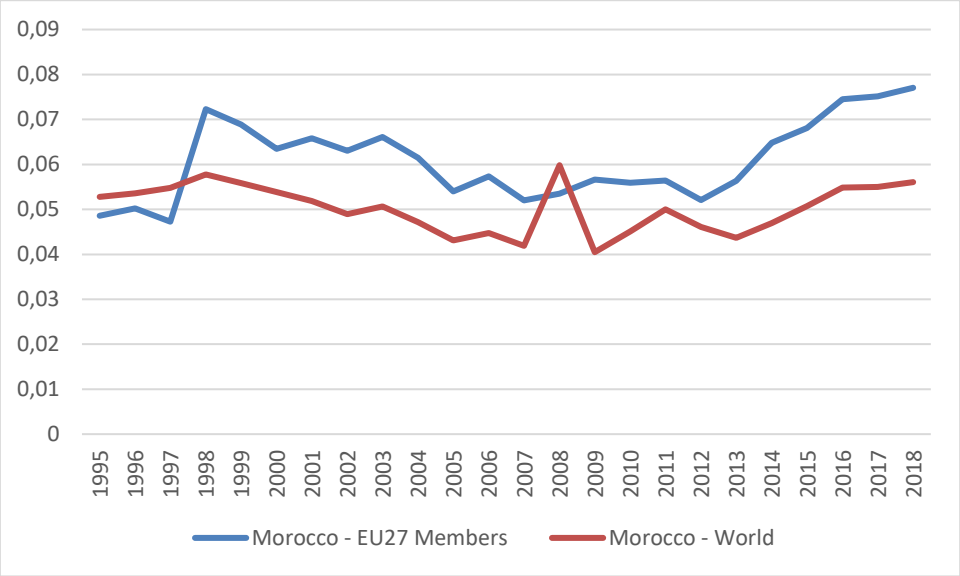
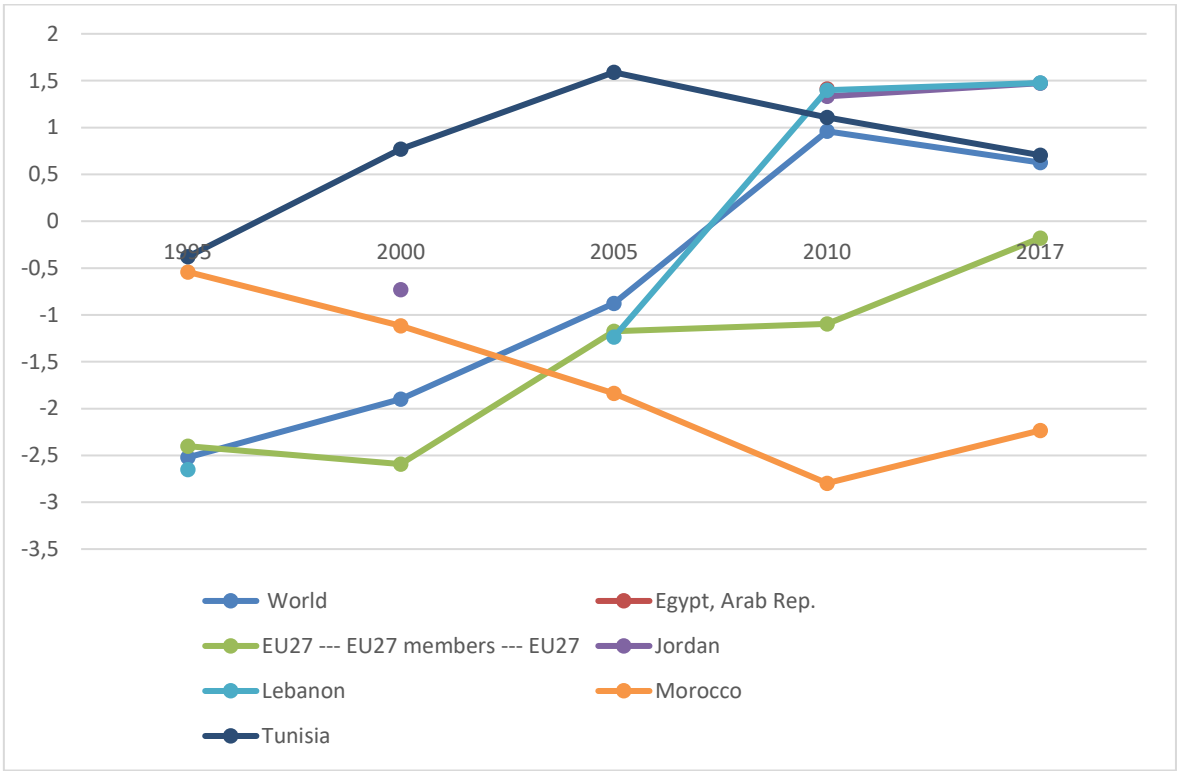
1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018
Morocco - EU27 Members
Morocco - World



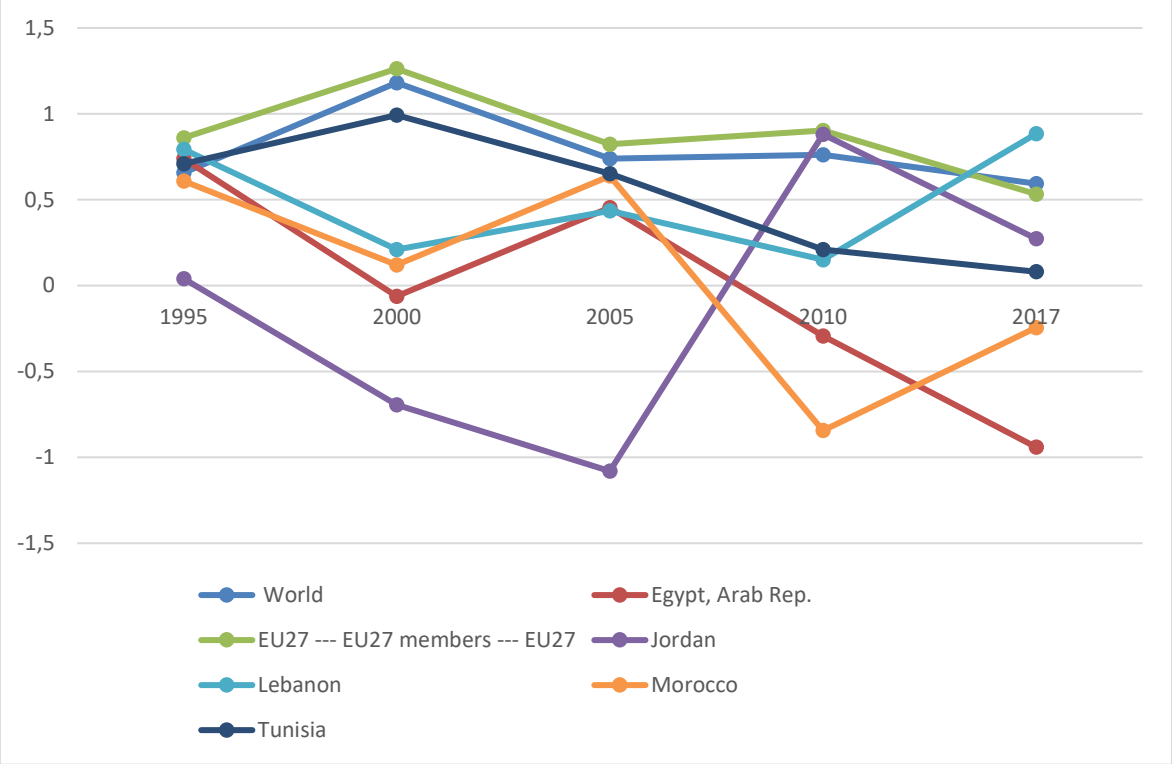
Note: average Herfindahl-Hirschmann index of export diversification for exports of all six SMCs the EU27 and all countries calculated across products at the 3-digit level of SITC Rev 3 product classification, 1 denotes a complete concentration while 0 a complete diversification.
Source: authors' calculations using UN Comtrade data extracted from WITS.

Figure D.19 Complexity of products traded by SMCs, by destination or source

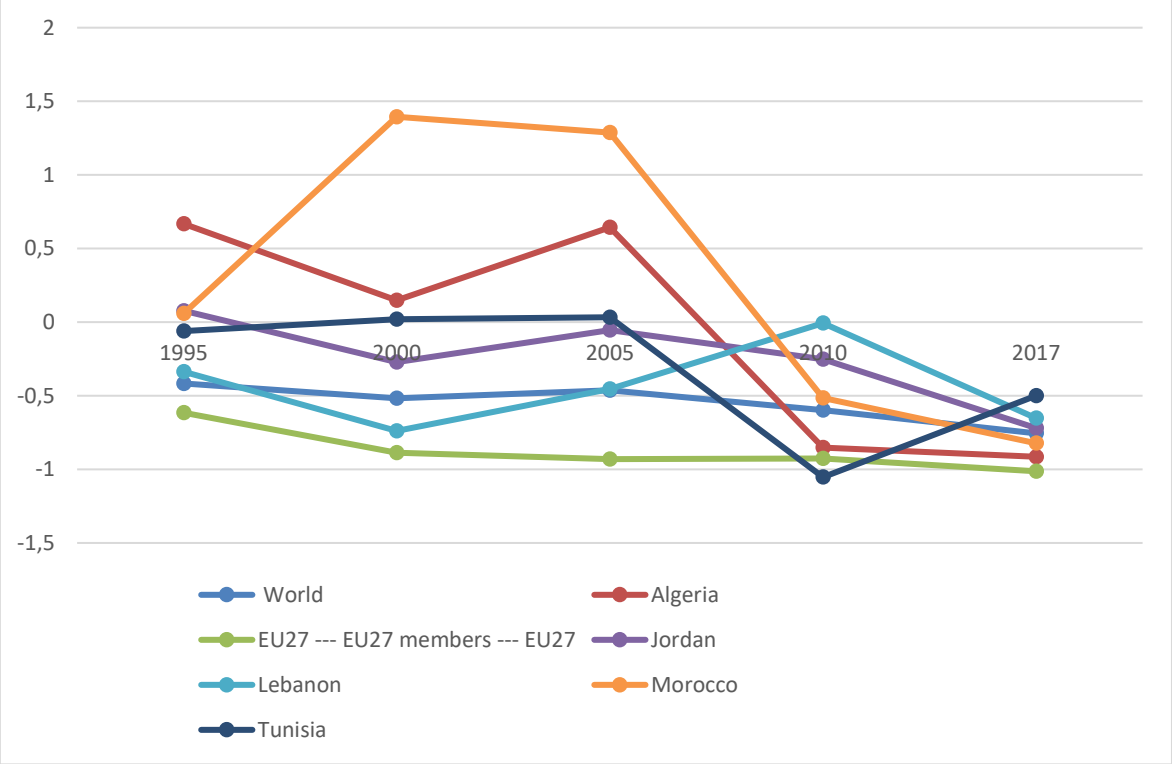
Panel A. Algeria-Exports by destination



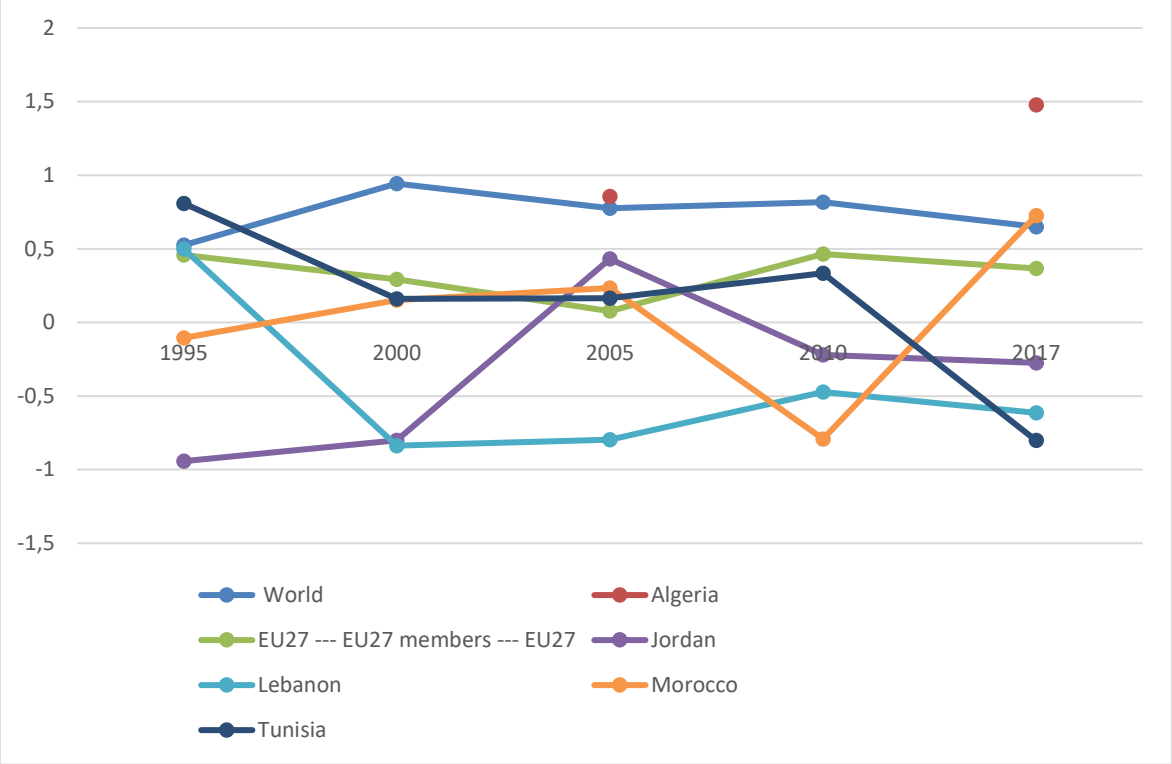
Panel B. Algeria-Imports by destination



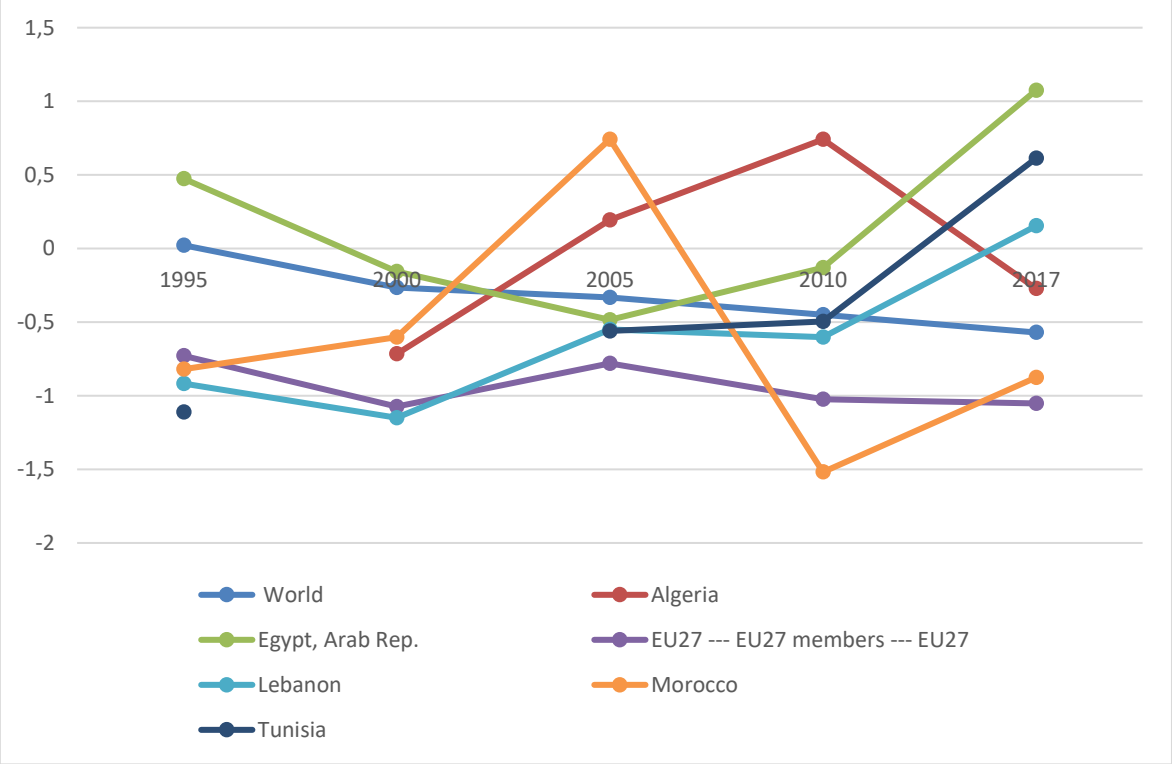
Panel C. Egypt-Exports by destination



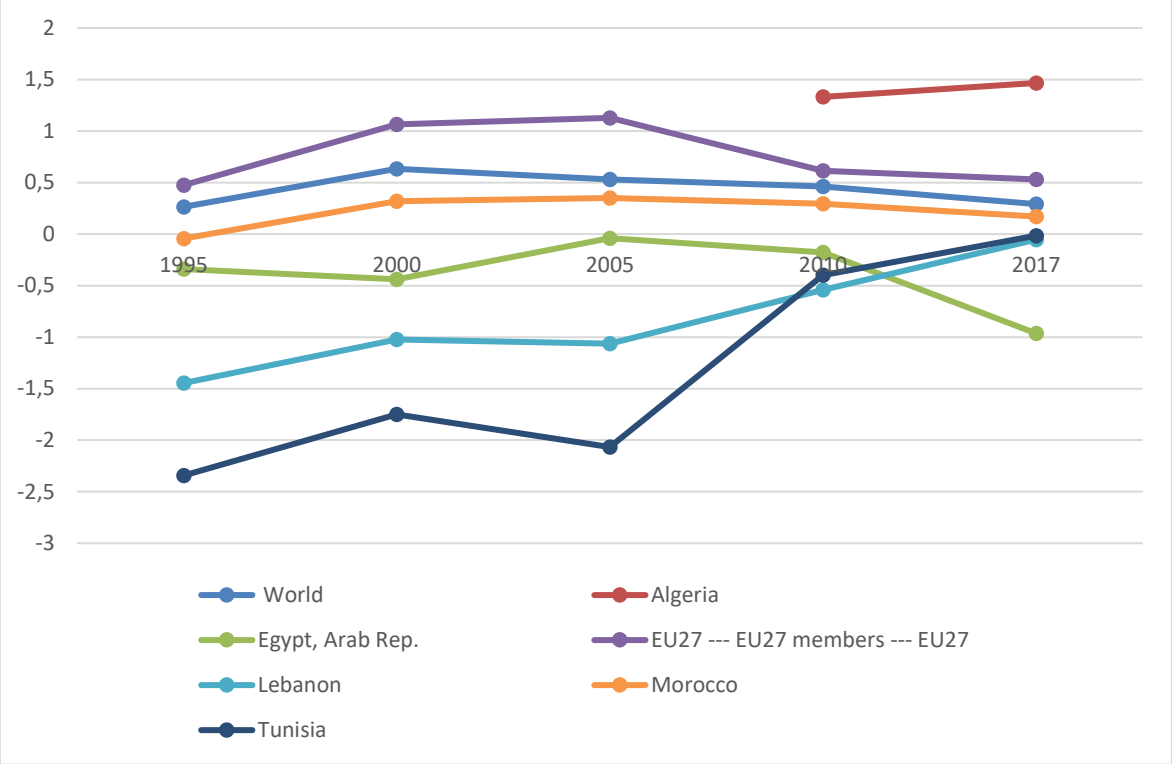
Panel D. Egypt-Imports by destination



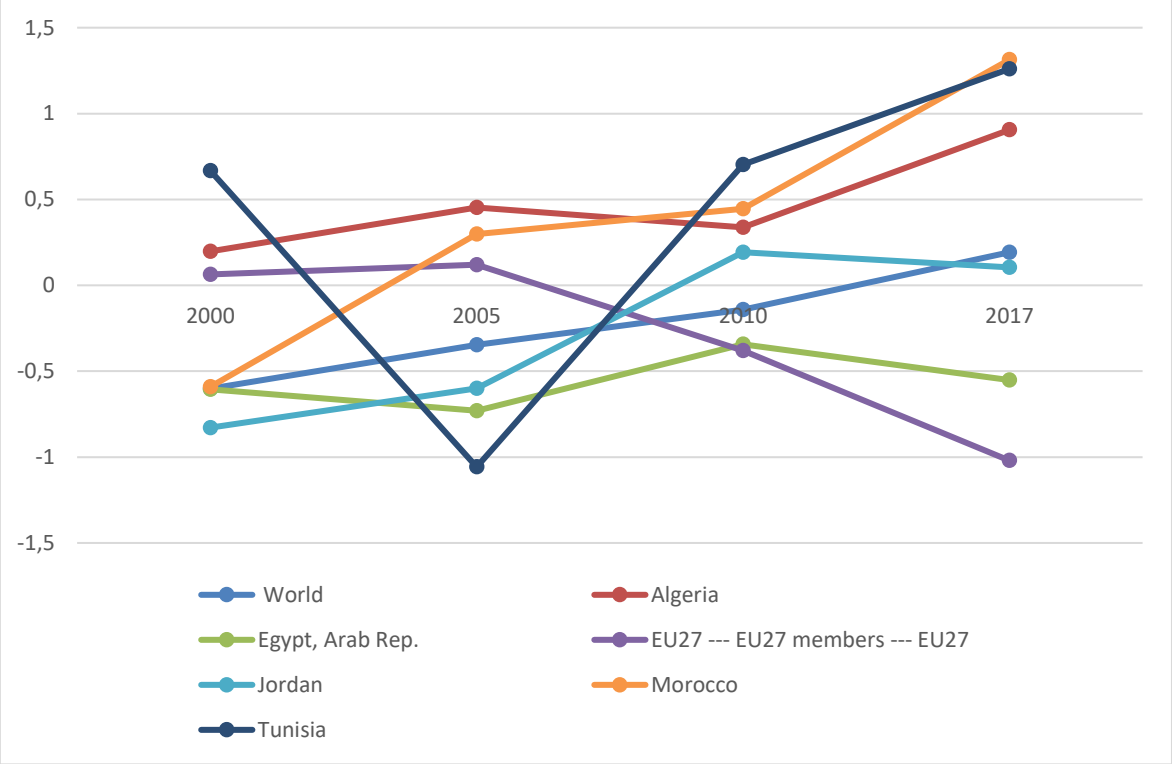
Panel E. Jordan-Exports by destination



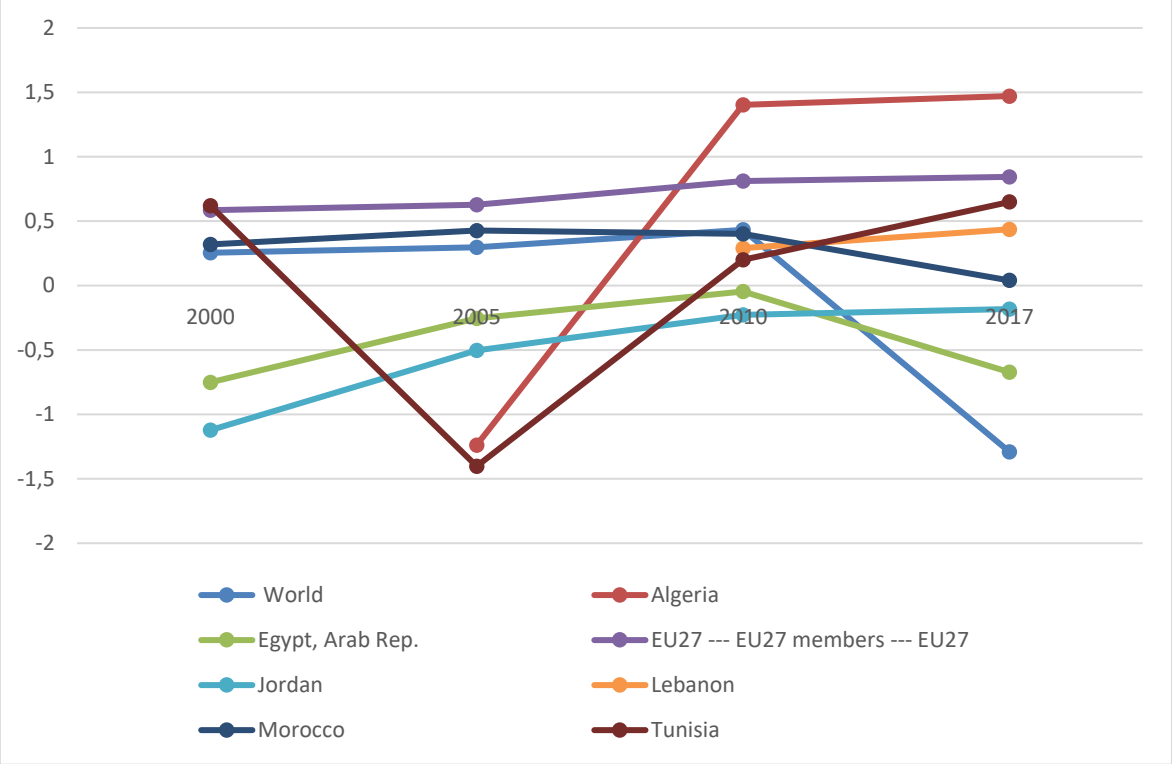
Panel F. Jordan-Imports by destination



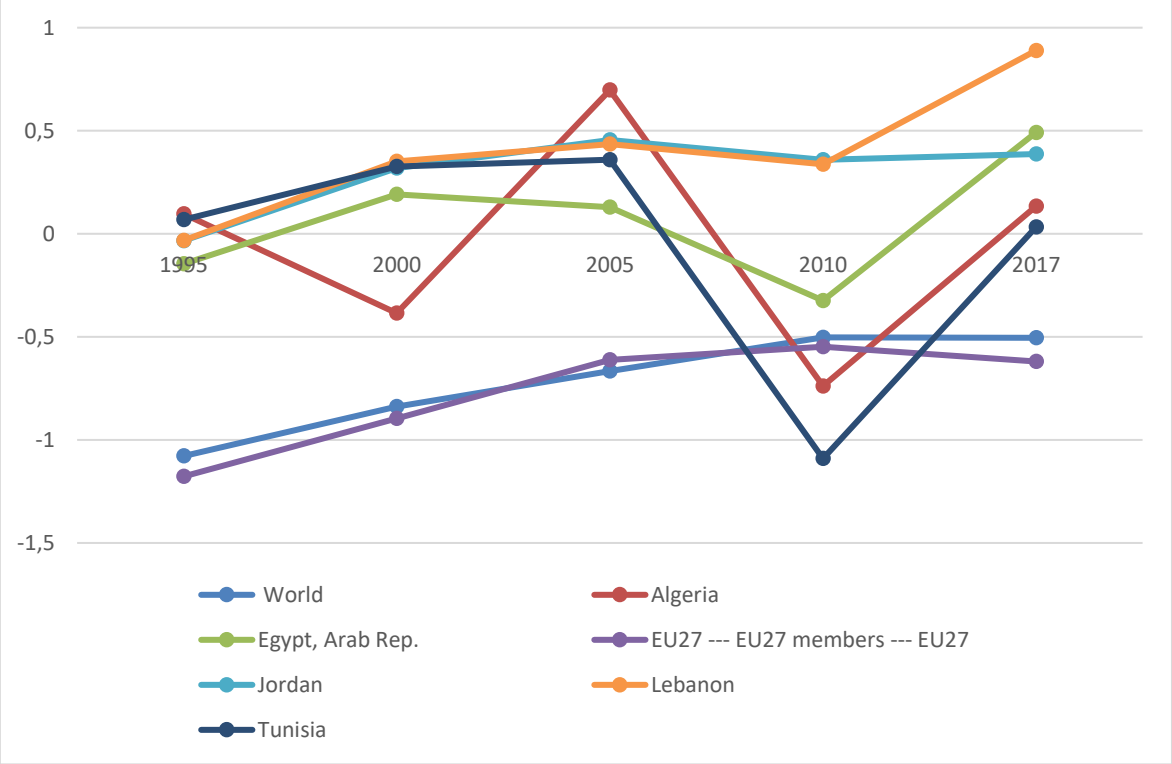
Panel G. Lebanon-Exports by destination



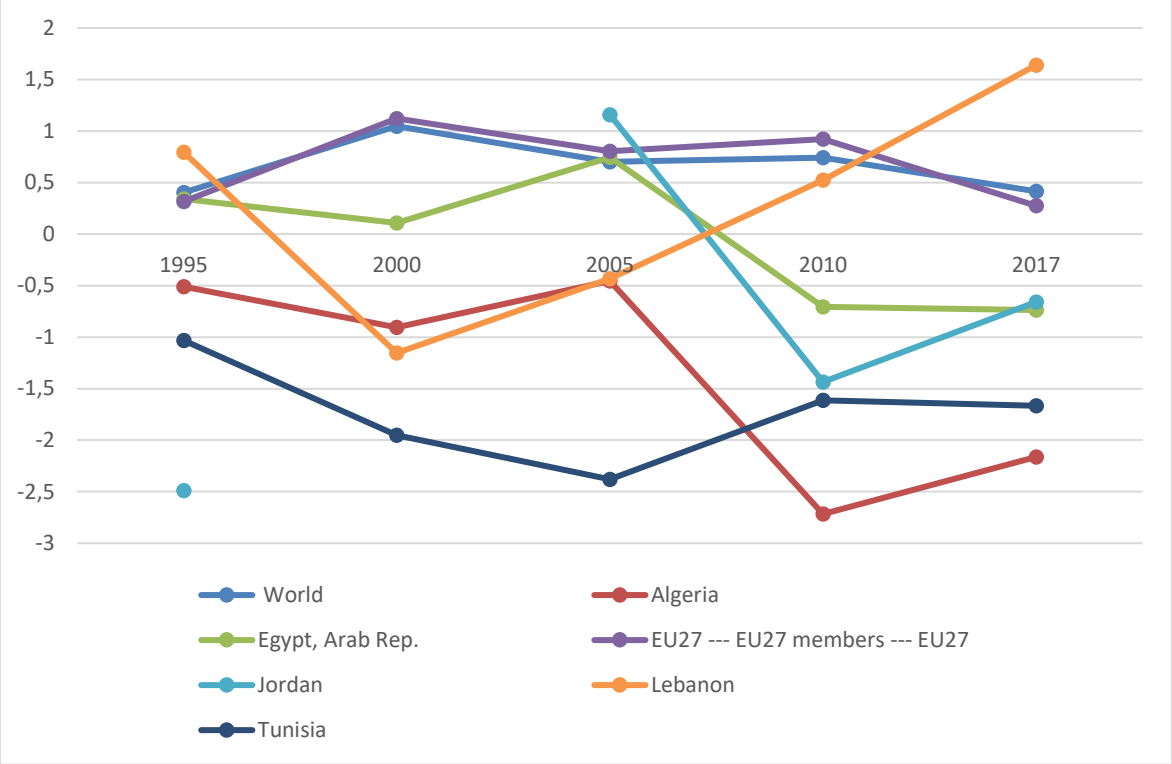
Panel H. Lebanon-Imports by destination



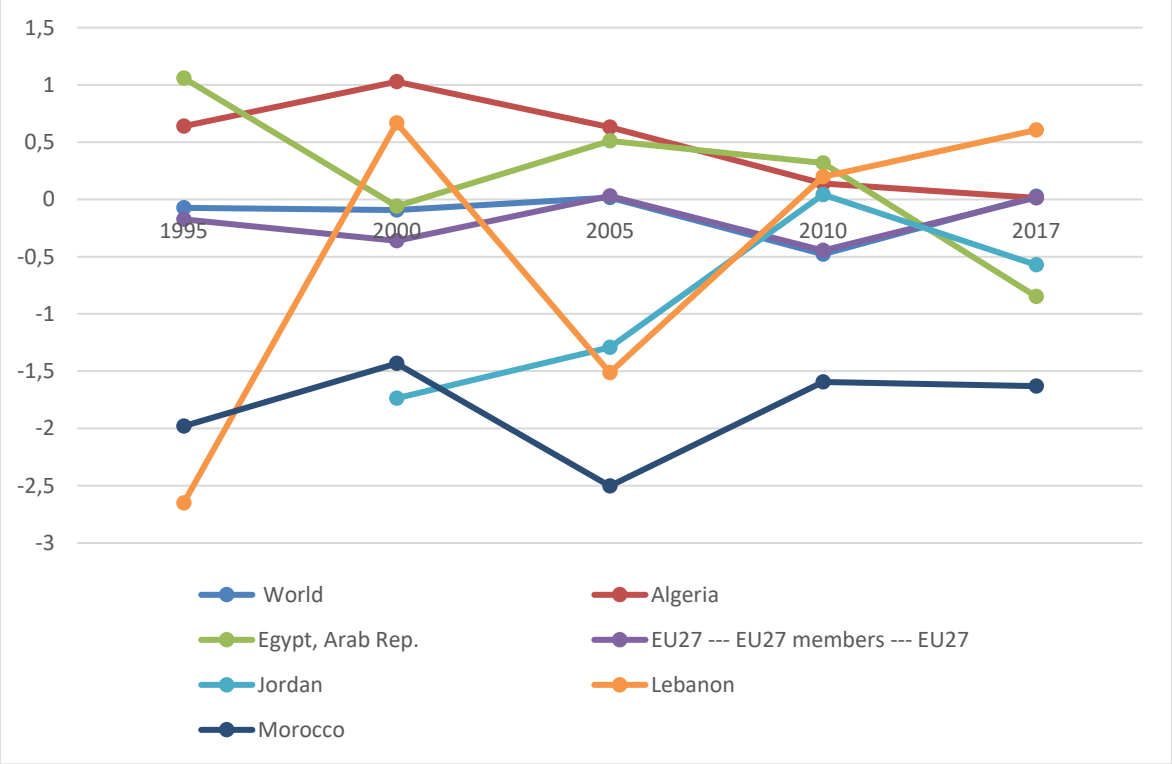
Panel I. Morocco-Exports by destination



Panel J. Morocco-Imports by destination



Panel K. Tunisia-Exports by destination



Panel L. Tunisia-Imports by destination

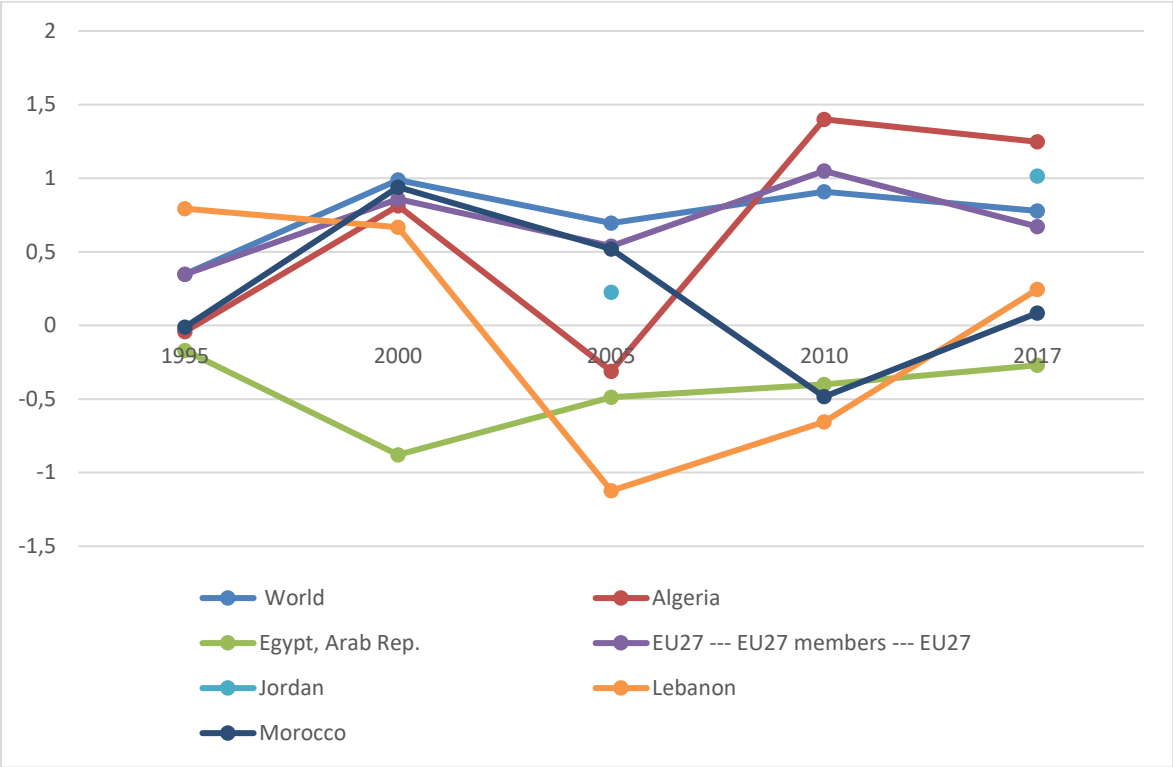
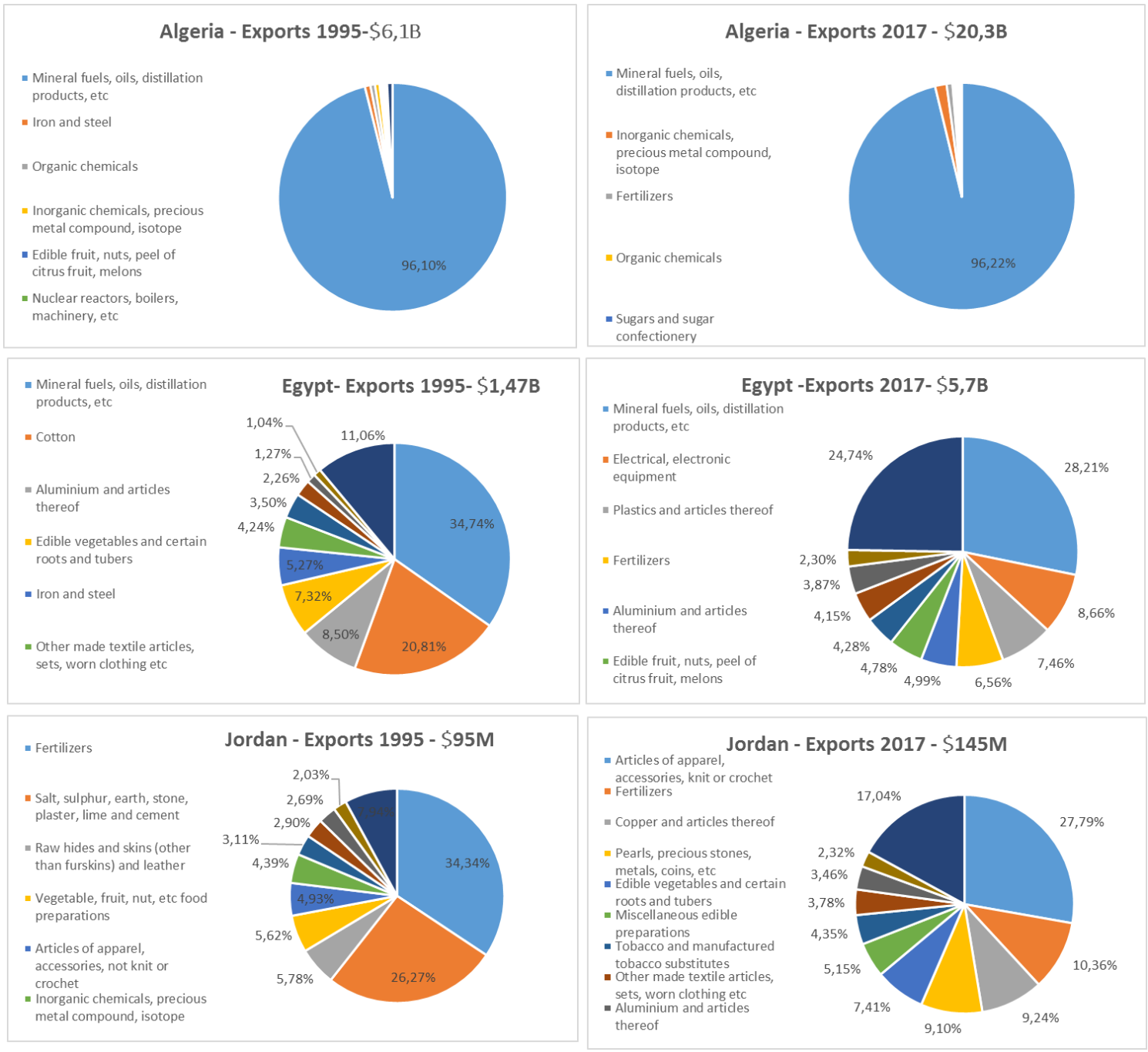
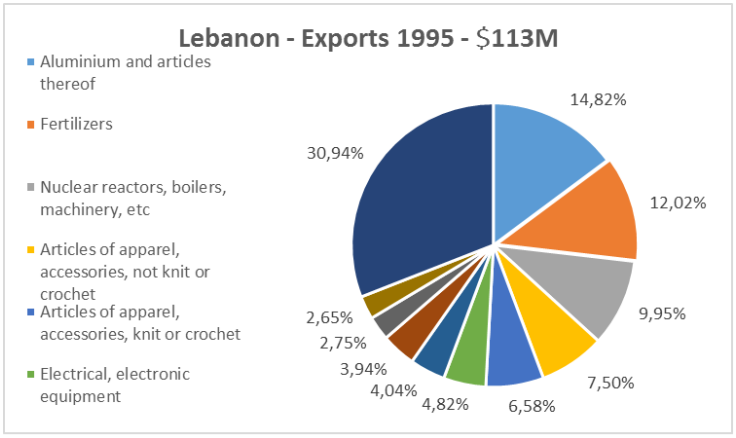
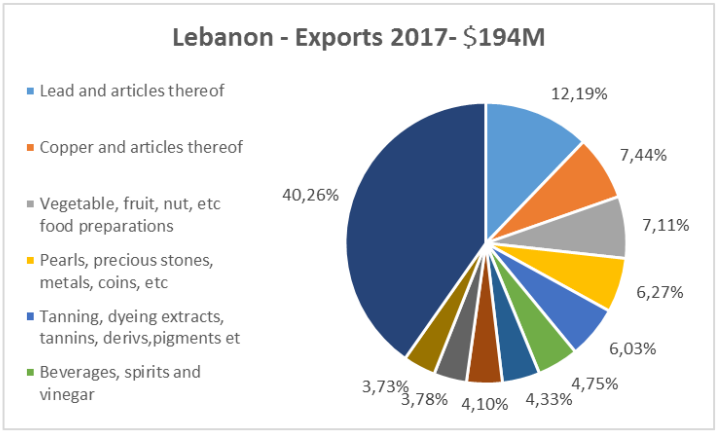
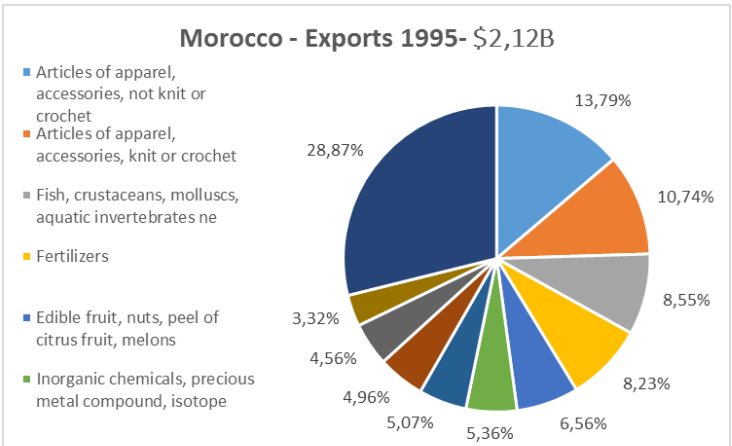


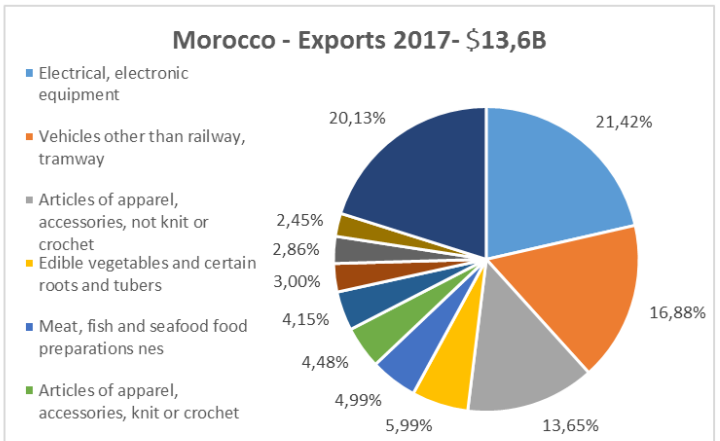
Figure D.20 Composition exports from six SM countries to EU27 in 1995 and 2017

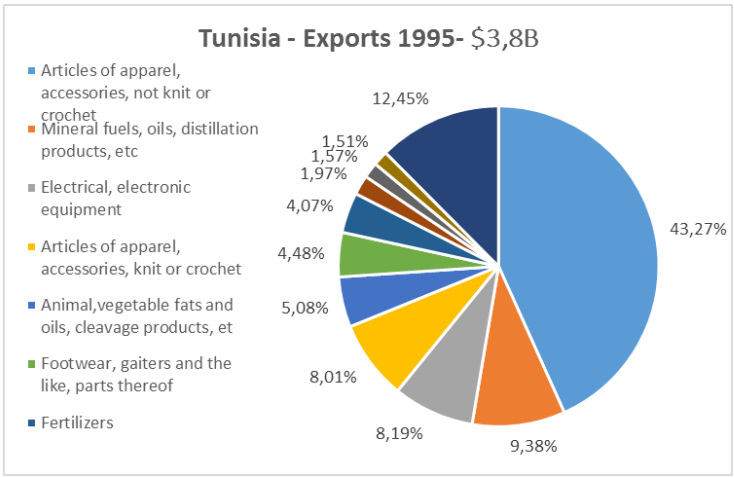


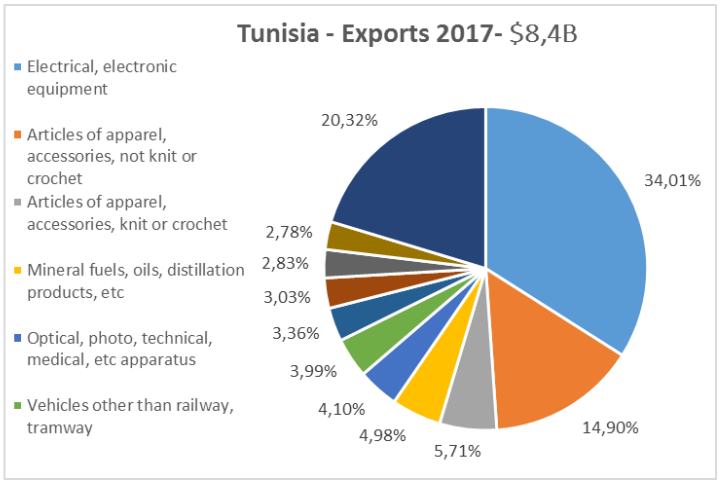






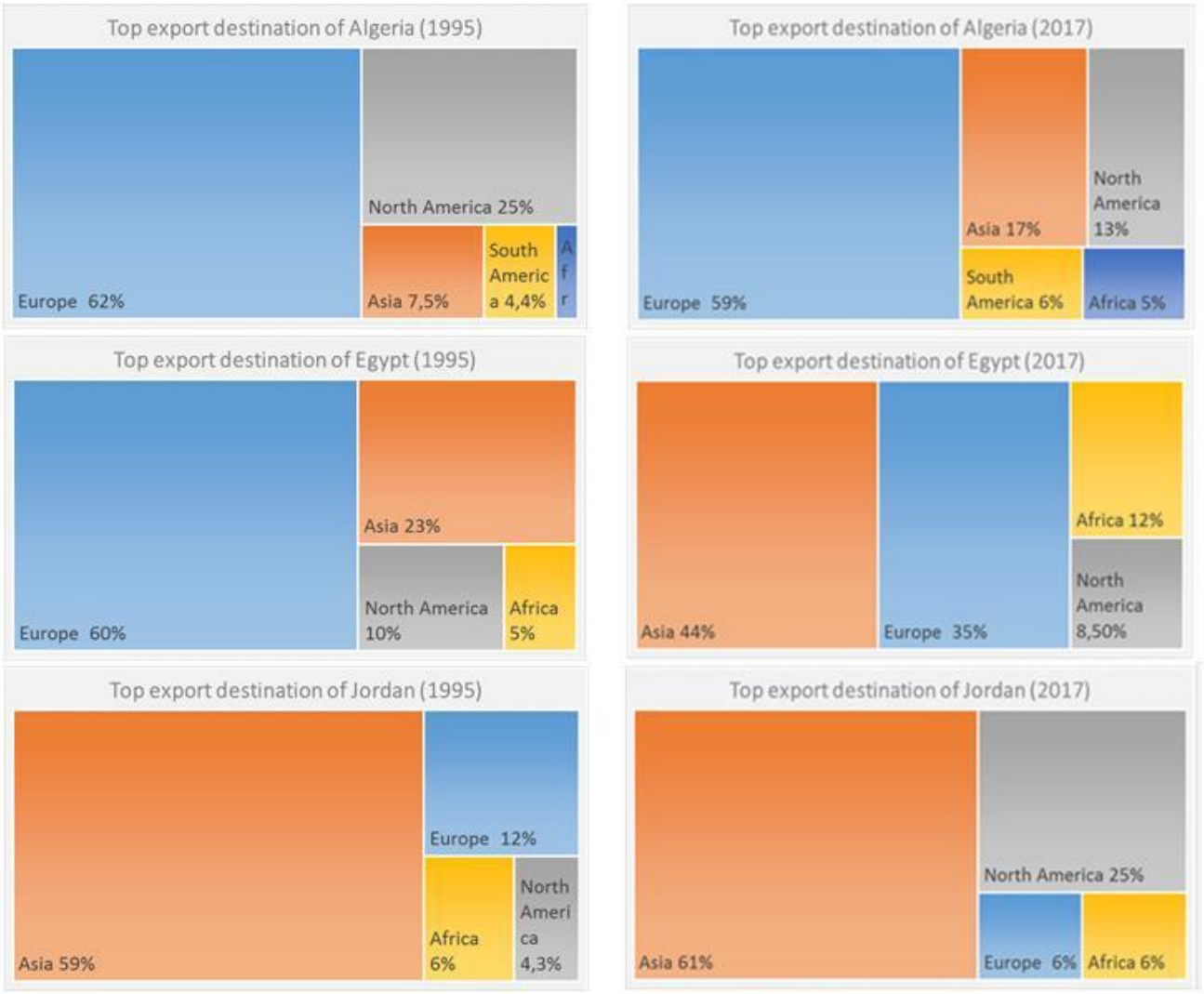


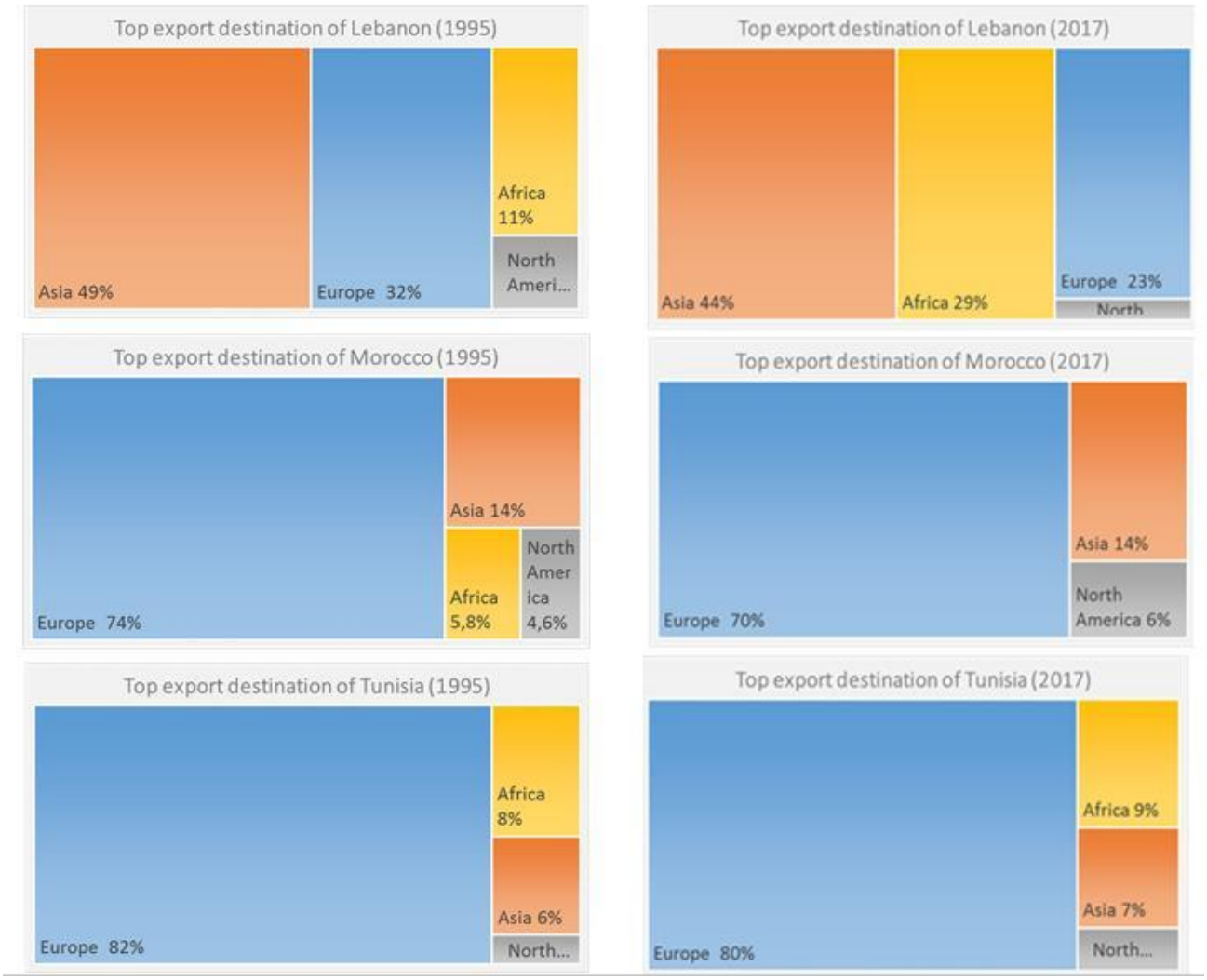




Source: Author's calculations based on UnComtrade (WITS) 2019.

Figure D.21 Destination exports of six SM countries in 1995 and 2017





Source: Authors' calculations based on Unctad and The Atlas of Economic Complexity, 2019.

D.3.7 Impact on trade of outermost regions

There are nine EU's overseas territories known as outermost regions (ORs): Guadeloupe, French Guiana, Réunion, Martinique, Mayotte and Saint-Martin (France), the Azores and Madeira (Portugal), and the Canary Islands (Spain). They are home to 4.8 million citizens and enjoy special support from the EU in order to make up for difficulties resulting from their remote location. Unlike the EU's overseas countries and territories (OCTs), they are an integral part of the EU, although due to their geographical remoteness special measures in areas such as trade and fisheries and agriculture apply on their territories. Some of them, such as the Canary Islands and Madeira are located in direct proximity to the SM region.

Trade volumes between ORs and the six SMCs are marginal as compared to figures on ORs' trade with other regions of the EU. With the exception of Egypt's exports to French Guiana which in 2019 amounted to EUR 366.74 million, the volume of trade between the six SMCs and ORs did not exceed EUR 50 million that year. Indeed, in most cases it remained below EUR 1 million. Trade volume between the EU and ORs is also relatively small, with exports to the ORs ranging from EUR 0.23 million in case of Mayotte to EUR 252.76 million for Canary Islands, and somewhat larger EU imports from the ORs, between EUR 63.39 million from Mayotte and EUR 2,199.93 million from Canary Islands (Table D.64).

The impact of the Euro-Med FTAs on ORs is likely to be positive, as it is for the EU as a whole. This is because the Euro-Med FTAs resulted in much higher preferential margins for the EU exporters accessing the SMCs markets and these margins also evolved more positively for the EU exporters (see Chapter 3). Moreover, and likely reflecting the effects of the Euro-Med FTAs, most ORs have positive bilateral balances on trade with the SMCs. Canary Islands, for example, which are located in direct proximity to the SM region and which by far trade the most with the SMCs of all ORs (Table D.64) have relatively large positive balances on trade with all SMCs with the exception of

Lebanon with which they have a very small negative balance. For Madeira—another OR in direct proximity to SM—the bilateral balances picture is more mixed but trade figures and balances remain small. Moreover, the product composition of bilateral trade suggests that ORs tend to export to SMCs agricultural, food and raw materials where they have comparative advantage related to their climate and geographical location (Tables D.65 and D.66).

Table D.64 Trade values (export and imports) between the EU, Med countries, and the EU's ORs, mln EUR (2019)

Ors	EU	TN	MA	DZ	JO	LB	EG
	Export Values to						
Martinique	7.09	0.00	7.03	0.00	0.01	0.00	0.00
Mayotte	0.23	0.01	0.00	0.00	0.00	0.00	0.00
Guadeloupe	15.46	0.00	0.06	0.04	0.00	0.00	0.01
French Guiana	128.78	0.00	0.12	0.00	0.00	0.00	366.74
Réunion	49.07	0.17	0.09	0.00	0.00	0.00	0.02
Madeira	149.79	0.08*	1.11*	0.04*	0.02*	0.03*	1.25*
Azores	80.40	0.03*	0.33*	0.01*	0.00*	0.01*	0.37*
Canary Islands	252.76**	1.70**	22.44**	0.90**	0.32**	0.50**	25.18**
	Import Values from						
Martinique	209.46	1.29	10.25	0.49	0.00	0.88	0.43
Mayotte	63.69	3.30	3.64	0.04	0.00	0.00	0.33
Guadeloupe	267.55	1.29	11.02	0.46	0.03	0.83	0.55
French Guiana	403.90	2.09	2.81	0.14	0.00	0.11	0.16
Réunion	561.19	3.65	19.50	0.65	0.12	0.29	5.22
Madeira	143.13	0.06*	0.34*	0.26*	0.01*	0.00*	0.50*
Azores	86.75	0.12*	0.75*	0.59*	0.03*	0.00*	1.12*
Canary Islands	2199.93**	3.92**	23.85**	18.74**	1.02**	0.07**	35.37**

* Estimated based on the value of extra-EU trade for Madeira and the Azores and the ratio of trade values per destination recorded for the Canary Islands (given lack of a per destination statistics for Madeira and the Azores and the similarity of geographical relationship as regards the Canary Islands, Madeira, and the Azores).
** Provisional data.
*** No data for Saint-Martin available.
Note: Values for trade with the EU exclude France for Guadeloupe, Guiana, Martinique, Mayotte, and Reunion; Spain for the Canary Islands; and Portugal for Madeira and the Azores.
Source: authors' own calculations based on the data retrieved from Foreign Trade Statistics of France, Foreign Trade Statistics of Spain, and National Institute of Statistics of Portugal.

Mayotte	Meat and meat products; General purpose machinery and equipment; Cycles and motorcycles; Computers and peripheral equipment; Automotive products	Crop and livestock products	-	-	-	-	-
Guadeloupe	Food products; Industrial waste; Measuring, testing and navigation apparatus and timepieces; Crop and livestock products; Ships and boats	-	Sporting goods, games, toys, and various manufactured products	Industrial waste	-	-	Special purpose machinery
French Guiana	Aeronautical and space construction products; General purpose machinery and equipment; Measuring, testing and navigation apparatus and timepieces; Basic chemicals; Cutlery, tools, hardware and various metal products	-	Sporting goods, games, toys, and various manufactured products; General purpose machinery and equipment	-	-	-	Aeronautical and space construction products
Réunion	Food products; Automotive products; Beverages; Non-ferrous metals; Prepared and preserved fish and fishery products	Building materials and mineral products; Food products	Sporting goods, games, toys, and various manufactured products; Basic chemicals	-	-	-	General purpose machinery and equipment; Sporting goods, games, toys, and various manufactured products
Madeira	Pearls, precious or semi-precious stones, precious metals; Vehicles, aircraft, and vessels; Ships and boats; Live animals and animal products; Chemical products	-	-	-	-	-	-
Azores	Live animals and animal products; Fish and crustaceans; Dairy produce and other edible products of animal origin; Beverages and tobacco; Machinery, mechanical appliances, and electrical equipment	-	-	-	-	-	-
Canary Islands	Food, beverages, and tobacco; Equipment goods; Semi-manufactures; Automotive products; Raw materials	Energy products; Consumer goods; Equipment materials	Energy products; Food, beverages, and tobacco; Semi-manufactures; Equipment materials; Consumer goods	Food, beverages, and tobacco	Food, beverages, and tobacco	Food, beverages, and tobacco; Raw materials	Automotive products; Food, beverages, and tobacco; Equipment materials; Semi-manufactures

Note: Sectors are listed according to the original statistical sources, i.e. concordance is established manually. Source: authors' own compilation based on the data retrieved from Foreign Trade Statistics of France, Foreign Trade Statistics of Spain, and National Institute of Statistics of Portugal.

Table D.66 Major import sectors between the EU, MENA countries, and the EU's ORs (2019)

	Major import Sectors						
	EU	**TN**	**MA**	**DZ**	**JO**	**LB**	**EG**
Martinique	Automotive products; General-purpose machinery; Beverages; Meat and meat products; Building materials and mineral products	Steel and primary steel products; Metal elements for construction; Ships and boats; Articles of clothing; Basic chemicals	Automotive products; Prepared and preserved fish and fishery products; Crop and livestock products; Bakery and pasta products; Articles of clothing;	Household appliances; Medical, optical and dental instruments	-	General-purpose machinery; Beverages; Fruit and vegetable products; Jewellery and musical instruments; Articles of clothing;	Household appliances; Building materials and mineral products; Articles of clothing; Products of the extractive industries; Measuring, testing and navigation apparatus, and timepieces
Mayotte	Meat and meat products; Beverages; Fruit and vegetable products; Wood and wooden articles; Paper or cardboard items	Beverages; Perfumes, cosmetics and cleaning products; Bakery and pasta products; Crop and livestock products; Paper or cardboard items	Prepared and preserved fish and fishery products; Automotive products; Steel and primary steel products; Paper or cardboard items; Chemicals	Crop and livestock products	-	-	Crop and livestock products; Household appliances; Aeronautical and space construction products; Building materials and mineral products; Grain and starch products
Guadeloupe	Automotive products; Beverages; General purpose machinery and equipment; Building materials and mineral products; Steel and primary steel products	Steel and primary steel products; Metal elements for construction; Plastic products; Basic chemicals; Glass and glassware	Automotive products; Prepared and preserved fish and fishery products; Crop and livestock products; Sporting goods, games and toys, and various manufactured products; Electrical equipment	Household appliances; Various machines for specific use	Articles of clothing; Furniture; Plastic products; Leather, luggage, and shoes; Perfumes, cosmetics and cleaning products	Beverages; General purpose machinery and equipment; Articles of clothing; Non-ferrous metals; Fruit and vegetable products	Household appliances; Rubber products; Crop and livestock products; Cutlery, tools, hardware and various metal products; Building materials and mineral products

	Major import Sectors						
	EU	**TN**	**MA**	**DZ**	**JO**	**LB**	**EG**
French Guiana	Aeronautical and space construction products; Automotive products; Measuring, testing and navigation apparatus, and timepieces; Beverages; General purpose machinery and equipment	Steel and primary steel products; Metal elements for construction; Ships and boats; Paper or cardboard items; Household appliances	Automotive products; Prepared and preserved fish and fishery products; Household appliances; Publishing products, software; Articles of clothing	Household appliances; Beverages	-	Metal elements for construction; Household appliances; Furniture; Textile; Plastic products	Household appliances; Crop and livestock products; Glass and glassware; Plastic products; General purpose machinery and equipment
Réunion	Automotive products; Meat and meat products; General purpose machinery and equipment; Special purpose machinery; Crop and livestock products	Consumer electronics; Pulp, paper and cardboard; Steel and primary steel products; Non-ferrous metals; Basic chemicals	Automotive products; Prepared and preserved fish and fishery products; Sporting goods, games and toys, and various manufactured products; Paper or cardboard items; Building materials and mineral products	Household appliances; Paintings, engravings, sculptures; Articles of clothing; Perfumes, cosmetics and cleaning products; Grain and starch products	Metal elements for construction; Basic chemicals; Automotive products; Paintings, engravings, sculptures; Jewellery and musical instruments	Sporting goods, games and toys, and various manufactured products; General purpose machinery and equipment; Chemical products; Automotive products; Electrical equipment	Crop and livestock products; Household appliances; Metal elements for construction; Rubber products; Building materials and mineral products
Madeira	Live animals and animal products; Machinery, mechanical appliances, and electrical equipment; Beverages and tobacco; Vehicles, aircrafts, and	-	-	-	-	-	-

	Major import Sectors						
	EU	**TN**	**MA**	**DZ**	**JO**	**LB**	**EG**
	vessels; Nuclear machinery and mechanical appliances						
Azores	Live animals and animal products; Dairy produce and other edible products of animal origin; Beverages and tobacco; Fish and crustaceans; Machinery, mechanical appliances, and electrical equipment	-	-	-	-	-	-
Canary Islands	Energy products; Equipment materials; Food, beverages, and tobacco; Automotive products; Semi-manufactures	Food, beverages, and tobacco; Consumer goods; Equipment materials	Food, beverages, and tobacco; Equipment materials; Raw materials; Consumer goods	Energy products	Food, beverages, and tobacco; Semi-manufactures; Consumer goods	Food, beverages, and tobacco	Energy products; Consumer goods; Food, beverages, and tobacco; Semi-manufactures; Durable consumer goods

Note: Sectors are listed according to the original statistical sources, i.e. concordance is established manually.
Source: authors' own compilation based on the data retrieved from Foreign Trade Statistics of France, Foreign Trade Statistics of Spain, and National Institute of Statistics of Portugal.

ANNEX E PART 1: COUNTRY LEVEL ANALYSIS OF THE SECTOR CASE STUDIE

In part one of Annex E, we present the country level analysis for the four sector case studies (Agri-food products, chemicals, machinery and transport equipment, and textiles and clothing). This Annex complements the global analysis presented in the main report in Chapter 4. The sector case studies are presented in the following order:

- Agri-food products;
- Chemicals;
- Machinery and transport equipment;
- Textiles.

AGRI-FOOD PRODUCTS

Egypt

Egypt - Overview of the agricultural sector

Egypt has historically been a country with agriculture and farming forming the base of its society. Nevertheless, the importance of the agricultural sector measured in terms of contribution to GDP has steadily declined. In 2000, the agricultural sector accounted for about 15% of GDP and has decreased to about 11% in 2012. However, it seems to have stabilised at that level since then. In comparison to other countries in the region and to countries at a similar development level, this value is higher than the average of the MENA region (4%) as well as of the group of lower middle income countries (8%).[967] Today more than half of the population still lives in rural areas (about 50 million) and about a quarter of the labour force works in agriculture, which is why the sector remains an important factor in the domestic economy. In face of political turmoil in 2011, the sector has also remained relatively stable in comparison to the machinery sector, which dropped from 15% of GDP in 2009 to 8% in 2016.

Despite its agricultural history, Egypt is similar to many other countries in the region dependent on imports to provide sufficient food for its population. While not within the scope of this case study, it is worth noting that in 2018, Egypt was the second largest importer of wheat in the world. The import dependency is driven by Egypt's increasing demand for food due to population growth, combined with a domestic food production limited by a scarcity of agricultural land and water resources.[968] This dependency on imports make Egypt vulnerable to changes in global food prices and supplies, which is a reason for the countries long-standing food price subsidies. It is estimated that the dependency on imports in basic food stuffs will persist as yield increases alone cannot cover the demand.[969]

The MENA region, which includes the SMCs, is the most water-stressed regions in the world. Egypt is no exception here with large parts of its territory being desert or arid. Like many other countries in the region, Egypt is withdrawing more water than their renewable internal freshwater resources allow, since natural freshwater resources apart from the Nile are limited. In fact, agriculture in Egypt is largely only possible through irrigation from the Nile, a water source shared among ten countries. More recently, downstream countries have started to claim larger share of Nile water. Next to water scarcity, land scarcity is another issue. Only 4% of Egypt's territory is agricultural land[970] with its agricultural production being concentrated around the Nile and the river's delta where the soil is fertile and the amount of water is sufficient. The already sparse agricultural land is lost to urbanisation and windblown sands. In order to enlarge the cultivable land, the Egyptian government increasingly has started to support projects which develop groundwater projects and set up wells in desertified and salt-affected areas.[971]

The Suez Canal makes Egypt also an important world transportation hub with about 12% of the world trade volume passing through it. The Suez Canal Economic Zone aims to stimulate economic

[967] World Bank: Agriculture, forestry, and fishing, value added (% of GDP). Please note these figures do not cover the food processing industry, but only the primary sector.
[968] Tellioglu, Isin, and Panos Konandreas. 2017. Agricultural Policies, Trade and Sustainable Development in Egypt. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and Rome: United Nations Food and Agriculture Organization (FAO).
[969] OECD/FAO (2018), OECD-FAO Agricultural Outlook 2018-2027, OECD Publishing, Paris/Food and Agriculture Organization of the United Nations, Rome. https://doi.org/10.1787/agr_outlook-2018-en.
[970] Agricultural land includes arable land, as well as land under permanent crops, and under permanent pastures.
[971] Embassy of Denmark in Cairo (2014), Egypt: Food, Agriculture and Agribusiness. Sector analysis. March 2014.

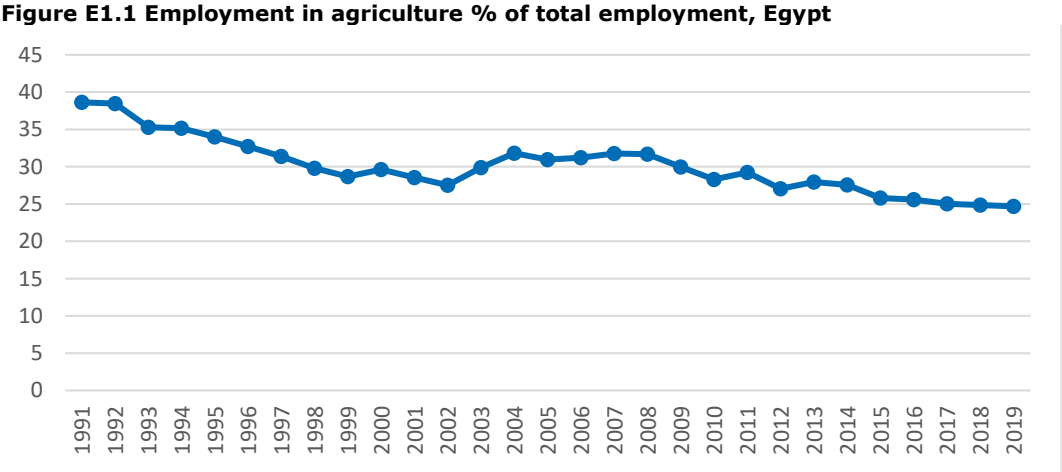
development and transform the area into a world-class logistics and industrial hub. Agribusiness is one of the targeted sectors. In addition to the Suez Canal, Egypt is also geographically well positioned for trade, due to its closeness to the large markets in Europe, the Middle Eastern, and Africa. The main actor in Egyptian agriculture is the Ministry of Agriculture and Land Reclamation and the National Food Safety Authority. In addition, Egypt has also with the Faculty of Agriculture at the Mansoura University and the Agricultural Research Center supporting bodies in the area of research and innovation.

Egypt - Key characteristics of the sector

Plentiful year-round sunlight and the fertile soils of the Nile Valley and Delta favour crops such as rice, wheat, corn, sugar, onions and tobacco. Agricultural **production** is mainly located in the Nile Valley and Delta as well as the Fayoum area. The country's unique climate and ecology provides also the potential for increasing production for selected high value produce, especially fresh fruits and vegetables (grapes, oranges, dates, cabbage, and green beans). [972] In fact, agriculture in Egypt is moving towards horticultural crops (fruits and vegetables) at the expense of typical field crops (cereals, legumes, sugar crops, oilseeds). These horticultural crops are considered cash crops as they can be sold on international markets.[973] This is also reflected in Egypt's export to the European Union with the vegetables, fruits and nuts sectors being the most important export sectors. As such, products such as oranges, grapes, strawberries and potatoes together make up over 40% of total sectoral exports to the European Union in 2017. In addition, the vegetable, fruits and nuts sectors are also a big employer mainly for low skilled workers.

Employment in the agricultural sector has been decreasing steadily mainly due to rural population moving to cities. However, in 2019 still about 25% of Egypt's labour force was occupied in the sector, about 38% of which are female. The value added per worker was USD 5,400 in 2019 and has witnessed a growing trend since 2007.[974] Moreover, education among farmers has been improving. The illiteracy rate decreased from about 62% in 1990 to about 31% in 2010 and the shares of basic, high school, and University education has also been improving.[975] Nevertheless, production in Egyptian agriculture is still labour intensive.

Figure E1.1 Employment in agriculture % of total employment, Egypt



Source: World Bank.

Due to the labour-intensive nature of Egyptian agriculture, **productivity** of labour, as measured by agriculture value added per worker in constant USD grew at about 1% on average during the last decade. However, according to FAO the country stands out positively among other countries in the region. Its rich soils, irrigated crop production and lack of pastures allow Egypt to produce over USD 6,000 worth of products on each hectare of agricultural land. While out of scope, it should be mentioned that close to 60% of Egypt's harvested area is used for cereal and specifically wheat

[972] Tellioglu, Isin, and Panos Konandreas. 2017. Agricultural Policies, Trade and Sustainable Development in Egypt. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and Rome: United Nations Food and Agriculture Organization (FAO).
[973] FAO, CIHEAM-IAMM and CIRAD (2017) Study On Small-Scale Family Farming In The Near East And North Africa Region Focus Country Egypt.
[974] World Bank national accounts data. Agriculture, forestry, and fishing, value added per worker (constant 2010 US$).
[975] FAO, CIHEAM-IAMM and CIRAD (2017).

production. This is however mainly used for domestic consumption.[976] Due to irrigation and the use of fertilisers, Egypt achieves high average fruit and vegetable yields of close to 22 and 25 tonnes per ha in 2005-18. In the same time span, the average for Northern African countries was at only 13 (Fruits) and 22 (Vegetables) tonnes per ha, while in the EU vegetable yields were higher at close to 28 tonnes, but fruits were far lower (11 tonnes).[977] In fact, Egypt has some of the highest agriculture yields in the world, due to its highly irrigated cropland. It is estimated that approximately 86% of Egypt's water use goes to agriculture.[978] In terms of comparative advantage, Egyptian agriculture specialises in exports of meal and flour of wheat, vegetables, fruits and nuts, sugar, and oil seeds (Table E1.1).

Table E1.1 Coefficients of revealed comparative advantage (XRCA)[979] for Egypt (Avg. 2015-18)

Top 10 Agri-food products	XRCA	Bottom 10 Agri-food products	XRCA
Meal and flour of wheat and flour of meslin	12,98821	Barley, unmilled	0,00118
Vegetables	9,33838	Alcoholic beverages	0,01258
Fruits and nuts (excluding oil nuts), fresh or dried	7,32902	Wheat (including spelt) and meslin, unmilled	0,01792
Cheese and curd	5,20849	Meat, edible meat offal, salted, dried; flours, meals	0,01896
Vegetables, roots, tubers, prepared, preserved, n.e.s.	5,15988	Cocoa	0,02322
Sugar, molasses and honey	4,30076	Meat of bovine animals, fresh, chilled or frozen	0,02735
Fruit, preserved, and fruit preparations (no juice)	4,10335	Other meat and edible meat offal	0,03546
Fruit and vegetable juices, unfermented, no spirit	3,57270	Tobacco, unmanufactured; tobacco refuse	0,06698
Sugar confectionery	3,31162	Maize (not including sweet corn), unmilled	0,07131
Oil seeds & oleaginous fruits (incl. flour, n.e.s.)	2,78807	Fish, dried, salted or in brine; smoked fish	0,10461

Source: Own elaboration based on UNCTAD STAT Revealed comparative advantage index.

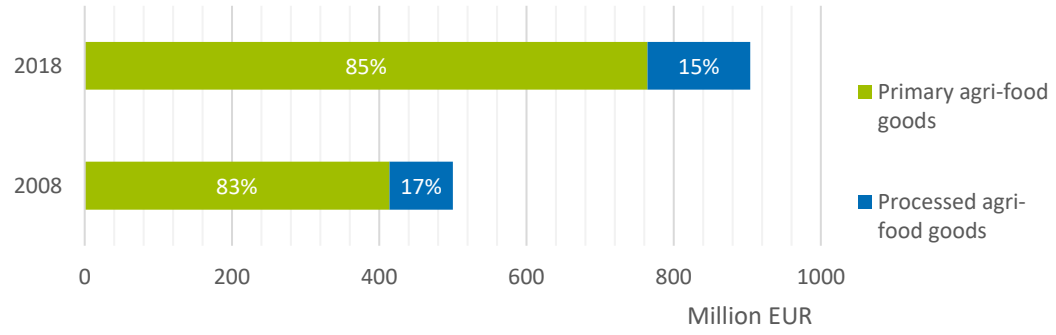
Regarding its **value chains**, Egyptian agricultural is characterised by family owned small-holder farming. A study highlighted that there are two types of farms in Egypt: 1) individual landholdings representing about 92% of the total agricultural land; and 2) corporate farms, which represent only 8% of the land. [980] Small farms dominate agriculture in Egypt with the average farm size being 2.2 feddans[981] in 2010, which is actually a decrease compared to the 2000s (2.4 feddans). These farmers do not own capital and often have to rent machinery or resort to traditional labour-intensive methods to compensate for the work of heavy machineries.

[976] OECD/FAO (2018), OECD-FAO Agricultural Outlook 2018-2027, OECD Publishing, Paris/Food and Agriculture Organization of the United Nations, Rome. https://doi.org/10.1787/agr_outlook-2018-en.
[977] Based on FAOSTAT data.
[978] Bohl, D. K., Hanna, T., Scott, A. C., Moyer, J. D., & Hedden, S. G. (2018). Sustainable Development Goals Report: Egypt 2030. Denver, CO and New York, NY: Frederick S. Pardee Center for International Futures and United Nations Development Programme.
[979] The table shows the Balassa Export Revealed Comparative Advantage Index (XRCA) applied to agricultural products. The XRCA is defined as the ratio of a product category's share in a country's total exports divided by the product category's share of global exports. An XRCA>1 implies that the country is specialised in the export of that product, while an XRCA<1 implies the opposite.
[980] FAO, CIHEAM-IAMM and CIRAD (2017).
[981] One feddan is about 0.42 hectares.

Egyptian agriculture is also very fragmented with nearly one third of small farm holdings (up to 10 feddans) being divided into two or more plots. Land fragmentation is a barrier to sustainable crop management, including pest control and efficient water use. It is also one of the major obstacles to the development of organised value chains. The increasing fragmentation and small scale farming in Egypt negatively affects technical efficiency and economies of scale in the Egyptian agriculture sector.[982] This is in contrast to the high average land yields, since the fragmented but highly fertile land can be cropped more than once a year. In addition, strict crop rotation and government controls on the varieties planted and on the distribution of fertilizers and pesticides contribute to high agricultural yields.[983] Nevertheless, land fragmentation contributes also to the inefficient water use by increasing the total number of irrigation events.[984]

The main agricultural outputs are fresh produce, which require better storage infrastructure, if they are not locally consumed but exported. Food loss has been reported across the Egyptian value chain. A recently concluded project by FAO aimed to address this issue by setting up for example processing units for drying tomatoes and grapes.[985] The agricultural sector has been successful, especially with the exports of potatoes, onions and strawberries. According to one business stakeholder, the success is mainly driven by a small number of big farms, which are owned by Egyptian families. However, Egypt's value chains are developing, and the food processing industry has been growing. In fact, from 2002 to 2013 the country increased its share of processed agri-food goods in total agri-food exports.[986] This trend of sophistication is common in the region. Also when looking at the exports to the EU, traditional fruit and vegetables exports from the region increasingly include other, higher value-added products such as food preparations (from fruit, vegetables, fish, meat, etc.) as well as animal and vegetable oils and refined sugars and sugar confectionary.[987] However, when looking at the time span between 2008 to 2018, we see overall exports from Egypt to the EU increasing by 81%, but the majority of growth happened in the primary sector (85%) and the overall share of processed goods in exports to the EU fell from 17% in 2008 to 15% in 2018[988] (Figure E1.2).

Figure E1.2 Egypt's share of primary and processed agri-food exports to the EU in value



Source: Own elaboration based on UNCTADstat data. Primary goods include HS codes 01 to 05, 07 and 08. Processed goods include HS codes 15-24.

Agricultural policies in Egypt have been shaped throughout the years by two main objectives: 1) providing adequate basic foodstuff for the population; and 2) providing adequate incomes and employment.[989] Both objectives can be traced back to the 1950s with the food subsidy system and the land fragmentation policies limiting the maximum agricultural land holding per person. The policies have been updated frequently, but their effects are visible still today. Food subsidies especially for wheat (but also sugar, cooking oil, and rice) are still in place and have recently become more relevant due to the food price spikes in 2007/08 and 2011. The subsidies are a major

[982] FAO, CIHEAM-IAMM and CIRAD (2017).
[983] Encyclopaedia Britannica. Egypt. Agriculture and fishing. Available at: https://www.britannica.com/place/Egypt/Agriculture-and-fishing.
[984] Abou El Hassan, Waleed. (2017). Irrigation Management Assessment from Land Fragmentation Perspective in the Nile Delta. Irrigation and Drainage. 67. 10.1002/ird.2213.
[985] FAO (2019) Reducing Food Loss And Waste And Developing Value Chains In Egypt And Tunisia.
[986] FAO/EBRD (2015) Egypt, Jordan, Morocco and Tunisia. Key Trends in the Agrifood Sector. Country Highlights.
[987] Ibid.
[988] Based on UNCTADstat trade data for HS codes 02-05, 07, 08 (primary) and 15 to 24 (processed).
[989] Tellioglu, Isin, and Panos Konandreas (2017) Agricultural Policies, Trade and Sustainable Development in Egypt. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and Rome: United Nations Food and Agriculture Organization (FAO).

part of the country's expenditures and the government has become involved in all stages of the wheat value chain.[990] Land fragmentation is also an issue with farm sizes decreasing to date encouraged by the current tax law in Egypt, which incentivises not to sell or combine land.[991]

Both policy objectives have also shaped Egypt's **water policies** and its drive for **land reclamation**, since water and land scarcity are the country's main barriers to increase agricultural production. The conservation of water and the increase in efficiency in its use for agriculture have been long-term objectives. Already under the 'open-door policies' of the 1980s and 1990s, Egypt adopted drip irrigation across most of the reclaimed land and discouraged farmers from growing water-intensive crops. More recently, the "Modernized On-Farm Irrigation Project" was introduced by the Ministry of Agriculture and Land Reclamation and the Ministry of Water Resources and Irrigation in order to irrigate the 1.5 million feddans of new land outside the natural flow of the Nile. Land reclamation has long been used to reclaim land for agricultural production. The most notable efforts to irrigate desert areas were the North Sinai Agricultural Development Project and the Toshka project (also known as the New Valley Project), which resulted in an increase of over 80% in reclaimed land in 2006/07 and 2007/08.[992]

Finally, the government aims also to **decrease its import dependency**. Egypt's five-year Strategic Development Plan for 2012 - 2017 aimed to increase wheat production to reach a self-sufficiency level of 74% by 2017. For 2030 the target is at 81%. However, Egypt's Sustainable Development Goals Report 2030[993] emphasises that already now the country's domestic production covers only about 81% of total agricultural demand, which is projected to decrease to around 69% by 2030. Enhancing irrigation may allow Egypt to increase yields more rapidly, however yields are already high and further irrigation will only increase the strain on Egypt's only source of freshwater, the Nile.

Egypt - Trade figures

The CGE modelling provides an indication of the impact of the **trade** chapters of the Association Agreement. While the definition of the sector in the CGE modelling slightly differs from the definition employed in this chapter, with some caveats, the modelling results are nonetheless broadly comparable with the actual development as seen in trade data. The CGE model suggests a strong positive impact (with the exception of red meat exports) for both exports and imports. In general, the impact on export is larger than for imports by about EUR 21 million (Table 4.10). The largest impact is in the category vegetables, fruits and nuts with trade estimated to increase by EUR 175 million as a result of the FTA, followed by processed food with EUR 121 million, and other agri-food products with EUR 58 million. The results suggest that Egypt is to gain especially in vegetables, fruit and nuts. The impact on the meat sectors is more limited, with exports increasing by only between EUR zero and 3 million. In terms of **outputs**, the CGE modelling suggest that the Egyptian vegetables, fruit and nuts sectors, the vegetable oil sector, and the beverages and tobacco sectors increase due to the agreement, the former two by EUR 2 million each and the latter by EUR 26 million. Meanwhile, it is estimated that due to increased competition from the EU, the Egyptian meat, dairy, processed food as well as other agri-food sectors would decrease their outputs.

[990] As of 2015, the Egyptian government subsidised the production of wheat through four main channels: (1) input and output subsidies for farmers; (2) consumer support in the form of subsidised prices for bread; (3) investment in improvements in grain storage and state grain trading; and (4) support of wheat yield research, phytosanitary control, and other public goods. The government is also the sole purchaser of domestically produced wheat and imports about one third of total wheat imports. The government owns a large share of storage capacity and over half of the milling capacity of the country (OECD/FAO, 2018).
[991] FAO, CIHEAM-IAMM and CIRAD (2017).
[992] Tellioglu, Isin, and Panos Konandreas (2017).
[993] Bohl, D. K., Hanna, T., Scott, A. C., Moyer, J. D., & Hedden, S. G. (2018). Sustainable Development Goals Report: Egypt 2030. Denver, CO and New York, NY: Frederick S. Pardee Center for International Futures and United Nations Development Programme.

Table E1.2 CGE modelling results on trade for Egypt

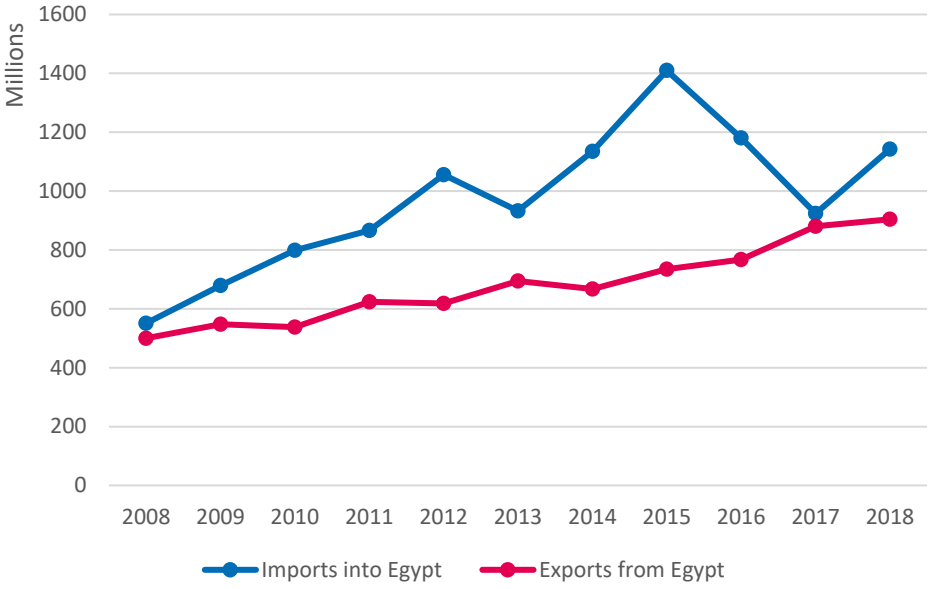
GTAP Sectors	Change in Exports		Change in Imports		Change in output	
	Relative	Million EUR	Relative	Million EUR	Relative	Million EUR
Animal products						
Red Meat	-3%	0	15%	1	-0.8%	-16
White Meat	883%	3	105%	1	-0.5%	-5
Milk and dairy products	1280%	15	16%	23	-0.4%	-26
Fishery and Forestry	25%	2	7%	2	0.0%	-1
Vegetables and fruits						
Vegetables, fruit and nuts	34%	112	33%	63	0.0%	2
Processed foodstuff						
Vegetable oils	83%	2	47%	6	1.0%	2
Processed food	39%	56	14%	41	-0.1%	-16
Beverages and tobacco	31%	14	1%	2	0.3%	26
Other agri-food products	4%	5	60%	53	-0.2%	-22
Total	-	**207**	-	**186**		**- 56**

Source: CGE results (European Commission, 2019).
Note: These sectors correspond to the GTAP sectors red meat (cmt), white meat (omt), milk and dairy products (rmk, mil), vegetables, fruit and nuts (v_f), vegetable oils (vol), processed food (ofd) and beverages and tobacco (b_t), other agri-food products (osd, c_b, pfb, ocr, oap, wol, sgr), and fishery and forestry (frs, fsh).

In reality, Egypt's imports from the EU have doubled (EUR 592 million) while its exports to the EU increased by about 81% (EUR 404 million) between 2008 and 2018 (Figure 4.5). Growth in exports was steady, while imports peaked in 2015 and fell afterwards possibly due to trade restrictive measures that Egypt adopted. Indeed, the EU notes the multiplication of trade restrictive measures in Egypt[994] and similar a stakeholder from the EU's fruits and vegetable sector notes that barriers have increased in the past years (e.g. due to restriction on issuing transfers abroad for Egyptian importers). Moreover, since January 2016 a key barrier has been put in place by requiring a registration of companies exporting to Egypt (Decree 991/2015) and a certificate of inspection for all shipments (Decree 43/2016). This barrier affects also agricultural products.[995]

[994] European Commission (2019) Report on Implementation of Free Trade Agreements. COM(2019) 455 final.
[995] European Commission. Market Access Database. Trade Barriers. Egyp. Available at: https://madb.europa.eu/madb/barriers_details.htm?barrier_id=10800.

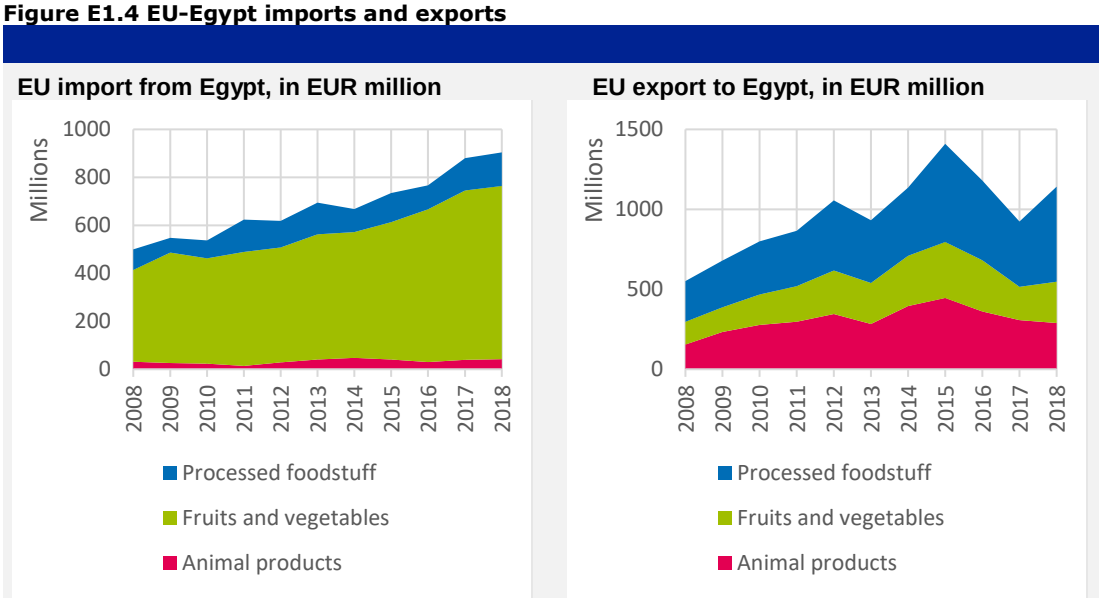
Figure E1.3 EU- Egypt trade in Agriculture, in EUR million



Source: Eurostat Easy Comext.
Note: Covers HS chapters 02 to 05, 07, 08, and 15 to 24.

Figure E1.4 shows that the EU is mainly importing fruits and vegetables from Egypt, while exports are more mixed, though the majority are processed foodstuff. One of the main imports is sugar with Egypt being the EU's main recipient of sugar exports.[996] The products that have seen the strongest export growth in absolute terms are fruits and nuts (+ EUR 273 million), vegetables (+ EUR 67 million), and preparations of vegetables, fruit, nuts (+ EUR 55 million). In turn, for imports these are sugars and sugar confectionery (+ EUR 159 million), preparations of cereals (+ EUR 90 million), and dairy products (+ EUR 87 million).

Figure E1.4 EU-Egypt imports and exports



Source: Eurostat Easy Comext.
Note: Covers HS chapters 02 to 05 (animal products) as well as 07and 08 (fruits and vegetables), and 15 to 24 (processed foodstuff).

As shown in table E1.3, Egypt's main exports are oranges, grapes and strawberries as well as potatoes and onions. There are however difficulties in meeting EU quality and safety requirements because of pesticide damage and or residues and other defects due to high humidity during export

[996] In 2018, the country imported more than 500 000 tonnes of European sugar at zero duty, thanks to the existing EU-Egypt trade greement. Source: European Commission (2019) Report on Implementation of Free Trade Agreements. COM(2019) 455 final.

storage. For oranges, Egyptian producers compete with producers from Spain, Morocco, South Africa and Turkey. However, producers in Egypt face constraints in maintaining reliable yields due to delays in introducing high-yielding plant varieties. Moreover, for oranges and grapes, producers have difficulties in complying with global quality and safety standards, especially for the EU market. Quality flaws originate from pesticide damage and residues or defects due to high humidity during pre-export storage.[997] Egypt is the 6th main destination for EU fresh fruits and vegetables exports, but since 2015 EU exports to the region have decreased.[998] Meanwhile EU imports have steadily increased with Netherlands and UK being the main import destinations.[999]

Table E1.3 Top ten agriculture exports from Egypt to EU, 2017.

HS Code	Product	Trade value	Share in sectoral imports
080510	Fresh or dried oranges	€ 138.667.360,00	15,75%
080610	Fresh grapes	€ 125.301.309,00	14,23%
070190	Fresh or chilled potatoes	€ 78.956.213,00	8,97%
070310	Fresh or chilled onions and shallots	€ 52.484.159,00	5,96%
081010	Fresh strawberries	€ 42.726.258,00	4,85%
070820	Fresh or chilled beans	€ 42.152.062,00	4,79%
081110	Strawberries	€ 33.738.596,00	3,83%
071080	Vegetables	€ 32.468.293,00	3,69%
050400	Guts, bladders and stomachs of animals	€ 27.075.642,00	3,08%
071190	Vegetables and mixtures of vegetables provisionally preserved	€ 24.972.269,00	2,84%

Source: Eurostat Easy Comext.
Note: EU imports under HS02-05, HS07-08 and HS15-24 at the six digit level.

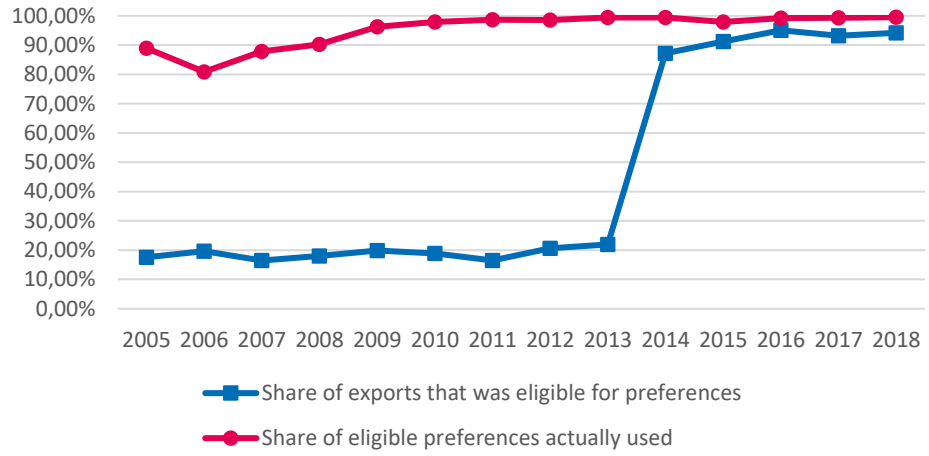
Egypt has also seen strong export growth for dairy products. Their share of total agri-food exports was 10 percent in 2013, up from about 3 percent in 2005. However, these exports go mainly to lower-income countries in the wider MENA region. They currently do not meet the higher quality demands and standards of the EU and its consumers. The same applies for vegetable oils, which have had substantial export growth, but targeted at lower income countries.[1000]

Most of Egypt's agriculture exports to the EU are currently eligible for preferences, to the exception of some sensitive products. Some of these sensitive products are subject to tariff quotas (cf. annex to protocol 1 of the agricultural agreement between the EU and Egypt)[1001]. In general, exporters use these preferences, with an utilisation rate close to 100 percent, however according the Egyptian Customs authority[1002], agriculture is one of the few sectors that does not fully utilise them. Additional preferences became available through the separate agreement on agricultural, processed agricultural and fisheries products entering into force on 1st June 2010. Some quotas gradually increased over a couple of years. After 2014, preferences continue to increase slightly (Figure E1.5). However, a stakeholder remarked that although tariffs diminished, non-tariff measures (for example SPS requirements) make it difficult to export to the EU[1003] However, another stakeholder remarked that it is easier to export to the EU than to other countries. Regulations might be difficult to comply with, but they are clear. Some business stakeholders also

[997] Tellioglu, Isin, and Panos Konandreas. 2017. Agricultural Policies, Trade and Sustainable Development in Egypt. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and Rome: United Nations Food and Agriculture Organization (FAO).
[998] According to Freshfel Europe in its response to the evaluation of trade component of the EU-Euro-Mediterranean Association Agreements with six Mediterranean partners (25 November 2019).
[999] Ibid.
[1000] FAO/EBRD (2015) Egypt, Jordan, Morocco and Tunisia. Key Trends in the Agrifood Sector. Country Highlights.
[1001] OJ L 106 of 28.04.2010).
[1002] Based on stakeholder interviews and the workshop.
[1003] An Egyptian academic in the field of Economics.

remarked that Egypt is not fully utilizing the agreement due to the business environment and a lack of government promotion.[1004]

Figure E1.5 Preference utilization of Egyptian agriculture exports to the EU



Source: Eurostat Easy Comext and own computations.

Egypt - Conclusions and lessons learned

In general, **the impact of the Association Agreement on agricultural trade can be considered as positive based on the continuous growth in Egyptian exports despite the political instabilities and the high share of exports eligible for preferences**. This is also suggested by the modelling results. Egypt had a starting point of already exporting actively agri-food products to the EU and was able to nearly double its exports in the past decade. Specifically, Egypt could increase its exports of primary agricultural goods from the fruit and vegetable sector such as oranges, grapes, potatoes, onions and strawberries. However, Egypt's exports of processed agri-food products increased only slowly highlighting that the country continues to focus on lower-value exports to the EU.

Still, it is difficult to ascertain how much of this increase in exports can be attributed to the agreement. However, also findings from the economic literature suggest that that agreement has contributed positively to this increase. A report from a research institute[1005] assessed that the EU-North Africa trade agreements "have been judged too harshly. They helped generate large amounts of trade, though not enough was done on the domestic front to derive the maximum benefit from them." The report goes on to explain that particular liberalisation in the area of agriculture can further support these countries. A study on selected North African countries (Algeria, Egypt, Morocco and Tunisia) using a gravity model found that the trade agreements increases aggregated agricultural trade flow by around 39 percent in trade volume. At a disaggregate level, the study suggested that vegetable trade was positively influenced. No positive impact was found for sugar or meat.[1006] Finally, an impact evaluation assessment of the SMCs on trade in agriculture and fishery products found that the impact of the EU preferences is positive and significant on the trade performance of the countries.[1007]

The latter study acknowledges that, since the Barcelona Declaration, agri-food trade volumes have increased in absolute terms but worsened relatively to other EU main trade partners (with the exception of Japan), due to trade growth being slower in the SMCs. However, when controlling for external factors such as the political turmoil and economic shocks in the countries, they found that the agreements had a significant positive impact of trade flows towards the EU. The benefits for agriculture are also echoed by stakeholders with one[1008] indicating that agribusiness is the sector that benefitted most from the agreement. It was noted that trainings organised by the EU helped

[1004] Based on interviews and the workshop.
[1005] Ait Ali, Abdelaaziz and Dadush, Uri and Msadfa, Yassine and Myachenkova, Yana and Tagliapietra, Simone (2019) Towards EU-MENA shared prosperity. Bruegel Policy Report, 3rd ed. February 2019.
[1006] Hndi B. M., Maitah, M. and Mustofa, J. (2016) "Trade Impacts of Selected Free Trade Agreements on Agriculture: The Case of Selected North African Countries", AGRIS on-line Papers in Economics and Informatics, Vol. 8, No. 3, pp. 39 - 50.
[1007] Emiliano Magrini, Pierluigi Montalbano & Silvia Nenci (2017) Are EU trade preferences really effective? An impact evaluation assessment of the Southern Mediterranean Countries' case, International Review of Applied Economics, 31:1, 126-144.
[1008] Based on interviews and the workshop.

business to understand the EU market requirements related to food safety (e.g. traceability requirements).

However, in order to make fully use of the preferential access, Egypt needs to overcome domestic challenges. Some of these challenges, namely the water and land scarcity have always been present and will only increase with climate change and rising demand. As discussed in previous sections, past land reclamation policies have been successful. In addition, water efficiency has been improved. A further shift towards less water intensive cultivation could benefit the country in the long-term. The economic value that would be derived from using already scarce water and land sources to grow high value crops, such as fruit and vegetables, is estimated to be higher than growing most other crops. This would also support sustainable use of natural resources due to their lower water requirements.

Other challenges are quite recent and relate to the political turmoil that followed the Arab Spring. The Worldwide Governance Indicators shows only slow improvements in political stability, since 2011. For example, restrictions on international currency transfers were put in place to prevent capital flight. These complicated money transfers and the issuing of timely payments by importers, which could have affected farms that need to import fertilisers, seeds or other inputs. They were finally removed mid-2017 as part of an IMF 3-year economic reform program. [1009] Continued political instability has led among other factors to high inflation with an average inflation rate of circa 10% in the past decade. Inflation peaked above 30% in 2017 after the Central Bank of Egypt reintroduced a freefloating exchange rate. The inflation rates have however been falling since mid-2019 to levels below 10%. Overall, the main concern with inflation in Egypt are food prices, which the government tries to control through its subsidy schemes.[1010]

Next to the geographical and political challenges, the Egyptian agriculture sector struggles also with many of its own shortcomings. Past policies have led to land fragmentation, making economies of scale difficult. In addition, the prioritisation of food security and self-sufficiency over competitiveness created an overreliance on cereal production. Furthermore, farmers (partly due to the land fragmentation) struggle in adapting high yielding plant variations and in complying with global and EU quality and safety standards. A stakeholder[1011] remarked that that if high standards are not accompanied by the know-how to improve, then they act as a constraint. A know-how that many local producers lack. While the EU provided trainings, this remains still a challenge for many, especially smaller, producers. Egypt's Export Development Authority provides also support to producer through its Export Portal, which provides for example studies on the markets of EU Member States.[1012] Shortcomings in infrastructure also complicate supply chains and lead to interruptions in cold chains for perishable goods. This is especially the case for the country's exports of high value crop in fruits and vegetables as well as the preparations thereof.

In terms of trade policies, stakeholders from business and academia noted that there is room for improvement related to custom procedures, investment and export promotion. Specifically, the inability of Egyptian products to compete due to inefficient customs as well as a lack of direct government support was mentioned.[1013]

Finally, in terms of **lessons learned**, the case of Egypt shows:

- A mixed story, with Egypt on the one hand benefitting of the agreement, but also struggling to further diversify exports;
- Domestic challenges such as land and water scarcity, but also political unrest have certainly hindered further progress in production and exports;
- There seems to be also some shortcomings in custom procedures, export promotion and a lack of know-how about EU standards;
- Finally, Egypt's agricultural policy has a clear focus on production for domestic consumption, favouring the production of cereals through subsidies to ensure food security for its population, while moving towards a more export oriented production of fruits and vegetables could be profitable, food security and social acceptability.

[1009] Asma Alsharif, June 14 2017, In long-awaited move, Egypt central bank scraps currency transfer limit. Reuters.
[1010] For example, government cuts to bread subsidies led to bread riots in 2017. Source: Blaydes L. (2019) Challenges to Stability in Egypt. In: Hoover Institute, Spring Series, Issue 519.
[1011] An Egyptian academic in the field of Economics.
[1012] http://www.expoegypt.gov.eg/home.
[1013] Based on interviews and the workshop.

Lebanon

Lebanon - Overview of the agricultural sector

The focus of the Lebanese economy has traditionally been in the service sector, with industry and agriculture having a much smaller share in the domestic economy, compared to the country's peers.[1014] During both wars (1975-1990 and July 2006) the agricultural sector was severely affected by loss of infrastructure, resources and assets. Nevertheless, the agricultural sector was largely left out in post-war reconstructions programs and government actors have not promoted agricultural and rural development in subsequent socio-economic policies. This resulted in an unequal development between the country's core (Beirut and Mount Lebanon) and its periphery (North and South Lebanon and the Beqaa Valley). Until today, these "patterns of uneven geographical development" shape the structure of the agricultural sector in Lebanon.[1015]

This limited role of agriculture is also reflected in the sectors contribution to the GDP where primary agricultural production accounted for only 5% of GDP.[1016] Nevertheless, agriculture has remained an important sector for income generation in rural areas as it plays a significant role in local employment and thus allowed communities to cope with the impact of crisis and shocks, such as the civil war in neighbouring Syria.[1017] In addition, it has a significant food-processing industry, contributing an additional 5% to GDP. [1018] The main actors in the sector are on the government side, the Ministry of Agriculture, from the sector the Lebanese Association for Agriculture, and from research the Faculty of Agronomy at the Lebanese University and the Department of Agriculture at the American University of Beirut.

The crisis in Syria has not only imposed a heavy burden on Lebanon in terms of its physical and social infrastructure, it has also significantly impacted the agriculture and food sector. This impact becomes visible in three ways. For one, in terms of destroyed infrastructure and the increase in costs of agricultural production.[1019] Second, the disruption of important trade routes to lucrative markets in the GCC countries and Iraq resulted in a decrease of Lebanon's exports of agricultural products. Lebanese farmers had been heavily dependent on highly subsidised agricultural inputs from Syria. The unavailability of these, caused a stark increase in local agricultural production costs.[1020] Finally, the large amount of Syrian refugee camps located in the major agricultural regions of the North and the Bekka region put pressure on natural resources (farmland, water, forest resources), however also provide additional demand and cheap labour.[1021]

Lebanon - Key characteristics of the sector

In terms of **production**, Lebanon has historically been producing both, horticultural crops (fruits and vegetables) and traditional crops (cereals, oilseeds, etc.). The moderate climate, rich soil and abundant water resources allows for year-round diverse agricultural production including citrus, olives and other horticultural products.[1022] Moreover, Lebanon has one of the highest proportion of agricultural land in the MENA region with 64% of its total land area. However, the country has also one of the lowest food self-sufficiency ratios with only 5% and relies heavily on imports.[1023] Major agricultural products in terms of volume produced are vegetables and fruits. Vegetables make up 63% of total agricultural production with potatoes being the main produce within this category. Fruits make up 31%, with citrus grapes and bananas being the biggest production group in terms of volume. Additionally, live stock has increased in recent years with meat production having more than doubled since 1990.[1024] Staple crops such as wheat are produced too, yet volumes are limited and around 80% of the country's total wheat consumption stems from imports[1025].

[1014] Aden A. Aw-Hassan, Luai Jraisat, Nader Duqmaq, Mourad Rekik. (1/12/2018). Linking Refugees to Agricultural Value Chains in the North of Jordan: Orange, Cucumber, and Small Ruminants' Dairy. Beirut, Lebanon: International Center for Agricultural Research in the Dry Areas (ICARDA).
[1015] Hamade K. Lebanon's Agriculture: Dynamics of Contraction in the Absence of Public Vision and Policies.
[1016] https://investinlebanon.gov.lb/en/sectors_in_focus/agriculture_and_livestock.
[1017] FAO in Lebanon. Lebanon at a glance, available at: http://www.fao.org/lebanon/fao-in-lebanon/lebanon-at-a-glance/en/.
[1018] https://investinlebanon.gov.lb/en/sectors_in_focus/agriculture_and_livestock.
[1019] Ibid.
[1020] Ibid.
[1021] Ibid.
[1022] USDA Foreign Agricultural Service (2016) Lebanese Market Overview.
[1023] OECD/FAO (2018), OECD-FAO Agricultural Outlook 2018-2027, OECD Publishing, Paris/Food and Agriculture Organization of the United Nations, Rome. https://doi.org/10.1787/agr_outlook-2018-en.
[1024] Ibid.
[1025] USDA Foreign Agricultural Service (2016) Lebanese Market Overview.

Regarding **employment**, about 12% of the labour force or about 288,000 people were working in agriculture in 2019. The number has been falling over the past decades and was at 14% in 2005. However, FAO estimates that between 20 to 25% of Lebanon's population have some activity in agriculture on a full time or part time basis, including seasonal family labour. Moreover, agricultural related activities make up for almost 80% of local GDP in the poorest regions of Lebanon such as Akkar, Dinniyeh, the Northern Bekaa and the South.[1026] Farming activities remain also mostly unregulated and does therefore not fall under the scope of Lebanese Labour Law.[1027] In fact, the sector is characterised by informal labour. It is estimated that 92% of the employment in agriculture is informal and this excludes seasonal workers.[1028] Demand for full time labour is estimated to be 50,000 workers, whereas the demand for seasonal workers is almost double. This work is usually filled by low wage Syrian workers.[1029]

Looking at **productivity**, we find the country's moderate climate, rich soil, and abundant water resources provide it with the key factors of agricultural production. However, value added per worker has been falling from its peak of USD 8.500 in 2000 to about USD 6.500 in 2018, which is still higher than in Egypt and Morocco, but small in comparison to the EU (USD 28,000 in 2018).[1030] The sector struggles with low productivity for many crops (e.g. olives) due to limited modernisation and technology adoption. There is also a overreliance on fertilisers and pesticides (452 kg/ha compared to 131 kg/ha in OECD countries).[1031] In addition, the recent influx of cheap labour from Syria has disincentivised farmers further from investing in farm modernization and mechanization.[1032]

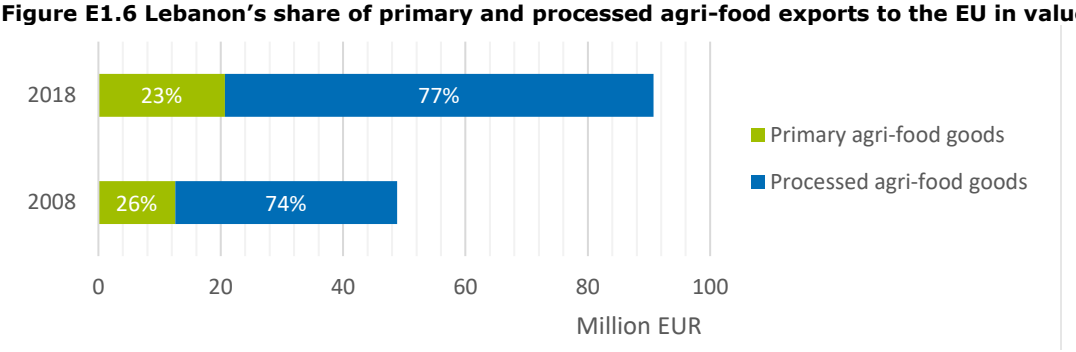
The **industry structure** and the **value chain** is characterised by wholesalers dominating small-holder farms with the average farm holding size being 1.4 ha. Local markets are seen as inefficient in which farmers are vulnerable to unfair practices, partly due to a weak cooperative system. Next to the hegemony of traders there are various other challenges in Lebanon's agricultural value chain. These are mainly related to lack of infrastructure, absence of effective cooperatives and proper agricultural policy to support the sector's development, as well as the aforementioned slow modernisation and adaptation of new technology. [1033]

The heart of the Lebanese agriculture is however its food processing companies. There are around 1400 agri-food companies making up the largest share of total industrial firms in the country.[1034] The majority of these firms are located in the Mount Lebanon Governorate (about 43%) and in the Bekaa Governorate (18%). Firms in this region are mainly engaged in the production of dairy, confectionary, dried fruits and nuts, baked goods olive oil and wine – products which next to fresh vegetable make up the biggest part of the country's export. Despite the presence of numerous processing and packaging companies in Lebanon the existing value chains do often not meet EU quality requirements.[1035] The agriculture sector struggles with poor access to global markets largely due to non-compliance with international standards (e.g. SPS for potatoes) and lack of proper post-harvest infrastructure.[1036] There are also various foreign companies operating in the Lebanese agricultural industry such as the Nestlé (Switzerland), General Mills (USA), Coca Cola (USA), Unilever (UK/Netherlands), PepsiCo (USA) and Japan Tobacco International (Switzerland). These serve however mainly regional markets.[1037]

Production figures are also partly reflected in Lebanon's **exports** to the European Union. As such, vegetables exports make up a share of 6% of total sectoral exports with a value of 17 Mio in 2018. However, exports of raw vegetables (HS07) have stagnated since 2008 while exports of processed products (HS15-24) increased, indicating a shift towards higher value produce. In fact, Lebanese agricultural export to the European Union is dominated by processed foods, with approximately 74% of agricultural exports in 2018 coming from this sector (up from 71% in 2008).[1038]

[1026] FAO in Lebanon. Lebanon at a glance, available at: http://www.fao.org/lebanon/fao-in-lebanon/lebanon-at-a-glance/en/.
[1027] Hamade K. Lebanon's Agriculture: Dynamics of Contraction in the Absence of Public Vision and Policies.
[1028] McKinsey & Company (2018) Lebanon Economic Vision. Full Report.
[1029] Hamade K. Lebanon's Agriculture: Dynamics of Contraction in the Absence of Public Vision and Policies.
[1030] World Bank Data: Agriculture, forestry, and fishing, value added per worker (constant 2010 US$).
[1031] McKinsey & Company (2018) Lebanon Economic Vision. Full Report.
[1032] Hamade K. Lebanon's Agriculture: Dynamics of Contraction in the Absence of Public Vision and Policies.
[1033] Hamade K. Lebanon's Agriculture: Dynamics of Contraction in the Absence of Public Vision and Policies.
[1034] https://investinlebanon.gov.lb/en/sectors_in_focus/agro_industry.
[1035] Invest in Lebanon (2018) Agrofood Industry. 2018 Factbook.
[1036] McKinsey & Company (2018) Lebanon Economic Vision. Full Report.
[1037] Invest in Lebanon (2018) Agrofood Industry. 2018 Factbook.
[1038] Based on UNCTADstat trade data for HS codes 02-05, 07, 08 (primary) and 15 to 24 (processed).

Figure E1.6 Lebanon's share of primary and processed agri-food exports to the EU in value



Source: Own elaboration based on UNCTADstat data.

Within this category preparations of vegetables, beverages and tobacco were the most exported in terms of value in the same year. Especially, the sub-sector of 'preparations of vegetables, fruits and nuts' has more than tripled in terms of value exported from almost 7 mil EUR to 24 mil EUR in 2018.[1039] The relative competitiveness of Lebanon in prepared foodstuff is also reflected in its coefficients of revealed comparative advantage, where the leading products are prepared foods (Table E1.4).

Table E1.4 Coefficient of revealed comparative advantage (XRCA) for Lebanon (Avg. 2015-18)

Top 10 Agri-food products	XRCA	Bottom 10 Agri-food products	XRCA
Tobacco, unmanufactured; tobacco refuse	15,68980	Crustaceans, mollusks and aquatic invertebrates	0,00987
Fruit, preserved, and fruit preparations (no juice)	14,26345	Barley, unmilled	0,03372
Meal and flour of wheat and flour of meslin	11,00553	Maize (not including sweet corn), unmilled	0,04974
Vegetables, roots, tubers, prepared, preserved, n.e.s.	9,04426	Fish, fresh (live or dead), chilled or frozen	0,07234
Non-alcoholic beverages, n.e.s.	8,38712	Meat of bovine animals, fresh, chilled or frozen	0,09303
Chocolate, food preparations with cocoa, n.e.s.	7,79198	Oil seeds and oleaginous fruits (excluding flour)	0,10011
Sugar, molasses and honey	7,49058	Tobacco, manufactured	0,10534
Fruits and nuts (excluding oil nuts), fresh or dried	7,21592	Margarine and shortening	0,12104
Sugar confectionery	5,76181	Butter and other fats and oils derived from milk	0,12279
Vegetables	5,56219	Feeding stuff for animals (no unmilled cereals)	0,12992

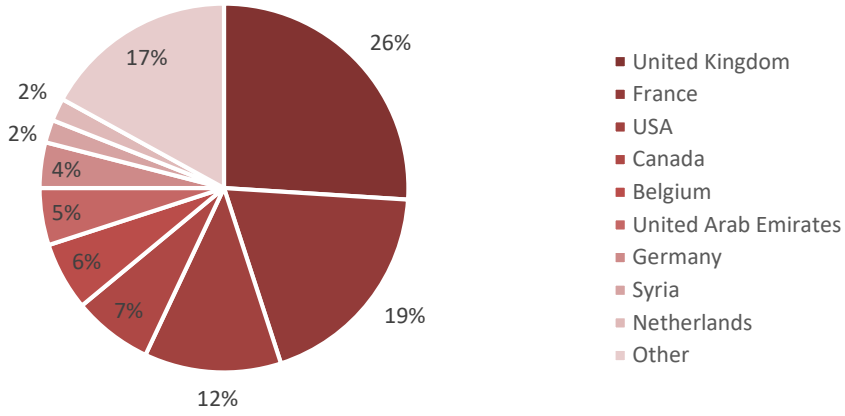
Source: Own elaboration based on UNCTAD STAT Revealed comparative advantage index.
Note: Includes also agricultural products that are not in scope of this study.

In terms of its comparative advantage and actual exports to the EU, tobacco is one of the leading exports of Lebanon. However, tobacco is seen as a low-value crop, which is often cultivated at a loss.[1040] The export value for tobacco has decreased from EUR 17 million in 2008 to EUR 11 million in 2018. This could also be due to reduced tobacco consumption in Europe. A promising sub-sector is beverages, which has also almost doubled its export to the European Union from EUR 7.9 million to 15.7 million from 2008 to 2018. Specifically worth noting is the wine sub-sector, which

[1039] https://investinlebanon.gov.lb/en/sectors_in_focus/agriculture_and_livestock.
[1040] McKinsey & Company (2018) Lebanon Economic Vision. Full Report.

accounted for about half the beverage exports to the EU in 2017. Major export destinations for wine are the United Kingdom and France (Figure 4.9). In fact, Lebanon has one of the oldest wine heritages in the world and has been enjoying a trade surplus since the late 1990s. However, the surface area of wine production has been decreasing in past years.[1041] Finally, there is a potential for growth in dried fruits and nuts, prepared sauces and condiments and milk and cream given their export trend data.

Figure E1.7 Lebanese Wine Export Destination, 2017 (%)



Source: Own elaboration based on IDAL, Investment Development Authority Lebanon, 2017.

Most of Lebanon's agricultural export, especially fresh products such as vegetables are shipped to the Middle Eastern markets, where Saudi Arabia, the United Arab Emirates and Kuwait remain the largest recipients. In 2016, 44.5% of total Lebanese agricultural went to these three countries. They are followed by other Arab countries such as Egypt, Syria and Jordan.[1042] These markets are more accessible than EU markets, since their quality and safety standards are not as high. In addition, proximity and similar consumer preferences facilitate export to these countries.

Agricultural policy in Lebanon is characterised by a lack of coherence. Since Lebanon's independence in 1943, the country has relied on imports in order to secure its population needs. It was only in the early 1960s that the country introduced agricultural and rural development policies. However, a power-sharing system between different political parties and influential landlords has led to a fragmented, unclear agricultural policy apparatus with a lack of an official and coherent country wide policy.[1043] The strong reliance on imports has led the government to introduce subsidies to influence farmers choices in crop production.[1044] Additionally, the government subsidises tobacco production through a public company[1045], which manages the cultivation, manufacturing, distribution and sale of tobacco and tombac in Lebanon.

The Syria crisis has also affected agricultural policies in Lebanon. In 2014 the Government of Lebanon in cooperation with its UN partners adopted the Lebanon Crisis Response Plan (LCRP) 2015-2016 which set out priority interventions for nine different sectors affected by the crisis, including the food security sector. Major aim of the policy intervention was to improve food availability through in-kind food assistance and development of sustainable value chains, improved agricultural livelihood, improved food safety and nutrition practices through promotion of consumption of diversified and quality food, and lastly enhance information on food security and support to institutions.[1046] During the workshop, stakeholders also provided examples of many donor-funded initiatives to stimulate competitiveness and trade of the sector. Generally, these seem to be relatively small-scale initiatives (see also Box E1.1).

[1041] Based on data from the The International Organisation of Vine and Wine.
[1042] Invest in Lebanon (2017) Agriculture Sector. 2017 Factsheet.
[1043] Hamade K. Lebanon's Agriculture: Dynamics of Contraction in the Absence of Public Vision and Policies.
[1044] Hamade K. Lebanon's Agriculture: Dynamics of Contraction in the Absence of Public Vision and Policies.
[1045] Régie Libanaise de Tabacs et Tombacs.
[1046] FAO/United Nations (2016) Lebanon. Country Programming Framework 2016-2019.

Box E1.1 Supporting agricultural exports

There are various stakeholders that aim to promote agricultural exports in Lebanon. Next to the UN support mentioned above, during the workshop examples were provided of projects funded by the EU and Member States. Given that costs of production in Lebanon are relatively high, it was considered difficult to compete on price. The stakeholders involved in these projects indicated that a very important starting point for these projects, is to identify products where Lebanon could be competitive. Especially niche products, where price is less important, were seen as providing opportunities. Examples of products identified included organic products and snail slime[1047] (in two different projects). Based on the selection of these niche products, a more targeted strategy could be developed (focusing on potential clients, relevant markets within the EU, complying with specific requirements for these products, etc.) and results of this targeted approach were considered positive.

Lebanon - Trade figures

The partial equilibrium (PE) modelling provides an indication of the impact of the **trade** chapters of the Association Agreement on the sector. The PE model suggests a strong positive impact (with the exception of red meat and fishery) for both exports and imports. In total, the impact on the value of imports is double that of the exports (Table E1.5). We can see the strongest impacts in the trade value of processed foodstuff, which is estimated to increase by EUR 77 million, followed by other agri-food products with EUR 19 million. For dairy products we see an increase in imports by EUR 12 million.

Table E1.5 PE modelling results on trade for Lebanon

GTAP sectors	Change in Exports		Change in Imports	
	Relative	Million EUR	Relative	Million EUR
Animal products				
Red Meat	0%	0	4%	0
White Meat	241%	0	6%	2
Dairy products	-	0	7%	12
Fishery and Forestry	0%	0	0%	0
Fruits and vegetables				
Vegetables, fruit and nuts	37%	1	16%	3
Processed foodstuff				
Vegetable oils	43%	2	5%	1
Processed food	119%	23	13%	39
Beverages and tobacco	25%	3	9%	9
Other agri-food products	63%	9	18%	10
Total	**-**	**38**	**-**	**76**

Source: PE Results (European Commission, 2019).
Note: These sectors correspond to the GTAP sectors red meat (cmt), white meat (omt), milk and dairy products (rmk, mil), vegetables, fruit and nuts (v_f), vegetable oils (vol), processed food (ofd) and beverages and tobacco (b_t), other agri-food products (osd, c_b, pfb, ocr, oap, wol, sgr), and fishery and forestry (frs, fsh).

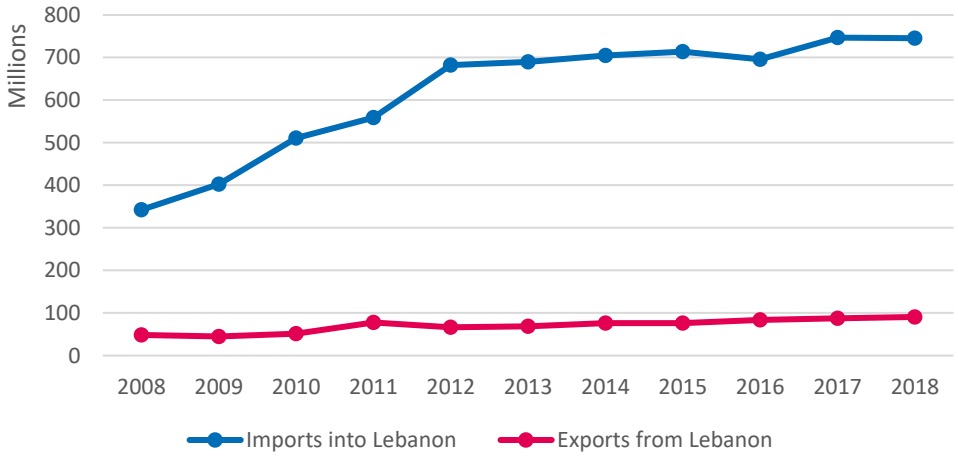
The modelling results suggest that Lebanon's processed food sector is to gain from the agreement from further integration into the EU value chain. In other subsectors, apart from beverages, we see

[1047] Used in cosmetic products.

mainly Lebanon's imports increasing, which is not surprising since the country is generally dependent on food imports and the food processing sector continues to demand imported inputs. This is also supported by the fact that Lebanon has a subset of consumers with high purchasing power that like to purchase high value imported food products such as those provided by EU suppliers.[1048]

In reality, we have seen Lebanese agricultural exports rise slowly until 2011 and then fall after the Arab Spring (Figure E1.8). However, they recovered their growth path and have reached EUR 91 million in 2018. This increase nearly doubles the export value compared to the 2008 level. In terms of imports, Lebanon experienced a fast growth of imports until 2012 with the total value doubling in this time. However, due to the fighting of the Syrian civil war spilling over into Lebanon, imports have since then flatlined and grown only slowly. In 2018, agri-food imports valued EUR 745 million, which is an increase of 118% or EUR 403 million.

Figure E1.8 EU- Lebanon trade in Agriculture, in EUR million

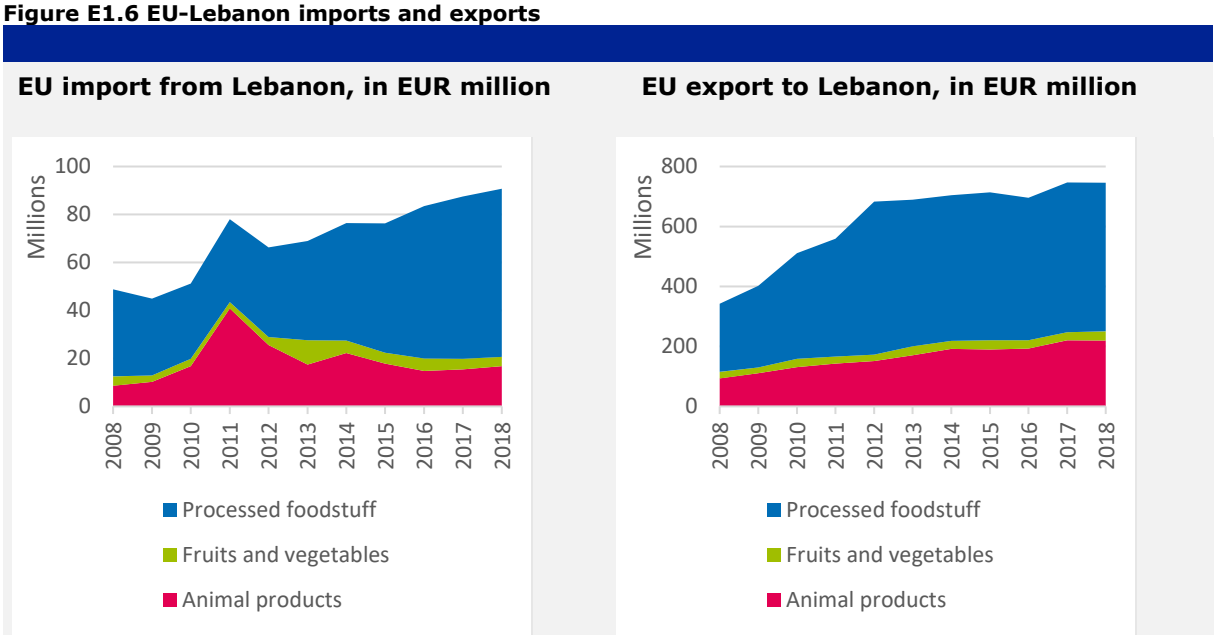


Source: Eurostat Easy Comext.
Note: Covers HS chapters 02 to 05, 07, 08, and 15 to 24.

Figure E1.6 highlights that most of Lebanon's export grew in the processed foodstuff products category nearly doubling from EUR 36 to 70 million. In comparison, the other categories grew only slowly. In turn, EU exports to Lebanon grew both for the processed foodstuff as well as the animal products categories.

[1048] https://www.fas.usda.gov/data/lebanon-lebanese-market-overview.

Figure E1.6 EU-Lebanon imports and exports



Source: Eurostat Easy Comext.
Note: Covers HS chapters 02 to 05 (animal products) as well as 07and 08 (fruits and vegetables), and 15 to 24 (processed foodstuff).

Looking at individual products (at HS level 02) and their development between 2008 and 2018, one sees that Lebanon experienced its strongest growth in the export of preparations of vegetables, fruit, nuts with close to EUR 18 million. This is followed by products of animal origin (EUR 8 million), beverages, spirit and vinegar (EUR 7.8 million), and animal or vegetable oils (EUR 6.5 million). Lebanon experience the largest reduction of exports with EUR 6 million in tobacco exports, which could be due to reduced tobacco consumption in Europe. Fruits and nuts exports also shrank by about EUR 0.5 million. Lebanon's main exports to the EU at HS 06 level (Table E1.7), are products of animal origin, tobacco, nuts, wine, animal and vegetable oils as well as various food preparations.

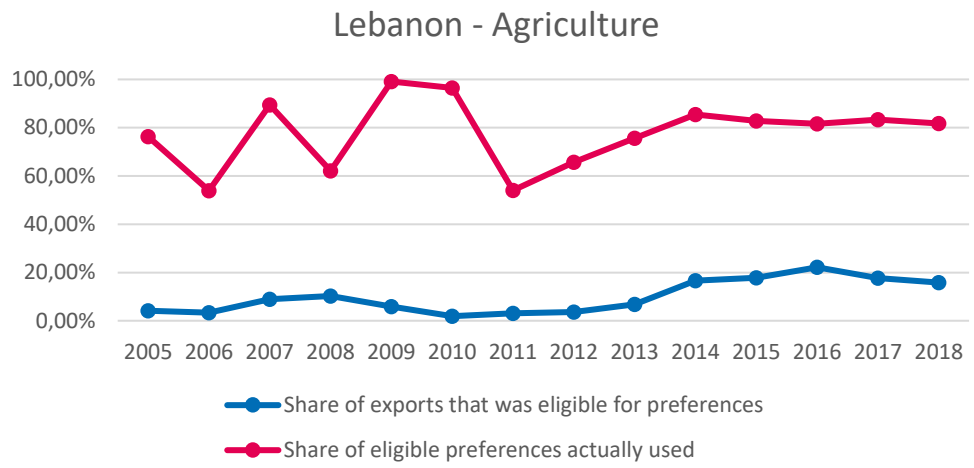
Table E1.7 Top ten agriculture exports from Lebanon to EU, 2017.

HS Code	Product	Trade value	Share in sectoral exports
050400	Guts, bladders and stomachs of animals	€ 15.444.438,00	17,66%
240110	Tobacco	€ 11.070.926,00	12,66%
200819	Nuts and other seeds	€ 9.208.977,00	10,53%
220421	Wine of fresh grapes	€ 7.580.914,00	8,67%
151800	Animal or vegetable fats and oils and their fractions	€ 6.650.228,00	7,60%
200599	Vegetables and mixtures of vegetables, prepared or preserved	€ 5.309.460,00	6,07%
210390	Preparations for sauces and prepared sauces	€ 2.672.711,00	3,06%
220210	Waters, incl. Mineral and aerated, with added sugar, sweetener or flavour,	€ 2.292.774,00	2,62%
200551	Shelled beans	€ 1.996.808,00	2,28%
210690	Food preparations	€ 1.907.122,00	2,18%

Source: Eurostat Easy Comext.
Note: EU imports under HS02-05, HS07-08 and HS15-24 at the six-digit level.

For Lebanon only about 16% of its agricultural exports (primary and processed combined) were eligible for preferences in 2018 (Figure E1.9). This could be due to the fact that products (mainly processed foods) do not comply with rules of origin requirements. On the other hand, import of primary agricultural products (listed in Protocol 1 to the Agreement) have been largely liberalised with a limited number of products subject to import quotas. Only 3 tariff lines have not been liberalised and are subject to full EU customs duties i.e. cut flowers, sugar and wine. Figure 4.2 in section 4.2.5 in the main report highlighted these remaining tariffs for other processed foods such as animal or vegetable fats and oil (6.9%) and beverages, spirits and vinegar (3.6%). Lebanese exporters make however also not fully use of the existing preferences, including the underutilisation of import quotas, with a little over 80 percent of the preferences being used.

Figure E1.9 Preference utilization of Lebanese agriculture exports to the EU



Source: Eurostat Easy Comext and own computations.

Finally, remaining non-trade barriers such as SPS requirements portray a major challenge for Lebanese agricultural exporters. Only large scale producers can implement the required standards through instruments such as the global GAP certifications.[1049] During the consultation, it became clear that the absence of a food safety authority also makes it difficult to export products to the EU even if they comply with requirements, as a national authority should officially confirm this. The Lebanese government announced in 2019 the possibility of a temporary review of its trade agreement with the European Union, due to its continued balance of payment deficit.[1050] Since August 2019, Lebanon is applying 3% surcharge on all imports, including agriculture, applicable until 2022.[1051]

Lebanon - Conclusions and lessons learned

In general, **the impact of the trade chapter of the Association Agreement has been modest for the agricultural sector with most export growth happening in the processed food sector**. While the agreement grants Lebanese producers preferential treatment for agricultural products, it seems that the country could not make use of the opportunities. This is largely due to the relatively high production costs in Lebanon, and the lack of a clear development policy with associated investments in the sector. The few agricultural products where Lebanon could actually benefit from the agreement are either not fully covered by the agreement (e.g. wine, preparations of cereals), or producers struggle with meeting European quality and health standards (processed foods and potatoes). In addition, political instability in Lebanon has affected the sector. Initially exports of of animal products and processed agri-food products grew strongly but this was reversed in 2011 due to instability caused by the Arab Spring protest. Lebanon has also been struggling with an influx of refugees from neighbouring Syria. In addition, agriculture (specifically primary production) is not an important sector for the Lebanese economy. While the country has potential in certain agricultural sub-sectors (e.g. wine, processed foods), the economy is focused on the service sector (specifically in real estate, construction, and retail and commerce) followed by manufacturing.

Nevertheless, **there have been certain benefits and there is potential for further growth** as also recent studies suggest [1052,1053]. However, in order to make use of the potential in the sector, the country needs to overcome its challenges first. In fact, from 2008 to 2017, GDP per capita actually shrank.[1054] For the coming years FAO estimated a return to growth, however the 2020 financial crisis in Lebanon puts these estimates into doubt. Lebanese agriculture is constrained by relative low productivity and low access to global markets due to a lack of compliance with

[1049] Hamade K. Lebanon's Agriculture: Dynamics of Contraction in the Absence of Public Vision and Policies.
[1050] Kenza Ouazzani (08.06.2019) Lebanon is looking to review its trade agreement with the EU. L'Orient Le Jour.
[1051] https://madb.europa.eu/madb/barriers_details.htm?barrier_id=15043.
[1052] Ait Ali, Abdelaaziz and Dadush, Uri and Msadfa, Yassine and Myachenkova, Yana and Tagliapietra, Simone (2019) Towards EU-MENA shared prosperity. Bruegel Policy Report, 3rd ed. February 2019.
[1053] Emiliano Magrini, Pierluigi Montalbano & Silvia Nenci (2017) Are EU trade preferences really effective? An impact evaluation assessment of the Southern Mediterranean Countries' case, International Review of Applied Economics, 31:1, 126-144.
[1054] Ibid.

international standards. Furthermore, the sector could benefit from the promotion of modern methods and technologies as well as the transition towards higher-value crops. Finally, exports are constrained by a lack of proper post-harvest infrastructure, and farms and agriculture facilities (e.g. packaging facilities) would require support in compliance with international standards for quality, safety and health.

Beyond improving domestic conditions and sectoral support, one could also investigate how agricultural preferences in the agreement could be further improved in sub-sectors that are important for the Lebanese agricultural sector. Further improved access for wine could greatly support the further development of the agricultural sector in Lebanon. Another market of potential are dried fruits and tree nuts, if the value chain can be reshaped to meet the EU quality requirements.[1055] Similarly, for primary goods improved cold storage and packaging can minimise post-harvest losses and improve export opportunities.[1056]

In terms of **lessons learned**, the case of Lebanon shows that:

- The combination of political instability as well as a lack of focus on the agricultural sector has led to the country not benefiting much from the agreement;
- A lack of a central agricultural policy and support structures for agriculture has also hindered the development of increased agricultural production and thereby exports;
- Nevertheless, Lebanon could benefit in some export growth for processed foods and there seems to be potential for future growth for certain agri-food products such as wine and fruits should the country be able to overcome its domestic challenges.

[1055] Invest in Lebanon (2018) Agrofood Industry. 2018 Factbook.
[1056] Invest in Lebanon (2017) Agriculture Sector. 2017 Factsheet.

Morocco

Morocco - Overview of the agricultural sector

Morocco's economy is greatly shaped by its agricultural sector as it is one of the country's key sectors next to tourism, textiles and certain manufacturing sectors. In 2018, the agricultural sector accounted for about 12.3% of GDP. Moreover, approximately 38% of Morocco's labour force is employed in agriculture. [1057] Morocco's main agricultural products are wheat, sugar, beet, orange, tomatoes, potatoes, olives and olive oil. Morocco has also capitalised on its proximity to Europe and its comparatively low labour costs by integrating itself in European agricultural value chains with many of its high quality agricultural products usually being exported to Europe.[1058] As outlined in section 4.2.2 in the main report, Morocco is also the leading global exporter and exporter to the EU among the Southern Mediterranean countries.

In the MENA region, Morocco is also the largest agricultural producer after Iran, Egypt and Sudan.[1059] While the country is self-sufficient for many products, for others such as cereals, sugar, coffee and tea it depends on imports.[1060] Especially, for sugars, vegetable oils and cereals the dependency is high. The respective self-sufficiency ratios for 2011-13 were 28%, 29%, and 59%.[1061] This makes Morocco vulnerable to changes in food prices. Therefore, in an attempt to meet domestic demand, Morocco uses most of its land resources (60 to 70%) for growing cereals and especially wheat.[1062] Morocco also subsidises food prices, albeit more moderately than for example Egypt.[1063]

Like other countries in the region, water scarcity is a challenge. Still, in 2014 Morocco's renewable internal freshwater resources were larger than the annual withdrawals (by 19 billion m^3). With 69% of its total land area, Morocco has also a lot of agricultural land available, however much of it are desert pastures for livestock grazing with low productivity.[1064] With close to 40% of Morocco's population living in these rural areas, the development of these areas is a major concern for the country. Irrigation plays an important economic and social role by contributing to agricultural productivity and rural income. Only 16% of Morocco's cultivated land is irrigated, but this area generates half of the agricultural production and 75% of the exports.[1065] The large agricultural land area is split between traditional agriculture consisting of smallholder farms producing for subsistence and larger market agriculture in the irrigated areas.

In addition to the advantages already mentioned, Morocco's agricultural sector benefits from its dynamic domestic market with significant population growth and rising living standards, and the country's comparative advantages for products such as fruits, vegetables and fish. Morocco has a multitude of organisations working in the area of agriculture[1066], the main public bodies are the Ministry of Agriculture, Rural Development and Maritime Fisheries as well as the National Center of Studies and Research in Agricultural Extension, and the National Institute of Agronomic Research. There are also several NGOs in the area of rural development and sector associations active in Morocco (for various agri-food products), highlighting again the importance of agriculture to Morocco.

[1057] World Bank data: Agriculture, forestry, and fishing, value added (% of GDP) and Employment in agriculture (% of total employment). Please note these figures do not cover the food processing industry, but only the primary sector.
[1058] Agriculture and Agri-Food Canada (2017) Market Overview. Morocco.
[1059] OECD/FAO (2018), OECD-FAO Agricultural Outlook 2018-2027, OECD Publishing, Paris/Food and Agriculture Organization of the United Nations, Rome. https://doi.org/10.1787/agr_outlook-2018-en.
[1060] Agriculture and Agri-Food Canada (2017) Market Overview. Morocco.
[1061] OECD/FAO (2018), OECD-FAO Agricultural Outlook 2018-2027, OECD Publishing, Paris/Food and Agriculture Organization of the United Nations, Rome. https://doi.org/10.1787/agr_outlook-2018-en.
[1062] FAO/EBRD (2015) Egypt, Jordan, Morocco and Tunisia. Key Trends in the Agrifood Sector. Country Highlights.
1063 OECD/FAO (2018): In 2017, the Moroccan government subsidised wheat production by establishing a reference price for purchasing domestic wheat (MAD 2 800 per tonne in 2017, equivalent to USD 286 per tonne). In October 2017, the government also introduced subsidies to millers that purchase domestic wheat. Furthermore, the government raised the import duty on soft wheat from 30% to 135% (Reuters, 2017).
[1064] Ibid.
[1065] World Bank (25 July 2018) A story of sustainable irrigation to promote a more productive agricultural sector. Available at: https://www.worldbank.org/en/news/feature/2016/02/18/growing-morocco-s-agricultural-potential1.
[1066] For an extensive list see: https://www.g-fras.org/en/world-wide-extension-study/africa/northern-africa/morocco.html#extension-providers.

Morocco - Key characteristics of the sector

In terms of **production**, Morocco is characterised by an integrated crops and livestock system, where most arable land is located in arid areas producing cereals, legumes and livestock (mainly sheep) for sustenance. However, a diverse country such as Morocco that includes mountainous (Atlas and Rif), desert (Sahara) and coastal (Atlantic and Mediterranean) regions allows for various farming practices (Table E1.8). Most of the land is used for cereal production and left for fallow (about 40% each), while 7% is used for plantation crops (olives, almonds, citrus, grapes, dates), 3% for pulses, 2% for animal forage, 2% for vegetables, and 2% to industrial crops (sugar beets, sugar cane, cotton and oilseeds).[1067] Fish and aquaculture is also a significant industry, representing about 55% of food exports.[1068]

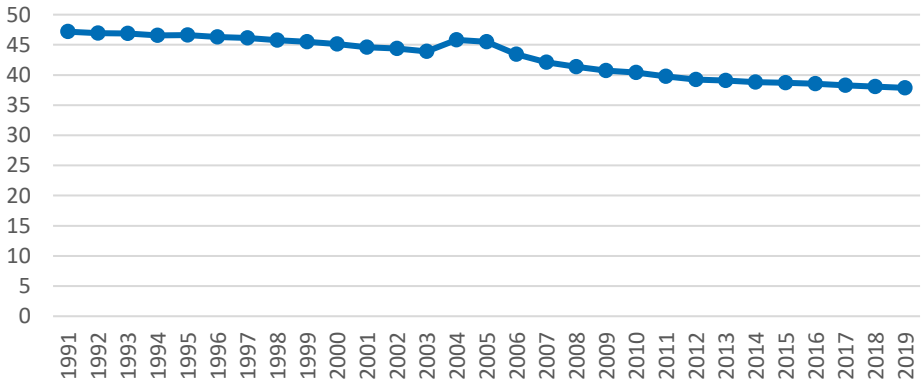
Table E1.8 Farming practices and agriculture production in Morocco

Farming Systems	Major crops	Major features
Irrigated	Fruits, vegetables, industrial and cash crops	Contains both large and small-scale irrigation systems
Highland mixed	Cereals, legumes and sheep	Contains two subsystems: a) rainfed cereal and legumes plus tree crops (fruits and olives on terraces; b) livestock (mostly sheep) on communal land
Rainfed mixed	Tree crops, cereals and legumes	Supplementary winter irrigation may be used for wheat and summer cash crops
Dryland mixed	Cereals and sheep	Livestock, including cattle and small ruminants, interacts strongly with the cropping and fodder system
Pastoral	Sheep, goats and barley	Pastures for livestock grazing and some farming
Arid	Camels and sheep	Desert pastures for livestock grazing

Source: Based on Global Yield Gap Atlas - Country Profile: The Kingdom of Morocco.

With close to 40% of its labour force **employed** in agriculture, the sector is highly important for Morocco's overall economy. This number has been falling in past years but remains at a high level (Figure E1.10), also when compared to other MENA countries. With much of the population living in rural areas, family farming is a major source of household income. In Morocco about 10% of the population is engaged in family farming and about 23-35% of the labour on family farms is provided by women.[1069] With 80%, a large majority of the rural population makes their income from livestock farming[1070], possibly due to the large areas of desert pastures for livestock grazing.

Figure E1.10 Employment in agriculture % of total employment, Morocco



Source: World Bank. Please note these figures do not cover the food processing industry, but only the primary sector.

[1067] Global Yield Gap Atlas - Country Profile: The Kingdom Of Morocco.
[1068] Perry M. (10 April 2015) Moroccan agriculture: Facing the challenges of a divided system. Sustainable Food Trust.
[1069] Ghanem H. (2015) Agriculture and Rural Development for Inclusive Growth and Food Security In Morocco. Brookings Institute. Global Economy & Development. Working Paper 82.
[1070] Perry M. (10 April 2015) Moroccan agriculture: Facing the challenges of a divided system. Sustainable Food Trust.

In terms of **productivity**, we can see that the value added per worker has been rising since 2000 from about USD 1600 per worker to USD 3750 in 2018.[1071] However, yields per hectare are lower than world average for most major agricultural products with the exception of vegetable production. Potential for increasing yields seems limited due to water scarcity and climate conditions acting as barriers.[1072] Looking at the comparative advantage index (Table E1.9), Morocco seems to have advantages in a few selected areas, mainly fishery (processed and primary), vegetables, and fruits and nuts (processed and primary).

Table E1.9 Coefficient of revealed comparative advantage (XRCA) for Morocco (Avg. 2015-18)

Top 10 Agri-food products	XRCA	Bottom 10 Agri-food products	XRCA
Crustaceans, mollusks and aquatic invertebrates	15,72999	Cocoa	0,00065
Fish, aqua. invertebrates, prepared, preserved, n.e.s.	15,58384	Oil seeds and oleaginous fruits (excluding flour)	0,00174
Vegetables	12,77255	Maize (not including sweet corn), unmilled	0,00259
Fruits and nuts (excluding oil nuts), fresh or dried	5,72772	Wheat (including spelt) and meslin, unmilled	0,00333
Fruit, preserved, and fruit preparations (no juice)	3,87665	Barley, unmilled	0,00402
Fish, fresh (live or dead), chilled or frozen	3,75841	Meat of bovine animals, fresh, chilled or frozen	0,00508
Vegetables, roots, tubers, prepared, preserved, n.e.s.	3,37091	Cereals, unmilled (excluding wheat, rice, barley, maize)	0,00978
Sugar, molasses and honey	2,10757	Butter and other fats and oils derived from milk	0,03156
Cheese and curd	2,03324	Rice	0,03560
Meal and flour of wheat and flour of meslin	1,72111	Meat, edible meat offal, salted, dried; flours, meals	0,03578

Source: Own elaboration based on UNCTAD STAT Revealed comparative advantage index.
Note: Includes also agricultural products that are not in scope of this study.

The **industry structure** and the **value chain** of Morocco's agricultural sector is characterised by the aforementioned split between traditional and market agriculture. One side are the small farms working with non-wage family labour and mainly for sustenance, while the other side is more export oriented using irrigated land. There is an uneven distribution of farm size in Morocco. In countries such as Egypt and Lebanon the majority of farms are smaller than 1ha. In Morocco only 25% of farms fall in that category and about 30% of farms are larger than 5ha.[1073] However, still about 70% of all holdings in Morocco are smaller than 5ha and under family farming and the average size of family farm is only about 2 hectare. There is however potential in the value chain for progress by improving linkages between farmers and SMEs for processing products or with traders in order to link farmers directly with national and international markets.[1074]

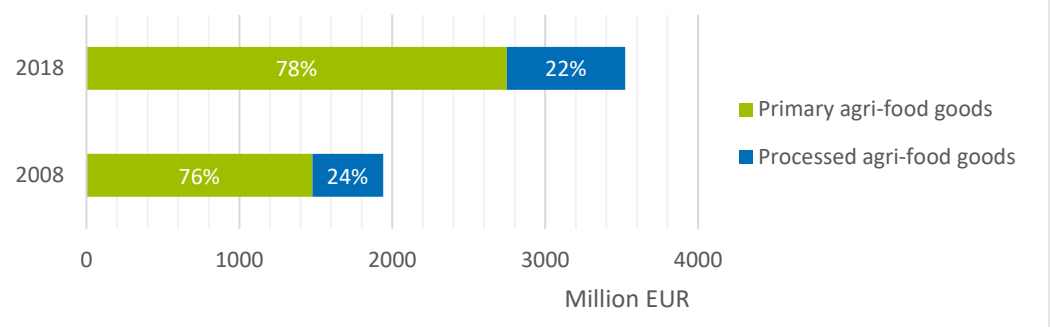
According to Ghanem (2015) there are three distinct types of farms: 1) competitive farms that cover 22% of the farmland; 2) structurally non-competitive farms, which consist of about 600,000 micro farms controlling 8.5% of farmland; and 3) potentially competitive farms that comprise medium and small farms with access to good land, sufficient water and modern equipment. [1075] The first type drives Morocco's current exports, while the third has the potential to access international markets.

Taking a look at **exports** to the European Union, Morocco's main exports to the EU are vegetables, fruits and nuts, fish and crustaceans, as well as preparations of meat, fish or crustaceans. Vegetables make up close to 30% of Moroccan agricultural exports to the EU with over EUR 1 billion in value. This is followed by fruits and nuts with 24% or EUR 844 million and fish and crustaceans with about 23% and EUR 803 million. In particular, these export products are tomatoes, octopus, fresh or chilled beans, cuttle fish and squid, and fresh or chilled fruits of the genus capsicum or pimento.

[1071] World Bank data: Agriculture, forestry, and fishing, value added per worker (constant 2010 US$).
[1072] Ghanem H. (2015).
[1073] OECD/FAO (2018), OECD-FAO Agricultural Outlook 2018-2027, OECD Publishing, Paris/Food and Agriculture Organization of the United Nations, Rome. https://doi.org/10.1787/agr_outlook-2018-en.
[1074] Ghanem H. (2015) Agriculture and Rural Development for Inclusive Growth and Food Security In Morocco. Brookings Institute. Global Economy & Development. Working Paper 82.
[1075] Ibid.

Moroccan agricultural exports to the EU are largely dominated by primary goods. While overall exports have increased by 82% since 2008, the growth has been stronger in primary goods with 86% compared to processed products with 66% (Figure E1.11).[1076] This indicates that similar to Egypt, Morocco has not experienced a sophistication of its exports. The country is however benefiting from foreign direct investment (FDI) into its agricultural sector. FDI for food, beverages and tobacco reached record levels of USD 700 million (4.5% of agricultural GDP) in 2013, which mainly stems from the EU (70%) followed by the Gulf Countries and the United States (each 10%).[1077]

Figure E1.11 Morocco's share of primary and processed agri-food exports to the EU in value



Source: Own elaboration based on UNCTADstat data.

Finally, **agricultural policy** in Morocco is a cornerstone of the government's policies and is shaped by the Green Morocco Plan (Plan Maroc Vert). This government plan began in 2008 and tries to balance the need to develop modern high productivity agriculture with supporting small subsistence farms. The strategy is to push for innovation in rural farming. This includes projects which aim to shift production to higher value-added fruits and vegetables, project that enhance productivity of existing products, and projects that increase family income and diversify its sources. The focus has been to expand high-value agri-food chains such as citrus, olives and milk and dairy products. In addition, the aim is to intensify and raise yields through mechanisation and new seeds. The overarching goal is to increase the sectors competitiveness and to capitalise on Morocco's proximity to European markets.[1078]

According to the national agency for agricultural development, the plan has been a success. Between 2008 and 2018, agricultural GDP "has increased annually by 5.25% against 3.8% for the other sectors, thus creating an additional added value of MAD 47 billion." Morocco also more than doubled its agri-food exports, and the plan is said to have enabled the "creation of 342,000 additional job opportunities." The agency also reports that the plan attracted MAD 104 billion of investment (40/60 public/private), set up over 1500 projects, and increased the area using drip irrigation systems by 414,000 ha.[1079]

Morocco - Trade figures

The CGE modelling provides an indication of the impact of the **trade** chapters of the Association Agreement. The CGE model suggests a strong positive impact with exports increasing by EUR 557 million and imports by EUR 174 million. Imports in all product categories were estimated to increase and with the exception of the red meat sector also all exports increase in the model. In general, the impact on export is larger than for imports by about EUR 383 million, and the FTA is thus estimated to contribute to a trade surplus in the sector (Table E1.10). The largest impact is in the category processed foodstuff with the trade volume increasing by EUR 345 million, followed by vegetables, fruits and nuts with EUR 258 million, and white meat with EUR 39 million. The results suggest that Morocco is to gain especially in vegetables, fruit and nuts and the processed food sectors. In terms of **outputs**, the CGE modelling result suggest that Morocco's agricultural sector would increase its output in all subsectors apart from red meat, dairy, and fishery as a result of the FTA. The red meat and dairy sectors is likely to contract due to increased competing imports from the EU. Morocco is estimated to experience particular strong growth in other agri-food products, vegetables, fruits and nuts, vegetable oils, and white meat. In total, the model estimated Morocco's agricultural sectors to grow its output by EUR 445 million.

[1076] Based on UNCTADstat trade data for HS codes 02-05, 07, 08 (primary) and 15 to 24 (processed).
[1077] FAO/EBRD (2015) Egypt, Jordan, Morocco and Tunisia. Key Trends in the Agrifood Sector. Country Highlights.
[1078] Ghanem H. (2015) Agriculture and Rural Development for Inclusive Growth and Food Security In Morocco. Brookings Institute. Global Economy & Development. Working Paper 82.
[1079] Morocco - Agency for Agricultural Development. Main achievements of the green Morocco Plan. Available at: https://www.ada.gov.ma/en/main-achievements-green-morocco-plan.

Table E1.10 CGE modelling results on trade for Morocco

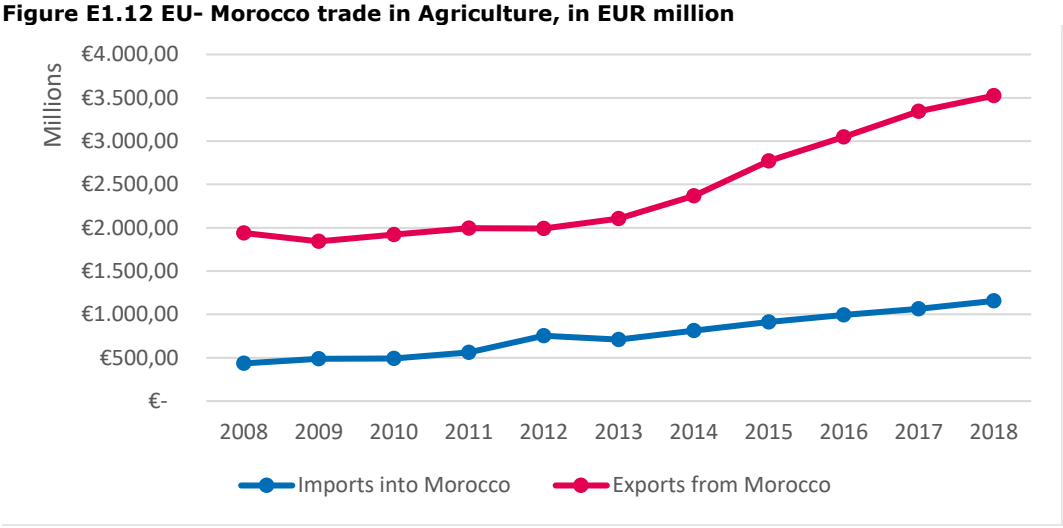
GTAP sectors	Change in Exports		Change in Imports		Change in output	
	Relative	Million EUR	Relative	Million EUR	Relative	Million EUR
Animal products						
Red Meat	-4%	-1	53%	4	-0.6%	-14
White Meat	4940%	38	108%	1	3.4%	37
Dairy products	584%	6	35%	18	-1.4%	-30
Fishery and Forestry	23%	17	30%	18	-0.1%	-1
Fruits and vegetables						
Vegetables, fruit and nuts	32%	245	33%	13	3.3%	145
Processed foodstuff						
Vegetable oils	151%	31	21%	5	3.8%	20
Processed food	25%	219	30%	62	1.2%	90
Beverages and tobacco	14%	1	55%	27	2.1%	31
Other agri-food products	1%	1	18%	26	1.8%	167
Total	-	**557**	-	**174**	**-**	**445**

Source: CGE results (European Commission, 2019).
Note: These sectors correspond to the GTAP sectors red meat (cmt), white meat (omt), milk and dairy products (rmk, mil), vegetables, fruit and nuts (v_f), vegetable oils (vol), processed food (ofd) and beverages and tobacco (b_t), other agri-food products (osd, c_b, pfb, ocr, oap, wol, sgr), and fishery and forestry (frs, fsh).

In reality, between 2008 and 2018, Morocco's exports to the EU have increased by 82% (EUR 1.6 billion), while its imports from the EU increased by about 166% (EUR 722 million). Overall, this shows that Morocco could increase its trade surplus with the EU, however in percentages EU imports have been growing faster (Figure E1.12). The growth of Moroccan exports increased in speed from 2013 on, likely due to benefits from the additional protocol on trade in agricultural, agro-food and fisheries products between Morocco and the EU in 2012.[1080] Before the protocol exports grew by only 9%, after it they grew by 67%. In comparison, imports from the EU have been growing more steadily and Morocco seems to be outpacing the EU since 2013.

[1080] Ait Ali, Abdelaaziz and Dadush, Uri and Msadfa, Yassine and Myachenkova, Yana and Tagliapietra, Simone (2019) Towards EU-MENA shared prosperity. Bruegel Policy Report, 3rd ed. February 2019.

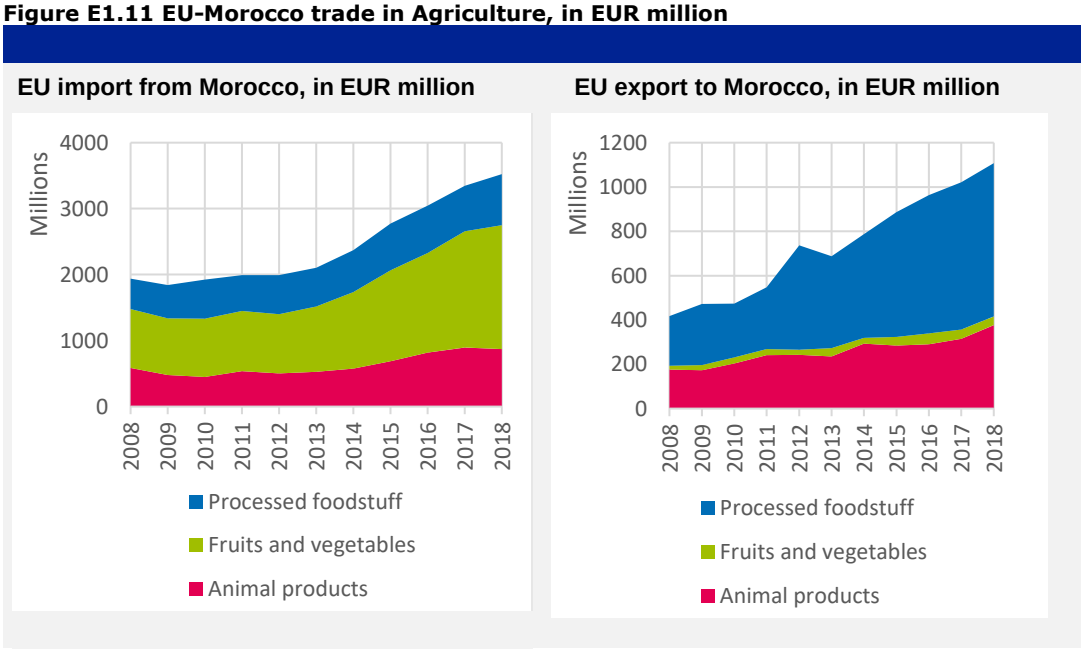
Figure E1.12 EU- Morocco trade in Agriculture, in EUR million



Source: Eurostat Easy Comext.
Note: Covers HS chapters 02 to 05, 07, 08, and 15 to 24.

The following figure highlights that much of the trade expansion for Morocco's exports to the EU took place in the product category of fruits and vegetables. In addition, mainly due to increased fish product exports also the animal products category grew. Processed foodstuffs increased in exports as well but more slowly. Meanwhile, imports from the EU grew mainly in the processed foodstuff and animal products categories. Fruits and vegetable imports from the EU are limited in their amounts.

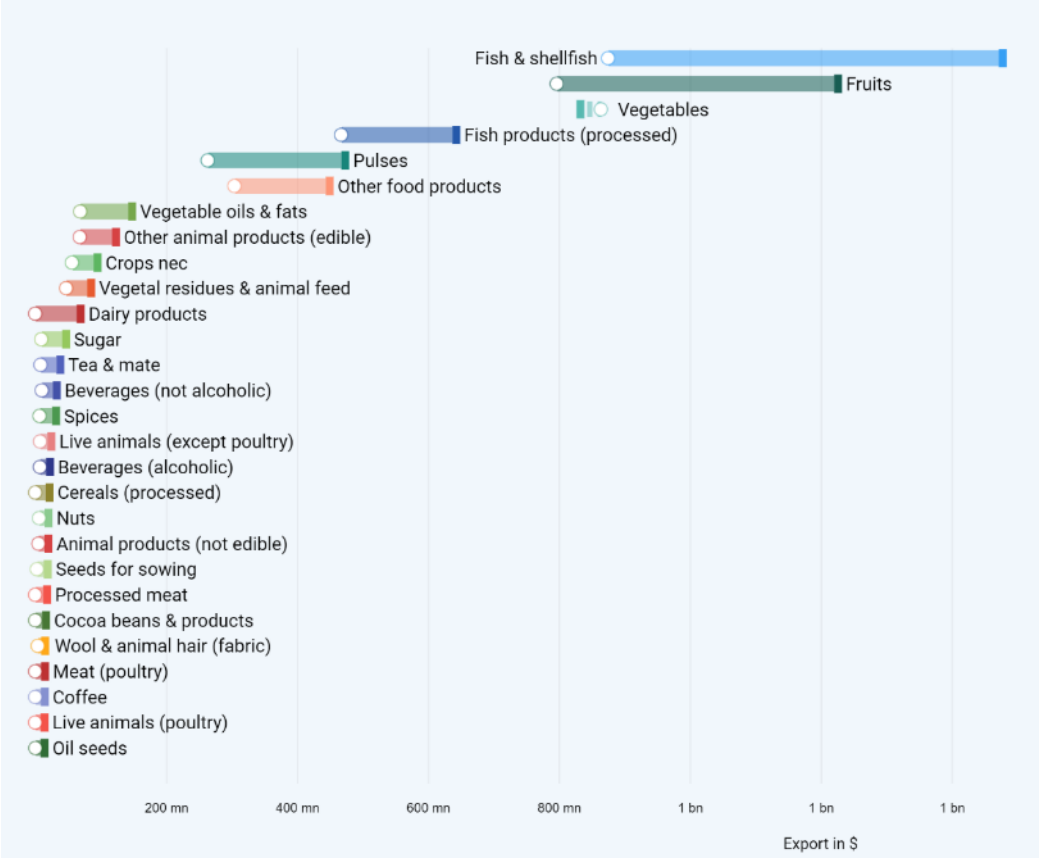
Figure E1.11 EU-Morocco trade in Agriculture, in EUR million



Source: Eurostat Easy Comext.
Note: Covers HS chapters 02 to 05 (animal products) as well as 07 and 08 (fruits and vegetables), and 15 to 24 (processed foodstuff).

Looking at individual products (at HS level 02) and their development between 2008 and 2018, one finds that Morocco experienced its strongest growth in the exports of fruits and nuts with about EUR 500 million, followed by vegetables with EUR 484 million, fish and crustaceans with EUR 247 million, and preparations of meat, fish or crustaceans with EUR 118 million. If we consider relative instead of absolute growth, then dairy grew the strongest with 1780% (EUR 1.5 million), followed by preparations of cereals with 222%, and animal or vegetable oils as well as residues and waste (including feedstuff) with about 200%. With the exception of the fruits and nuts sector, these greatly outperform the other leading sectors, showing potential for Morocco in these product categories. Figure 4.17 showcase that indeed there is indeed great potential for Morocco's exports to the EU in dairy products, vegetable oils, as well as animal feed. However, this potential is dwarfed by current exports and the additional export potential for fish and shellfish, fruits, and processed fish products. There seems to be however not much more potential for vegetable exports.

Figure E1.13 Morocco's export potential to the EU in selected agricultural products



Note: Circles on the left indicate current exports, while bars on the right show export potential.
Source: ITC Export Potential Map.

If we look at HS06 level (Table 4.18), we see that Morocco's main exports to the EU are tomatoes and beans in terms of vegetables. For fish and crustaceans, the main exports are octopus as well as cuttle fish and squid. For preparations of meat, fish or crustaceans we find that these are mainly aquatic products such as prepared or preserved sardines and anchovies. For fruits and nuts, these are mainly Fresh raspberries, blackberries, mulberries and loganberries as well as Fresh or dried clementines. Finally, preparations of vegetables mainly refer to prepared or preserved olives.

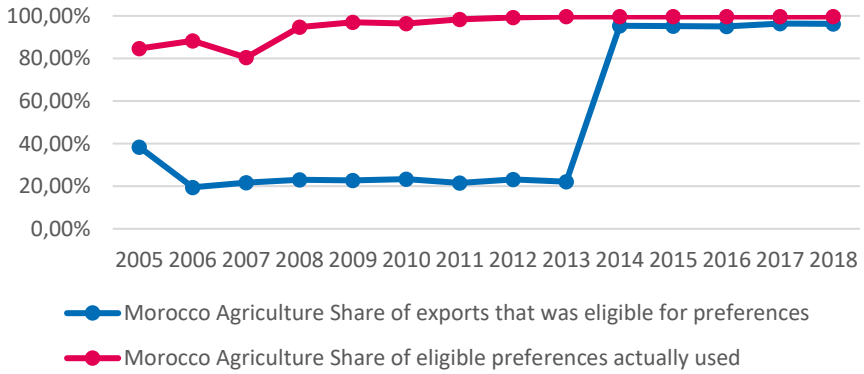
Table E1.12 Top ten agriculture exports from Morocco to EU, 2017.

HS Code	Product	Trade value	Share in sectoral imports
070200	Tomatoes	€ 488.941.425,00	14,61%
030752	Octopus	€ 398.327.103,00	11,91%
070820	Fresh or chilled beans	€ 260.105.224,00	7,77%
030743	Cuttle fish and squid	€ 204.782.049,00	6,12%
070960	Vegetables; fresh or chilled fruits of the genus capsicum or pimenta	€ 177.676.618,00	5,31%
160413	Prepared or preserved sardines	€ 154.022.281,00	4,60%
160416	Prepared or preserved anchovies	€ 97.344.310,00	2,91%
200570	Vegetable preparations; olives, prepared or preserved	€ 87.461.868,00	2,61%
081020	Fresh raspberries, blackberries, mulberries and loganberries	€ 85.582.054,00	2,56%
080522	Fresh or dried clementines incl. Monreales	€ 84.269.426,00	2,52%

Source: Eurostat Easy Comext.
Note: EU imports under HS02-05, HS07-08 and HS16-24 at the six-digit level.

Nearly all of Morocco's agriculture exports are eligible for preferences. Sensitive products are subject to tariff quotas, listed in Protocol 1 to the bilateral EU-Morocco Agricultural Agreement. New concessions have become mainly available after 2013, due to the additional agreement on trade in agricultural, agro-food and fisheries products between Morocco and the EU in 2012. This agreement has led to the share of exports eligible for preferences increasing from about 22% to 95%. In fact, in 1993, the effectively applied EU tariff rates for Morocco were 13.27 for food and live animals, 11.56 for beverages and tobacco, and 1.03 for animal and vegetable oils. In 2016, these rates were zero with the exception of 1.13 for food and live animals.[1081] In general, exporters use these preferences, with an utilisation rate close to 100%. After 2014, preferences continued to increase slightly and are now at nearly 100% (Figure E1.14).

Figure E1.14 Preference utilization of Moroccan agriculture exports to the EU



Source: Eurostat Easy Comext and own computations.

[1081] Ait Ali, Abdelaaziz and Dadush, Uri and Msadfa, Yassine and Myachenkova, Yana and Tagliapietra, Simone (2019) Towards EU-MENA shared prosperity. Bruegel Policy Report, 3rd ed. February 2019.

Morocco - Conclusions and lessons learned

With agriculture being one of Morocco's key sector, **the country was able to greatly benefit from the trade agreement, especially after additional agri-food preferences came into effect in 2012**, as is highlighted by the strong export growth after 2012. Export growth happened across the primary and processed agri-food sectors, however was stronger in the former and Morocco remains an important provider of certain vegetables, fruits and fish products for the European market. With close to 40% of Morocco's labour force being employed in the agricultural sector and a large proportion of its population being rural, this has greatly contributed to income generation in Morocco.

EU agri-food imports into Morocco have also increased. This contributes to Morocco's food security by providing additional supply at more affordable prices. As indicated in the introduction, Morocco is highly dependent on food imports. This makes the country vulnerable to changes in food prices. Water scarcity makes it unlikely that Morocco can achieve self-sufficiency and therefore additional imports from the EU can support Morocco's food security, while allowing the country to focus on producing high-value agri-food products, where Morocco has comparative advantages.

The positive impact of the agreement is also suggested by the CGE modelling results and other studies confirm its positive impact too.[1082] The 2012 amendment has eliminated tariff quotas for sweet oranges and expanded tariff rate quotas for tomatoes and clementines. Morocco is a major supplier for these products outcompeting the EU's major producers. Tomatoes were already price competitive within and without the tariff quotas, while oranges and clementines did not make full use of their quotas in the past.[1083] However, Morocco has here opportunities in expanding its production and make use of the access to the EU market, also considering that domestic markets have become saturated and fruit prices have plummeted.[1084]

However, uncertainty comes from some emerging challenges. First and foremost, water scarcity will only increase due to decreasing rainfalls caused by climate change. In addition, population growth, urbanisation and growth in industrial and tourism sectors will put further stress on Morocco's water resources. This will also put more pressure on Morocco's food security and the income security of its large rural population.[1085] Already, the Green Morocco Plan aims to increase overall production in agriculture by encouraging drip irrigation and providing financial support especially for fruit and vegetable production. Finally, there seems to be also a need for investments in the infrastructure to improve connections between farmers, processors and traders as well as in the education and skills of the farming community.[1086]

Regarding **lessons learned**, the case of Morocco shows that:

- Morocco as a relative stable countries was able to greatly benefit from the agreement;
- Specifically, the additional concessions from 2012 helped Moroccan exporters to access the European market;
- Especially, for fruit and vegetables as well as fishery products, Morocco was able to increase its exports to the EU;
- Nevertheless, the country is still very much dependent on food imports, especially for cereals and issues such as water scarcity and population growth will only put more pressure on this, therefore a too strong export orientation might not be socially acceptable and therefore desireable.

[1082] Hndi B. M., Maitah, M. and Mustofa, J. (2016); Emiliano M., Pierluigi M. & Silvia N. (2017); [1082] Ait Ali, A. and Dadush, U. and Msadfa, Y. and Myachenkova, Y. & Tagliapietra, S. (2019).
[1083] Van Berkum S. (2013) Trade effects of the EU-Morocco Association Agreement.
[1084] Sraïri, Mohamed Taher (2017) New challenges for the Moroccan agricultural sector to cope with local and global changes.
[1085] Ibid.
[1086] Van Berkum S. (2013).

Tunisia

Tunisia - Overview of the agricultural sector

Tunisia has been on a path towards becoming a service economy with a focus on ICT and tourism. Despite this the agricultural sector is still of vital importance for Tunisia. Agriculture reached a low in 2010 when its added value accounted for only 7.5% of GDP, since then the sector is on a path of recovery reaching 10.4% of GDP in 2018.[1087] The importance of the sector became especially visible during the political transition phase following the uprisings in 2011. After the unrest, Tunisia's GDP initially shrank, and the country's recovery was driven by the agricultural sector and the recovery of the tourism sector. However, the latter was negatively affected by the terrorist attacks in 2015.[1088] In 2019, growth in agriculture and agrobusiness was slowing down, however the country's forecasted growth for the coming years is expected to also be driven by better results in agriculture.[1089] Agriculture employs about 15% of Tunisia's active labour force, a value that has been largely stable between 2013 and 2019. [1090] Moreover, about 31% of Tunisia's population lives in rural areas.

Tunisia has a lot of agricultural land available with 65% of its total land area. However, similar to Morocco and Lebanon much of it are desert pastures for livestock grazing. The majority of this land is used for the production of horticultural crops (over 50%) followed by livestock and then cereals. The country is also plagued by water scarcity with only 4 billion m^3 of renewable internal freshwater resources compared to an annual freshwater withdrawal of 3 billion m^3. Tunisia, furthermore, relies on food imports especially for cereals and sugar, but also for oil crops.[1091]

Overall, one can divide Tunisia into three different agricultural regions: 1) Northern Tunisia, an agro-forest-pastoral region that is responsible for most of the value-added due to its fertile lands; 2) Central Tunisia, an agro-pastoral region; and 3) Southern Tunisia, a pastoral region characterised by its oases.[1092] The main agricultural product of Tunisia is olive oil. In addition, Tunisia produces a variety of fruits (dates, citrus, watermelons, apples, and oranges) and vegetables (tomatoes, peppers, potatoes, and carrots). On a smaller scale, Tunisia also produces raw sugar, pasta, couscous, tomato sauce, rolled tobacco, baked and confectionary goods.[1093] Historically, the production of food and vegetables has been intended for domestic consumption. Nevertheless, similarly to Egypt, Lebanon and Morocco, agriculture has also gained importance in exports.[1094] For example, up to 80% of olive oil production is intended for export.

The Ministry of Agriculture, Water Resources and Fisheries, the Institution of Agricultural Research and Higher Education, and the National Institute of Agronomy of Tunisia are the main public bodies in support of the agricultural sector. In addition, there are several NGOs (for example on rural and sustainable development and the inclusion of women) as well as sectoral associations (the major one being The Tunisian Association for Agriculture and Fishery). These highlight the importance of agriculture in the Tunisian economy. Unique about the agricultural sector in Tunisia is its organic agriculture branch which has flourished under strong public support. This includes governmental support for research facilities, for organic production and processing facilities, and for exports. Already from 1997 onwards the sector evolved from individual producers' operations to a sector supported by state-facilitated institutions, market development activities and explicit policy support measures.[1095]

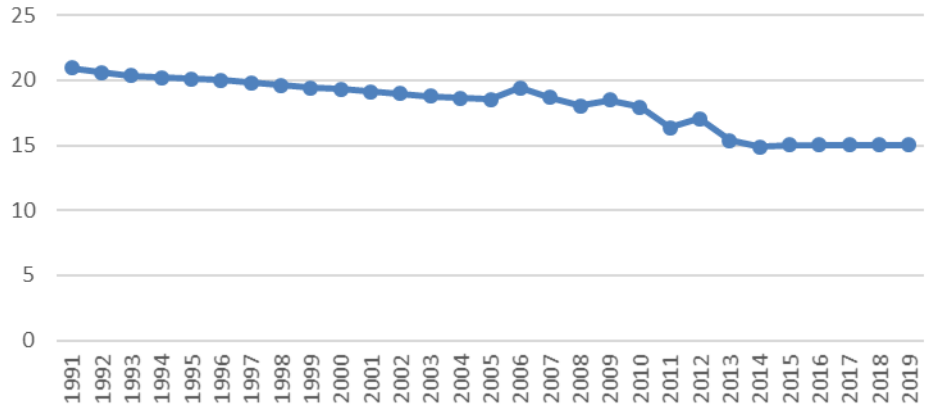
[1087] World Bank data: Agriculture, forestry, and fishing, value added (% of GDP). Please note these figures do not cover the food processing industry, but only the primary sector.
[1088] NABC (2018) Tunisia. Business Opportunity Report. Agriculture.
[1089] Nordea (2020) Tunisia: Economic and Political Overview. Available at: https://www.nordeatrade.com/fi/explore-new-market/tunisia/economical-context.
[1090] World Bank data: Employment in agriculture (% of total employment). Please note these figures do not cover the food processing industry, but only the primary sector.
[1091] OECD/FAO (2018), OECD-FAO Agricultural Outlook 2018-2027, OECD Publishing, Paris/Food and Agriculture Organization of the United Nations, Rome. https://doi.org/10.1787/agr_outlook-2018-en.
[1092] Global Yield Gap Atlas. Tunisia. Available at: http://www.yieldgap.org/tunisia.
[1093] NABC (2018).
[1094] OECD (2019), OECD Competition Assessment Reviews: Tunisia.
[1095] ISOFAR (2016) Country Report: Tunisia 2016, available at: http://www.isofar.org/Country-reports/Tunesia/.

Tunisia - Key characteristics of the sector

Overall, agricultural **production** has been on the rise. According to World Bank data, production in crops, food and livestock have all increased in the past decades. Crop production data from FAO shows that in particular vegetable, fruit and coarse grain production increased. Between 2005 and 2018, vegetable production grew by 1.25 million tonnes (an increase of 68%) to over 3.5 million tonnes. Fruit production increased by 0.5 million tonnes (32%) to over 2 million tonnes, a quarter of which are citrus fruit. Finally, coarse grain production increased by 0.25 million tonnes (67%). For organic produce, the main growth products were olives and dates, which are both crops that are easily grown organically. In addition, production volumes increased for almonds, vegetables, citrus fruits, medicinal plants, honey and jojoba. This increase has led the Tunisian organic industry to be ranked as the second most developed in Africa and 24th worldwide.[1096]

Employment in Tunisia's agricultural sector has slowly been falling in past decades, however, it has stabilised at around 15% from 2014 on (Figure E1.15). This is lower than in Egypt (25%) and Morocco (40%), highlighting that the relative importance of the sector is not as high. For Tunisia, especially the fruit and vegetable sector is important in terms of employment due to its labour intensity. Regarding education, most farmers have primary level or no education at all and the sector is mainly dominated by informal work with many farmers not participating in the social security system.[1097]

Figure E1.15 Employment in agriculture % of total employment, Tunisia



Source: World Bank. Please note these figures do not cover the food processing industry, but only the primary sector.

The **productivity** of Tunisian agriculture has been growing slower than productivity of manufacturing, however among the four countries, Tunisia has the highest value added per worker with close to USD 8700 in 2018.[1098] Production has been evolving and activities have become mechanised with most farmers having nowadays access to tractors and harvesters.[1099] However, the density of machinery equipment is lower than in Egypt or Lebanon.[1100] Research into the total factor productivity in Tunisian agriculture highlights moderate growth driven by investments into the sector, the use of intensive irrigation systems and the adoption of new production technologies.[1101] However, productivity growth has been highly fluctuating due to the variability of the climate conditions. Despite efforts in extending irrigated areas through infrastructure, agricultural production could not be stabilised.[1102] According to the comparative advantage index (Table E1.13), Tunisia seems to have advantages in a few areas. These are margarine, fruits and nuts, meal and flour of wheat, crustaceans, spices, and sugar.

[1096] Ibid.
[1097] AfDB Economic Briefs (2012) Distortions to Agricultural Policy Incentives in Tunisia: A Preliminary Analysis.
[1098] World Bank data: Agriculture, forestry, and fishing, value added per worker (constant 2010 US$).
[1099] AfDB Economic Briefs (2012).
[1100] World Bank data: Agricultural machinery, tractors per 100 sq. km of arable land (2008).
[1101] Dhehibi, Boubaker & Telleria, Roberto & Aw-Hassan, Aden. (2014). Total Factor Productivity in Tunisian Agriculture: Measurement and Determinants. New Medit. 1. 4-14.
[1102] Frija, Aymen & Dhehibi, Boubaker & Aw-Hassan, Aden. (2015). Total factor productivity growth of the Tunisian agricultural sector: a review of historical trends and main determinants. African Journal of Economic and Sustainable Development. 4. 293-307. 10.1504/AJESD.2015.072699.

Table E1.13 Coefficient of revealed comparative advantage (XRCA) for Tunisia (Avg. 2015-18)

Top 10 Agri-food products	XRCA	Bottom 10 Agri-food products	XRCA
Margarine and shortening	8,58881	Cereals, unmilled (excluding wheat, rice, barley, maize)	0,00064
Fruits and nuts (excluding oil nuts), fresh or dried	3,15001	Cocoa	0,00084
Meal and flour of wheat and flour of meslin	3,14742	Tea and mate	0,00434
Crustaceans, mollusks and aquatic invertebrates	2,83460	Coffee and coffee substitutes	0,00528
Spices	2,61213	Butter and other fats and oils derived from milk	0,01426
Sugar, molasses and honey	2,40890	Meat, edible meat offal, prepared, preserved, n.e.s.	0,02578
Cereal preparations, flour of fruits or vegetables	1,71893	Maize (not including sweet corn), unmilled	0,04376
Tobacco, manufactured	1,68004	Tobacco, unmanufactured; tobacco refuse	0,04994
Birds' eggs, and eggs' yolks; egg albumin	1,57475	Oil seeds & oleaginous fruits (incl. flour, n.e.s.)	0,05102
Vegetables, roots, tubers, prepared, preserved, n.e.s.	1,72111	Live animals other than animals of division 03	0,05301

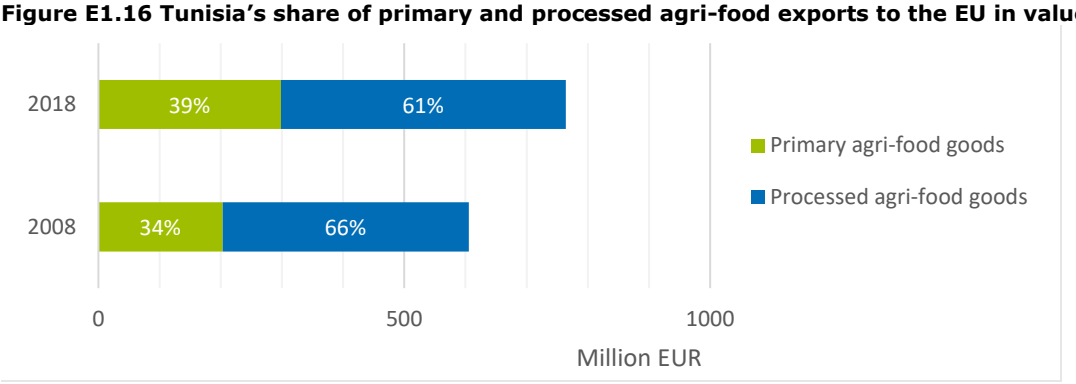
Source: Own elaboration based on UNCTAD STAT Revealed comparative advantage index.
Note: Includes also agricultural products that are not in scope of this study, namely live animals and tea and mate.

Tunisia's **industry structure** and **value chain** is similar to other Mediterranean countries characterised by a fragmented farming structure. Over half of the cultivable land is owned by about 8% of the farmers, while 62% of the farmers have less than 10 ha each. The development of the organic sector is also represented in the value chain of Tunisia's agricultural sector. As a consequence of extensive organic support measures, the number of organic farmers, certified organic farmland and organically cultivated crops has increased. In 2013 about 220 thousand hectare were certified organic farmland.[1103] The value chain of the fruit and vegetable sector shows various distribution channels. Intermediaries, such as operators of refrigerated storage units, processing units, collectors and standing-crop buyers, buy fruit and vegetables directly from farmers. Exports go through processing units, which are more regulated and accredited. There are over 150 units in Tunisia, which are located in the production areas of Cap Bon (a peninsula in the north-east of Tunisia) and in the south-west of the country. These specialise mainly in dates.[1104]

Exports are becoming increasingly important for Tunisia with growing exports of especially fruits but also vegetables. Among these are products such as olives, citrus fruits and tomatoes as well as dates for which Tunisia is the world's leading exporter.[1105] Tunisia is also one of the leading exporters of olive oil. Specifically, in trade with the EU Tunisia's two most important export sectors are olive oil and fish. Overall, about 78% of all export products are exported to the European Union.[1106] Within the European Union France remains the strongest trading partner followed by Italy, Germany and Spain. Agricultural products are one of the major export products in terms of sectoral share, next to textile and clothing as well as electronics and electrical components.[1107] The majority of Tunisia's exports (in terms of value) to the EU are processed agri-food exports, however between 2008 and 2018 the primary sector grew stronger (see Figure E1.16) probably due to Tunisia's comparative advantage in many primary agricultural goods (e.g. fruits and vegetables). Export earnings from organic produce have increased too. Organic exports are dominated by organic olive oil, dates, almond, vegetables, jojoba, fruit trees, dried fruits, grain crops, palm trees, aromatic and medicinal crops and honey. [1108]

[1103] ISOFAR (2016).
[1104] OECD (2019), OECD Competition Assessment Reviews: Tunisia.
[1105] Ibid.
[1106] NABC (2018).
[1107] Ibid.
[1108] ISOFAR (2016).

Figure E1.16 Tunisia's share of primary and processed agri-food exports to the EU in value



Source: Own elaboration based on UNCTADstat data.

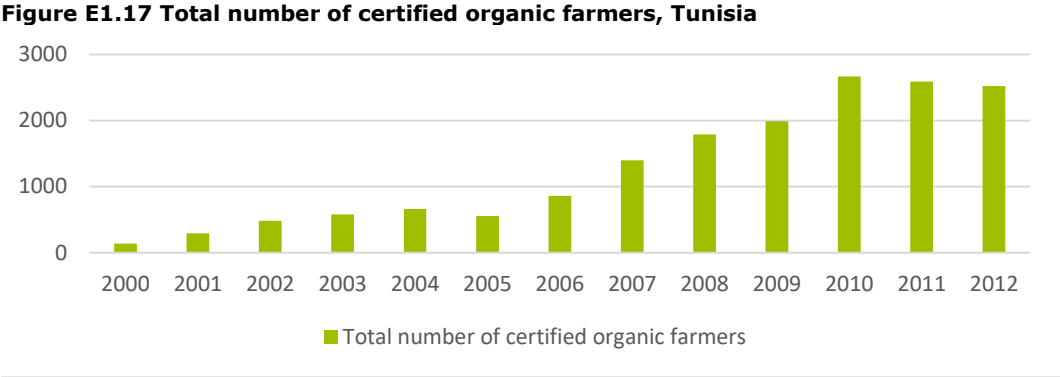
Regarding **trade policy**, importing and exporting falls under certain restrictions as it requires prior authorisation from the Ministry of Trade. Specifically, for exports, the 102 products that require authorisation include wheat and other grains, pasta, and fertilisers. The legislation sets also requirements for so-called international trade companies (companies for which exports account for 50% of their turnover). These companies cannot engage directly in the domestic market and are thus required to sell their products through intermediaries.[1109] The reasons for agri-food export restrictions are to improve food security and stabilise prices. Such a ban however limits the potential market for producers and distributors thereby disincentivising production and preventing them from growing and achieving economies of scale, and so becoming more competitive internationally.[1110] According to the Tunisian Industry, Trade and Crafts Union, current export controls undermine the export potential of several food products with good market prospects, especially in sub-Saharan Africa. [1111]

The Tunisian government however also actively supports its agriculture sector. For example, through a reduced tax rate of 10% for export earnings and agricultural projects, grants for primary processing of agriculture and fishery products, and grants for regional development.[1112]

The support is however best exemplified in the development of the organic agricultural sector. In order to secure local and international potential, several institutions have been created. These include specialized central and regional level administrative government agencies and technical institutions.[1113] These institutions are well defined by structured responsibilities aimed at promoting and advancing the development of the country's organic sector. Additionally, the government of Tunisia has also financially supported the organic sector. Since 2016, the government covers 30% of conversion costs for organic farming as well as 70% of the necessary certification costs.[1114] Overall, these policies helped grow the sector to about 2500 farmers by 2012 (Figure E1.17). More recent news indicate that the sector is still doing well, in a statement the Minister for Agriculture noted during a meeting of the National Commission on Organic Farming that Tunisia is the number one African exporter and 23rd worldwide. In 2018, Tunisia devoted about 336 000 hectares of land to organic farming compared to 216 000 hectares in 2012.[1115] However, it has been noted in 2019 that the sector is facing a lack of promotion and a survey in 2018 highlighted also some quality concerns.[1116] Furthermore, in 2010 the government created a logo 'Bio Tunisia'. It is aimed as a communication tool for organic products to be communicated to consumers at international and national level.[1117] Tunisia also enjoys an organic equivalency agreement with the EU, which eases the exports of organic products to the EU market.[1118]

[1109] OECD (2019).
[1110] Ibid.
[1111] Ibid.
[1112] Invest in Tunisia (2015) AGRIFOOD Industry in Tunisia.
[1113] ISOFAR (2016).
[1114] Rudloff B. (2020) A Stable countryside for a stable country? The Effects of a DCFTA with the EU on Tunisian Agriculture.
[1115] Agence Tunis Afrique Presse (22 March 2019(Tunisia will be among pioneering countries on global market in organic farming field. Available at: https://www.tap.info.tn/en/Portal-Economy/11262017-tunisia-will-be.
[1116] Fresh Plaza (16 April 2019) Tunisian organic farming is booming. Available at : https://www.freshplaza.com/article/9094396/tunisian-organic-farming-is-booming/.
[1117] ISOFAR (2016).
[1118] Invest in Tunisia (2015).

Figure E1.17 Total number of certified organic farmers, Tunisia



Source: ISOFAR (2016).

In addition to domestic support, Tunisia's agricultural sector receives support from international donors. FAO runs currently four different Technical Cooperation Funds totalling over USD 1 million in funding as well as over USD 16 million through two separate trust funds.[1119] But many other donors are also providing support to the sector. Between 2011 and 2018, EU assistance to Tunisia amounted to over EUR 2.5 billion[1120] and EU assistance among helped to provide about 1.7 million microcredits to people living in rural areas as well as support and training measures to Tunisian industrial companies and SMEs.[1121] Specifically on agriculture, the 2013-2017 Action Plan[1122] outlined the modernisation of agriculture as one of the goals among others through support from the multi-year European Neighbourhood Programme for Agriculture and Rural Development (ENPARD). ENPARD is believed to have the potential to address usually neglected structures and levels, and that EU-Tunisian cooperation and trade discussions would benefit from the mainstreaming of such an approach[1123] as currently cooperation in the fields of agriculture and rural development is varied and fragmented.[1124]

Tunisia - Trade figures

The CGE modelling indicates the **trade impact** of the Association Agreement. Though not comparable, the modelling results show a similar picture as the actual development as seen in trade data. The CGE model suggests a strong positive impact of the tariff reductions (with the exception of meats and dairy products) for both exports and imports. In general, the impact on export is larger than for imports by about EUR 113 million (Table E1.14). The largest impact is in the category vegetables oils with the trade volume increasing by EUR 125 million, followed by processed food with EUR 40 million, and beverages and tobacco with EUR 13 million. According to the estimates, Tunisia further strengthens it vegetable oil exports, but also gains in processed food and the fishery sector. EU imports grow mainly in processed food, other agri-food products and beverages and tobacco products.

In terms of change in **output**, the CGE modelling results (Table E1.14) estimate a reduction of output in all agricultural sectors apart from vegetable oils and fishery. Production of vegetable oils is estimated to increase due to the FTA nearly making up for losses in other sectors.

[1119] FAO. Country Profiles. Tunisia. Available at: http://www.fao.org/countryprofiles/index/en/?iso3=TUN.
[1120] European Commission. European Neighbourhood Policy And Enlargement Negotiations. Tunisia. Available at: https://ec.europa.eu/neighbourhood-enlargement/neighbourhood/countries_en.
1121 European Commission (2018) The EU-Tunisia partnership also helps boost Tunisia's economy. Available at: https://ec.europa.eu/neighbourhood-enlargement/news_corner/news/eu-tunisia-partnership-also-helps-boost-tunisia%E2%80%99s-economy_en.
[1122] Relations Tunisie - Union Européenne: Un Partenariat Privilégie Plan D'action 2013-2017.
[1123] Lo Monaco, G. (2019) Which Role for Rural Development in Euro-Mediterranean Relations? Reflections from ENPARD in Tunisia.
[1124] CIHEAM (2015) ENPARD South: the beginning of a long story?

Table E1.14 CGE modelling results on trade for Tunisia

GTAP sectors	Change in Exports		Change in Imports		Change in output	
	Relative	Million EUR	Relative	Million EUR	Relative	Million EUR
Animal products						
Red Meat	22%	1	9%	0	-1.2%	-4
White Meat	-14%	-1	11%	0	-1.5%	-3
Dairy products	-6%	-1	4%	1	-0.9%	-16
Fishery and Forestry	24%	5	6%	1	0.1%	0
Fruits and vegetables						
Vegetables, fruit and nuts	4%	6	3%	1	-1.2%	-22
Processed foodstuff						
Vegetable oils	173%	121	11%	4	7.1%	69
Processed food	14%	22	18%	18	-0.7%	-27
Beverages and tobacco	18%	4	20%	9	-0.5%	-1
Other agri-food products	-1%	0	17%	10	-0.6%	-8
Total	-	**157**	-	**44**	**-**	**- 12**

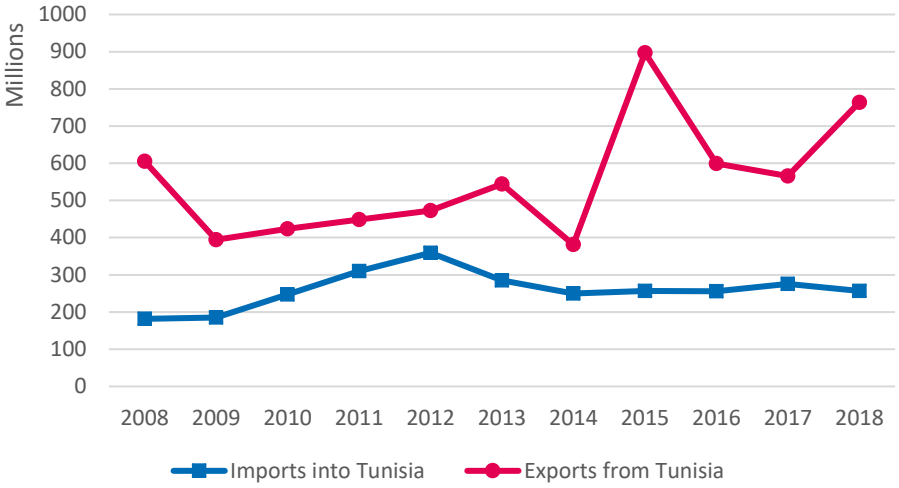
Source: CGE results (European Commission, 2019).
Note: These sectors correspond to the GTAP sectors red meat (cmt), white meat (omt), milk and dairy products (rmk, mil), vegetables, fruit and nuts (v_f), vegetable oils (vol), processed food (ofd) and beverages and tobacco (b_t), other agri-food products (osd, c_b, pfb, ocr, oap, wol, sgr), and fishery and forestry (frs, fsh).

Looking at actual production trends, we see overall increases in crops, food and livestock production. Vegetable production grew 68% and fruit production 32%. Olive oil production was at about 220,000 tonnes in 2017. The production is very volatile and annual olive yields fluctuate a lot due to biological alternation of the olive tree and the extremely harsh climate conditions. For example, between 2013 to 2017, production changed from 70 000 up to 340 000 down to 100 000 and finally to 220 000 tonnes, while on average the production has not increased by much between 2008 and 2018.[1125]

Figure E1.18 shows that both Tunisian exports to and imports from the EU have grown. However, especially exports grew very volatile with them initially recovering its slump after the financial crisis and the food price spikes in 2008, which probably led Tunisia to use more of its produce for domestic consumption. Thereafter, the slow growth was interrupted by the 2013–14 Tunisian political crisis, however export numbers increased sharply in 2015 driven by an increase of close to 450% (EUR 488 million) in animal and vegetable oils. This was due to an exceptional crop year for Tunisian olives and the country becoming the world's largest exporter of olive oil that year. However, the following years these exceptional high export numbers could not be repeated.

[1125] Zlaoui Mariem, Dhraief Mohamed Zied, Jebali Ooussema and Benyoussef Salah. (2019). Assessment of the Tunisian olive oil value chain in the international markets: Constraints and Opportunities. FARA Research Result Vol 4(2): PP36.

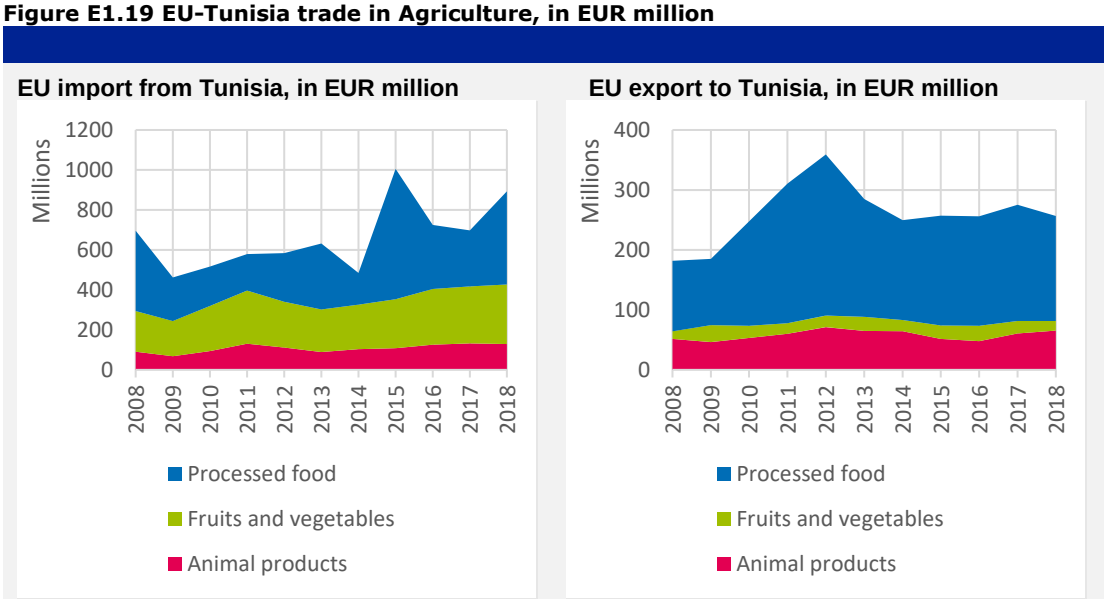
Figure E1.18 EU- Tunisia trade in Agriculture, in EUR million



Source: Eurostat Easy Comext.
Note: Covers HS chapters 02 to 05, 07, 08 and 15 to 24.

Looking at product categories (Figure E1.19), Tunisian exports to the EU are spread comparatively equally across all three categories. The largest share of exports as well as export growth have occurred in the fruits and vegetable product category followed by the processed food category. In turn, the EU mainly exports processed food as well as animal products to Tunisia with especially the former growing substantially.

Figure E1.19 EU-Tunisia trade in Agriculture, in EUR million



Source: Eurostat Easy Comext.
Note: Covers HS chapters 02 to 05, 07, 08, and 15 to 24.

Overall, over the whole period, Tunisian exports increased by 26% or EUR 158 million. The country's imports from the EU increased by 41% or EUR 75 million. Tunisia's two most important export sectors are olive oil and fish. This is also represented in the trade figures with the European Union. Over a time frame from 2008 to 2018 the vegetable and animal oil and fats (HS 15) has increased by EUR 54 million, followed by fish and crustaceans (HS03) which has increased by EUR 38 million and fruits and vegetables (HS 07,08) increased by EUR 67 million. Looking at specific products, we find as previously mentioned that the majority of Tunisian exports to the EU are olive oil and dates. These are then followed by various fish products, vegetables and oranges (Table E1.15).

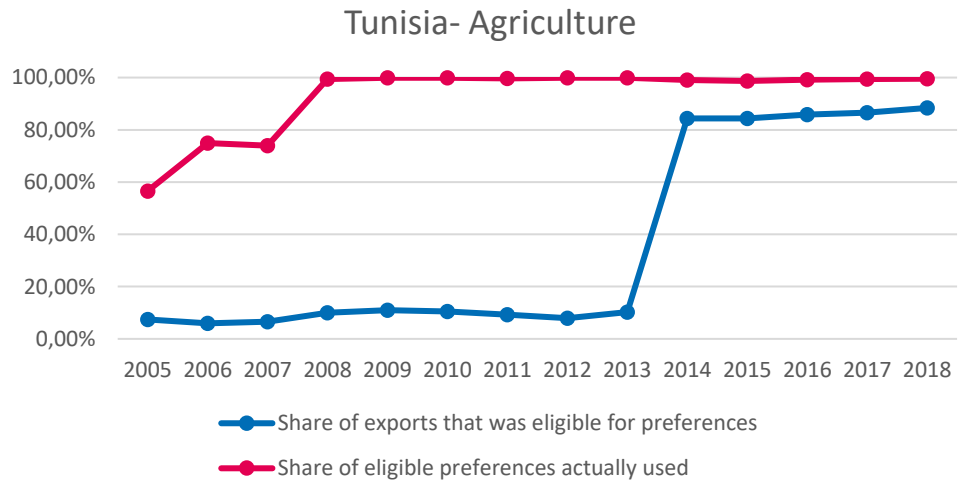
Table E1.15 Top ten agriculture exports from Tunisia to EU, 2017

HS Code	Product	Trade value	Share in sectoral imports
150910	Virgin olive oil and its fractions	€ 218.937.897,00	38,73%
080410	Fresh or dried dates	€ 90.818.549,00	16,06%
030617	Frozen shrimps and prawns,	€ 42.033.456,00	7,44%
030743	Cuttle fish and squid	€ 23.431.114,00	4,14%
030194	Live atlantic and pacific bluefin tuna	€ 22.090.993,00	3,91%
070200	Tomatoes	€ 19.652.536,00	3,48%
071290	Dried vegetables and mixtures of vegetables	€ 15.223.142,00	2,69%
030752	Octopus	€ 14.330.296,00	2,53%
151000	Other oils and their fractions, obtained solely from olives	€ 9.976.084,00	1,76%
080510	Fresh or dried oranges	€ 9.663.845,00	1,71%

Source: Eurostat Easy Comext.
Note: EU imports under HS02-05, HS07-08 and HS15-24 at the six-digit level.

As shown in the main report in section 4.2.5 on trade barriers, Tunisia is the country with the highest remaining tariffs on agricultural products among the four countries. For example, in 2014, tariffs for vegetable products were over 11%. In fact, both sides maintain protection of their respective sectors. In the case of Tunisia, this applies to dairy, meat, cereals, and beverages, while the EU especially protects southern European products such as olive oil, fruit and vegetables.[1126] The EU applies a special import arrangement to fruit and vegetables –the entry price system- which allows for tariff adjustments.[1127] Negotiations on further liberalising agricultural trade have taken place but could not be finalised so far and Tunisia could not achieve a similar degree of liberalisation as in the case of Morocco and Egypt . As a consequence, only certain products – like dates and spices – benefit from duty-free access.[1128] Figure E1.19 highlights that most of Tunisia's exports have become eligible for preferences in 2014. Still about 12% are not yet eligible. Meanwhile, Tunisian exporters make however good use of the available preferences.

Figure E1.19 Preference utilization of Tunisian agriculture exports to the EU



Source: Eurostat Easy Comext and own computations.

[1126] Rudloff B. and I. Werenfels (2018) EU-Tunisia DCFTA: Good Intentions Not Enough. Shift Needed from Deep to Deliberate, Comprehensive to Coherent and from Free to Fair Trade.
[1127] Rudloff B. (2020) A Stable countryside for a stable country? The Effects of a DCFTA with the EU on Tunisian Agriculture.
[1128] Ibid.

An important aspect in EU-Tunisia trade relations is the trade in olive oil. Tunisia is one of the largest exporters of olive oil and directly competes with southern European EU Member States. The amount of olive oil imports that can be imported tariff-free is restricted by quotas.[1129] The EU increased this quota considerably after the Tunisian terrorist attacks in 2015 and the ensuing slump in tourism in order to support the Tunisian economy.[1130] In 2016 and 2017, a temporary zero-duty tariff quota of 35,000 tonnes was added to the annual quota of 56,700 tonnes of olive oil for each year.[1131] It is also to be noted that in addition to the current duty free quota on olive oil Tunisia, Tunisia also exports to the EU olive oil in bulk destined to processing with no duty, under the inward processing regime.

Tunisia - Conclusions and lessons learned

Overall, **it is difficult to assess the impact of the FTA on the Tunisian agriculture sector, partly due to the political instability of the country** and partly due to fact that in agriculture tariffs and quotas remain in sectors of particular interest for the Tunisian economy. Despite this, **literature suggest that the Agreement had a positive impact on Tunisia**. [1132,1133] Moreover, it is expected that further reduction of tariffs, especially in important sectors such as fruits, vegetables and vegetable oil could benefit the Tunisian economy greatly.[1134] In addition, Tunisia could actually further improve its trade balance with the EU, which was however also supported by the poor performance of EU exports to Tunisia.

Tunisia has overall the most balanced export profile compared to the other three SMCs under analysis (Egypt, Morocco, Lebanon) with the country performing strong in the export of primary agricultural goods (fruits such as dates), processed agri-food products (mainly olive oil), and animal products (mainly from fishery). Tunisia experienced export growth, albeit volatile, across all three categories.Strategically, it seems that the fruit and vegetable sector is one of the most promising for Tunisia.

This is due to several facts. First, the employment the sector provides. Second, its significant export capacities and third, the sector plays a major role in the country's development policies and the aim of achieving food self-sufficiency. Here there is a lot of potential for further trade liberalisation as Tunisian producers could gain much in further access to the EU market. Similarly, Tunisia should reassess its import and export restrictions in light of their original policy objective. Regarding imports, products for consumption by low- and middle-income Tunisian households or for inputs by firms should be prioritised. For exports, products that may improve Tunisian exports and competitiveness, such as agricultural products, should be prioritised.[1135] Nevertheless, the Tunisian government is supporting its agricultural sector (e.g. in developing organic production and tax reductions on export earnings). Removing trade restrictions and continued targeted support could further benefit the sector. Finally, at the stakeholder workshop in Tunis[1136] it was noted that olive oil is not the only product that Tunisia could export. In order to improve export opportunities, Tunisian agriculture needs to improve the quality of their products and needs to promote innovative techniques used in the agriculture sector.

Tunisia has also benefitted from increased foreign investment coming from the EU. For example, starting in 2010 Agrocare, a horticulture company from the Netherlands, decided to invest in the country's horticulture sector and started a joint venture with the Tunisian company desert joy SARL. Today the company is one of the largest and most modern tomato producing companies in the world.[1137]

[1129] Rudloff B. (2020) A Stable countryside for a stable country? The Effects of a DCFTA with the EU on Tunisian Agriculture.
[1130] Ibid.
[1131] Isabel Putinja (26 Mau 2017) Tunisia's Exports to EU Fall Despite Increased Duty-Free Quotas. Olive Oil Times.
[1132] Hndi B. M., Maitah, M. and Mustofa, J. (2016) "Trade Impacts of Selected Free Trade Agreements on Agriculture: The Case of Selected North African Countries", AGRIS on-line Papers in Economics and Informatics, Vol. 8, No. 3, pp. 39 - 50.
[1133] Emiliano Magrini, Pierluigi Montalbano & Silvia Nenci (2017) Are EU trade preferences really effective? An impact evaluation assessment of the Southern Mediterranean Countries' case, International Review of Applied Economics, 31:1, 126-144.
[1134] Ait Ali, Abdelaaziz and Dadush, Uri and Msadfa, Yassine and Myachenkova, Yana and Tagliapietra, Simone (2019) Towards EU-MENA shared prosperity. Bruegel Policy Report, 3rd ed. February 2019.
[1135] OECD (2019), OECD Competition Assessment Reviews: Tunisia.
[1136] Tunis, Les Berges du Lac, 26.09.2019.
[1137] NABC (2018).

Finally, one should note that Tunisian agriculture is currently in a transition phase from traditional agricultural systems to more innovative and sustainable agricultural systems. This transition includes also the chance of moving up the value chain and produce and export more processed agricultural goods. However, in the period analysed we have not seen such a move yet. The reason for this could be Tunisia's comparative advantage in primary agricultural goods such as fruits and vegetables due to its lower labour costs, which encourages producers to focus on exporting these over higher values added processed goods. Moreover, Tunisian producers of processed goods might find it easier to produce for domestic consumption or export to other neighbouring countries as EU consumers generally have high expectations in the look and feel of their food products, which might disincentivise Tunisian processed food producers from exporting to the EU. Having said that, research into Tunisia's potato[1138] and tomato[1139] value chains showed that while the potato value chain is not fully developed and focuses on primary production for direct consumption, there are opportunities for innovation of the sector through the introduction of equipment for mechanisation and adequate storage facilities. Moreover, in the case of tomatoes, 85% already go through processing and are turned into concentrate. Further opportunities were identified in greenhouse production, use of waste streams, and upgrading collection centres.

In terms of **lessons learned**, we can summarise the following:

- Targeted agricultural policies such as the one on organic production have supported Tunisian producers in accessing export markets;
- Good local conditions and the closeness to European export markets allowed Tunisia to benefit especially from the FTA in the area of fruits and vegetables as well as olive oils;
- In addition, investments also into modernising supply chains, storage facilities, and mechanisation could help Tunisia to move up the value chain;
- Finally, it is likely that Tunisia would greatly benefit from further tariff concessions, specifically in areas such as olive oil and fruits and vegetables.

[1138] Blom-Zandstra, G., H. Soethoudt, H. Axmann (2018) Value chain analysis of the potato sector in Tunisia. Business opportunities. Wageningen Research, Report WPR-804.
[1139] H. Soethoudt, Blom-Zandstra, G., H. Axmann (2018) Tomato Value Chain in Tunisia, Business opportunities. Wageningen Research, Report WFBR-1830.

CHEMICALS

Algeria

Algeria - Overview of the chemicals sector

Algeria's chemical exports to the EU are largely dominated by fertilizers. Ammonia represents over 50% of the national trade volume, followed by urea. Together, they comprise more than 80% of Algeria's chemical exports to the EU. The primary raw material used to manufacture urea is natural gas, which ties the costs directly to gas prices. Consequently, new plants tend to be built in areas with large natural gas reserves where prices are lower. This indicates Algeria's high dependency on its natural gas reserves for its fertilizer exports. Fertilizers, although the main exported chemical, only makes up 1% of the national exports (which total to around 35.2 billion USD per the latest available data of UN Comtrade).

Table E1.16 Top 10 EU chemical imports from Algeria, in EUR, 2017[1140]

HS Code	Product	Trade value	Share in sectoral imports	Product complexity index
281410	Anhydrous ammonia	€ 293.723.209,00	55,0%	-0.873
310210	Urea	€ 145.772.193,00	27,3%	-1.391
280429	Rare gases (excl. argon)	€ 51.973.133,00	9,7%	-0.251
290220	Benzene	€ 17.596.976,00	3,3%	0.44
290511	Methanol 'methyl alcohol'	€ 13.507.917,00	2,5%	-0.676
310280	Mixtures of urea and ammonium nitrate in aqueous or ammoniacal solution	€ 4.027.136,00	0,8%	-0.159
300490	Medicaments consisting of mixed or unmixed products for therapeutic or prophylactic purposes	€ 1.113.664,00	0,2%	0.822
310240	Mixtures of ammonium nitrate with calcium carbonate or other inorganic non-fertilising substances for use as fertilisers	€ 1.109.167,00	0,2%	0.427
280410	Hydrogen	€ 744.416,00	0,1%	0.994
281700	Zinc oxide; zinc peroxide	€ 668.325,00	0,1%	-0.106

Source: Eurostat Easy Comext.

Algeria – Key characteristics of the chemicals sector

The main chemical export from Algeria to the EU as of 2017 is Anhydrous Ammonia. Anhydrous ammonia refers to a form of ammonia without water, which is exported from Algeria in its pure, gas form. The main uses for this gas are in the agricultural and cleaning industries, as well as for molecule synthesis. Anhydrous Ammonia can be transformed into fertilizers by being mixed with water but it can also be applied directly as a gas, which will turn into a liquid when reacting with

[1140] The Product Complexity Index (PCI) is a measure of the relative knowledge intensity of a product, by considering the knowledge intensity of its exporters. The complexity is measured by the mix of products that a country is able to make and export. Some products embedding large amounts of knowledge from many different sectors cannot be made in simpler economies. As an indication the higher the index, the more complex a certain product is. In 2017 the highest index was 2.998 and the lowest -4.553.

the moisture in the soil. The second most exported fertilizer chemical by Algeria is urea, which also happens to be the most commonly used solid fertilizer worldwide. Urea is produced by combining ammonia with carbon dioxide; hence it can represent a sensible export choice for large ammonia exporting countries.

Despite having one of the largest hydrocarbons reserves in the world, the Algerian chemical sector remains under-developed, forcing the country to import many chemicals needed for its domestic industries. Despite recent government efforts to conduct investments in the sector, substantial developments have yet to be seen. State-owned oil and gas company Sonatrach has been at the centre of development for fertilizers chemicals in the past decade, being involved in most partnerships and joint ventures with foreign enterprises. In late 2014 Sonatrach announced plans for the construction of six domestic petrochemicals complexes by 2020, and it has been actively looking to continue partnering with foreign firms to access the latest technology.

Fertiliser production has long been dominated by two major ammonia and ammonia-based fertiliser plants: Fertial and Sorfert Algérie. Fertial was created in 2005 by Sonatrach. The plant went under the direct control of the Ministry of Industry and Mining in 2015, which is still the majority shareholder. In recent years, foreign investment in the sector has expanded. Spanish firm Grupo Villa Mir subsequently entered as an investor in Fertial, acquiring a majority stake[1141]. The Spanish firm, which has now substantial fertilizer market share in Algeria, operates production facilities in in the east and west of the country, and is currently in the midst of a five-year investment program to raise its ammonia production capacity. Grupo Villa Mir encountered several issues during its years operating in Algeria, including a production shutdown in January 2016 when its exports were blocked due to a failure to obtain the relevant permits. This incident reflects the challenging business environment foreign investors have to face in Algeria, and specifically to what some experts refer to as the "black hole of government bureaucracy"[11421143].

In 2006 Sonatrach entered into a joint venture with Dutch chemicals company OCI, creating Sorfert Algérie in 2016. OCI, currently has a 51% share of the company, and Algerian SOE oil and gas producer Sonatrach,49 %. Fully 80% of its output was exported to Western Europe and 10% to North America in 2015[1144]. In July 2016 Algerian main oil and gas SOE, through its subsidiary Asmidal, signed investment agreements with Indonesian firm Indorama for the creation of three phosphate and fertiliser-related projects. The Indonesian firm holds 49% stake in all three. Under the agreement, the joint venture has kickstarted the development of a phosphate mine and a phosphoric acid and diammonium phosphate (DAP) fertiliser plant in eastern Algeria.

Despite these investments, Algeria has not managed to create of more sophisticated production facilities for higher value-added chemicals. Current joint ventures have not led to the desired spill-over effects for the local economy. Moreover, according to feedback from local stakeholders, the current government industrial policy vision seems to focus on "import substitution" approach. This would entail continuing to attract resource seeking FDI (oil and gas) but with local content requirements (LCRs)[1145] or conditions of technology transfer and building a chemical processing industry around it[1146]. While local content or technology transfer requirements may represent a policy option to support an infant industry, they will likely undermine long-term competitiveness[1147]. While output in the specific LCR sector might increase, this can come at the expense of other industries since resources in the economy need to be re-allocated. In fact, the industry where LCRs are applied needs more labour and capital, which is withdrawn from other sectors. A study on the impact of the LCRs in the heavy vehicles market across BRICS[1148] shows that the sector where LCRs were applied was also impacted by price distortions and a reduction in exports as well as imports across all countries[1149].

Next to fertilisers, another important segment of the chemical industry in Algeria are pharmaceuticals. Algeria is the largest pharmaceutical market in Africa, with a market worth USD 3.7 billion. In 2018, 47 % of the products were locally sourced for a value of USD1.7 billion, while

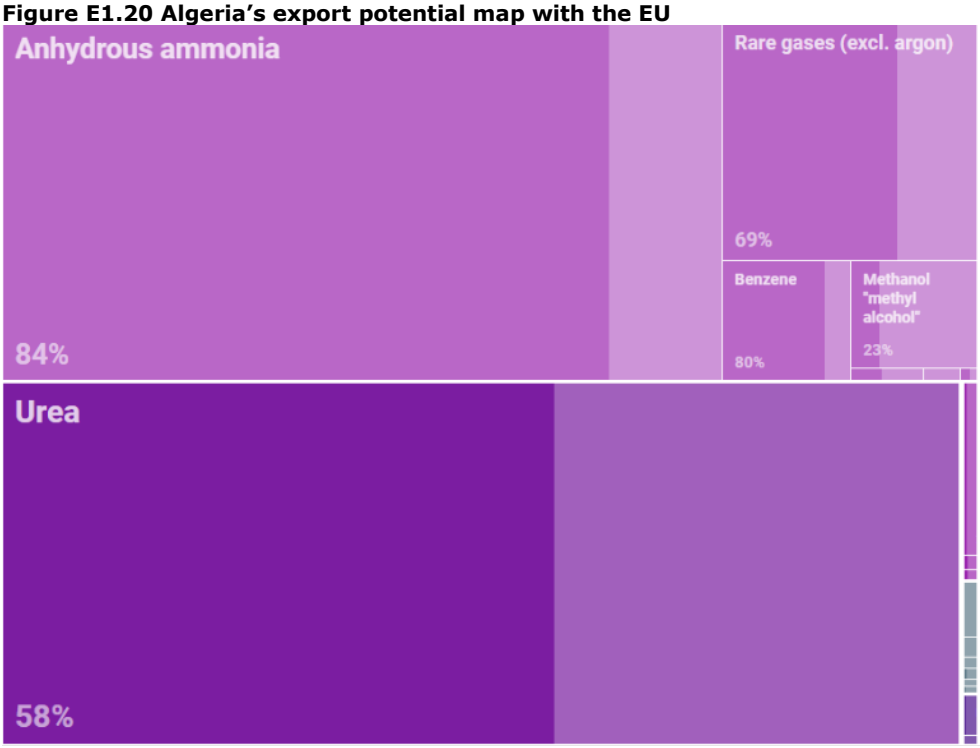
[1141] https://www.grupovillarmir.es/Divisions/Fertilizer.
[1142] http://pubdocs.worldbank.org/en/226791570663165545/EN-MPO-OCT19-Algeria.pdf.
[1143] See: comments from Paris-based Algerian economist Alexandre Kateb in https://www.voanews.com/middle-east/politics-aside-algeria-faces-huge-economic-challenge.
[1144] https://www.chemicals-technology.com/projects/sofertalgerie/.
[1145] Local content requirements (LCRs) are policy measures that typically require a certain percentage of intermediate goods used in the production processes to be sourced from domestic manufacturers.
[1146] Feedback from CASE consultation mission to Algeria on the week of February 24th, 2020.
[1147] See OECD note: https://www.oecd.org/trade/topics/local-content-requirements/.
[1148] Brazil, Russia, India, China and South Africa.
[1149] https://ecipe.org/publications/the-economic-impact-of-local-content-requirements/?chapter=0#_ftn6.

the government hopes to reach 70% by 2021.[1150] The Algerian pharmaceuticals sector saw its development being catalysed by import restrictions, which were first introduced in 2008 and expanded in 2014. Such import restrictions entailed a ban on imported generics, in order to favour local production and, more specifically, state owned Group Saidal[1151]. The latter represents the largest firm operating in the country, with current production of 215 different drugs and has established production partnerships with big pharma firms including French Sanofi, Denmark's Novo Nordisk and US-headquartered Pfizer. In the past two decades, Algeria has not been able to increase its exports of generics to the EU, though its generics exports towards other African countries have gained some momentum, despite high volatility and limited volumes (USD 1-4 million per year)[1152].

Export Potential

As shown in figure 4.29 below, under the current circumstances Algeria has extremely limited diversification possibilities. When compared to peer countries, Algeria does not seem to have any niche sub-sector within the chemicals industry where it could focus going forward. Moreover, the current dominant fertilizers chemicals, urea and ammonia, have reached much of their potential for expansion. This map indicates that there is an urgent need for policy action to improve the competitiveness and diversification of the chemicals sector in the country[1153].

Figure E1.20 Algeria's export potential map with the EU



Source: Export Potential Map, https://exportpotential.intracen.org/en/.

[1150] https://www.easyfairs.com/fileadmin/groups/72/MAGHREB_PHARMA_Expo/MAGHREB_Expo_2018_Brochure_-_Web.pdf.
[1151] https://pharmaboardroom.com/articles/top-5-local-pharma-companies-algeria/.
[1152] https://atlas.cid.harvard.edu/explore/stack?country=66&year=2017&startYear=1995&productClass=HS&product=129&target=Product&partner=undefined.
[1153] The map is based on two indicators: The Export Potential Indicator identifies the potential export value for any exporter in a given product and target market based on an economic model that combines the exporter's supply with the target market's demand and market access conditions. For existing export products, supply is measured through historical information on export performance. Potential export values can be compared with actual export values to find exporters, products and markets with room for growth. The Product Diversification Indicator estimates supply using the Product Space methodology which establishes links between products based on how frequently they coincide in countries' in export baskets. It assumes that products that are often exported together rely on similar capabilities for their production. Supply is combined with the target market's demand and market access conditions to ensure that feasible products for the exporter also have favourable chances of export success.

Algeria - Trade developments and FTA-related effects

The Partial Equilibrium (PE) modelling conducted by DG Trade provides an indication of the impact of the trade chapters of the Association Agreement[1154]. While the definition of the sector in the PE modelling slightly differs from the definition employed in this chapter, with some limitations the modelling results are nonetheless broadly comparable with the actual development as seen in trade data. The PE model suggests a positive impact of the Association Agreement on chemicals exports and imports, as highlighted in the table below. While in percentage terms, exports show the largest increase, the estimated increase in imports in absolute terms is five times bigger.

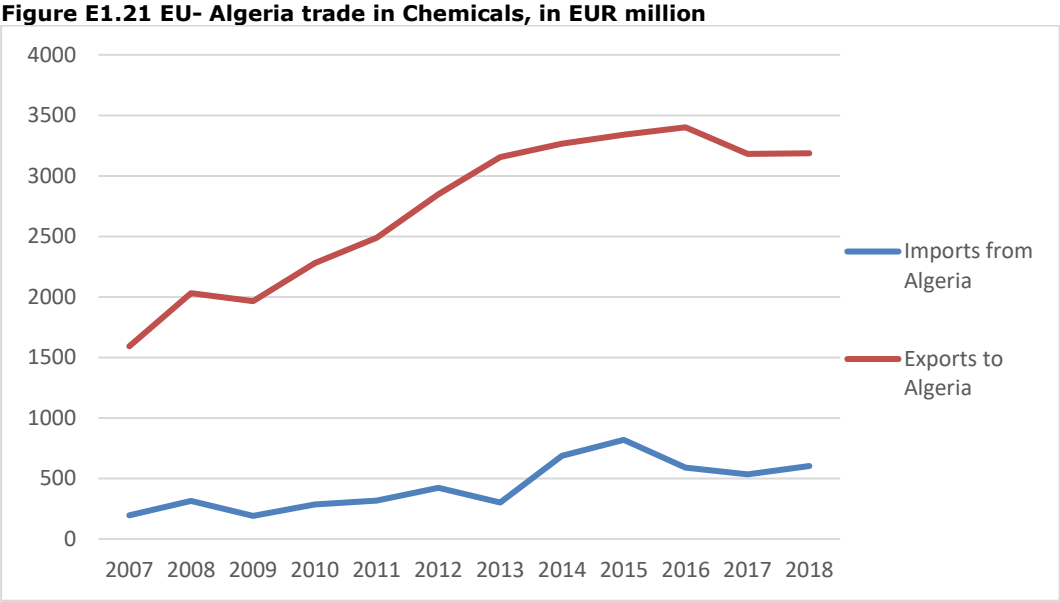
Table E1.17 PE modelling results for Algeria, 2011 compared to 2018

	Change in Exports		Change in imports	
	Relative	Million EUR	Relative	Million EUR
Chemical, rubber and plastic products	34%	142	28%	751

Note: This sector corresponds to the GTAP 9 sector chemical, rubber and plastic products (crp), which is an aggregate of the GTAP 10 sectors chemical products (chm), basic pharmaceuticals (bph) and rubber and plastic products (rpp).

Algerian imports from the EU increased by over 50 % between 2007 and 2014 and have continued to increase at a rather constant pace until 2016, while falling thereafter (Figure 4.30). This occurred in parallel with a decrease in oil prices as well as the introduction of fiscal austerity in the country. Algerian exports to the EU moderately increased between 2007 and 2013, while they doubled between 2013 and 2015, before falling again in 2016 and 2017. Despite the overall export growth witnessed over the past decade, Algerian chemical exports remain at very low levels (Figure E1.21), especially when considering the magnitude of raw materials available in the country. Within the sector, Algerian exports of Ammonia and nitrogenous fertilizers dominate. Algerian imports from the EU are mostly in pharmaceutical products and plastic, and do not exhibit considerable fluctuations over time. They both show an overall increasing trend over the observed period. In particular pharmaceutical imports peaked right before the commodity boom ended, and slightly contracted thereafter.

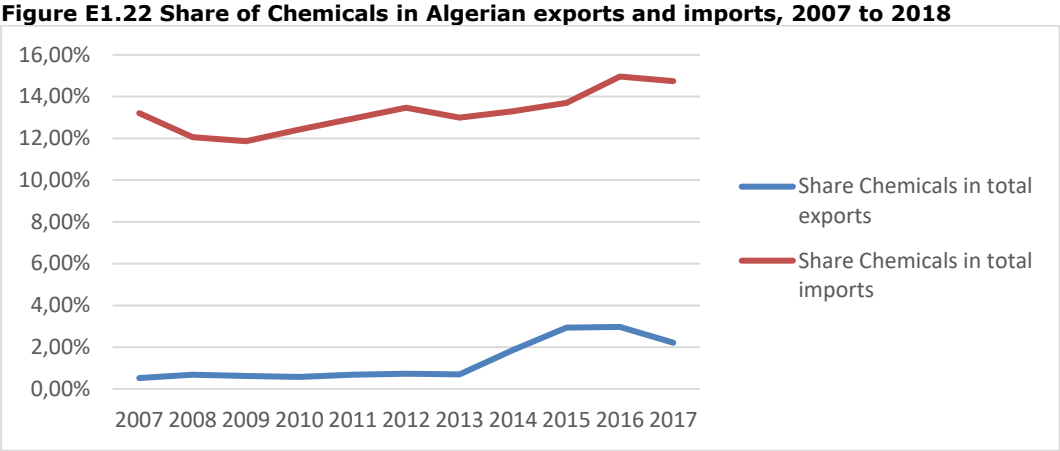
Figure E1.21 EU- Algeria trade in Chemicals, in EUR million



Source: Eurostat Easy Comext.

[1154] Computable General Equilibrium (CGE) and a Partial Equilibrium (PE) model, which has been performed by DG Trade.The results for Algeria and Lebanon are produced with a partial equilibrium model. The only indicator this model produces is bilateral trade flows for goods. For this, an adaption and extension of the basic four equations, perfect competition framework of Balistreri and Rutherford (2013) is used. These equations are (1) an isoelastic (export-) supply function, an isoelastic (import-) demand function, an import price aggregation function and a market clearance function. The equations have been extended such as to allow classical tariffs as policy instruments. In this partial equilibrium model, the only endogenous variables are bilateral trade flows by sector. The model is populated with importer notifications from UN COMTRADE.

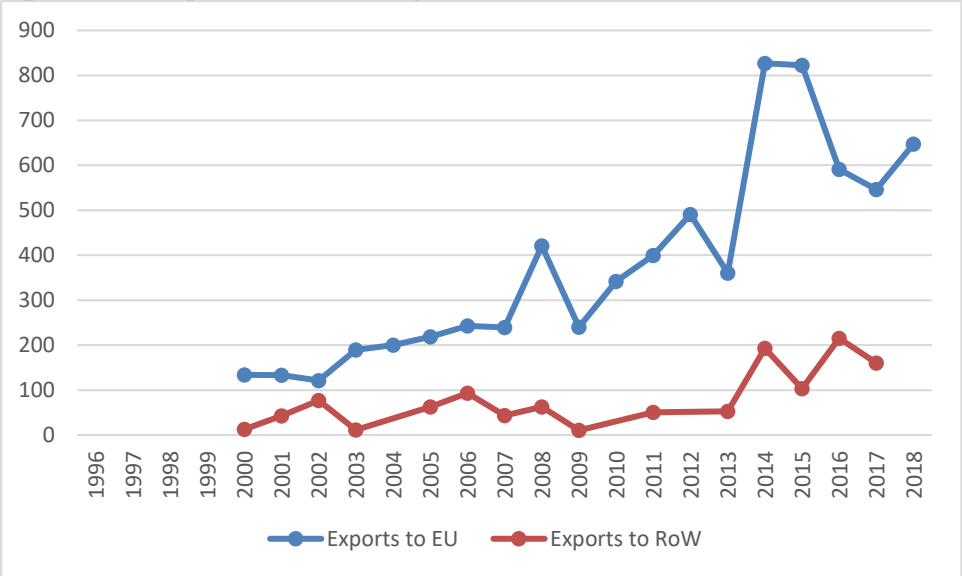
Figure E1.22 Share of Chemicals in Algerian exports and imports, 2007 to 2018



Source: UN Comtrade.

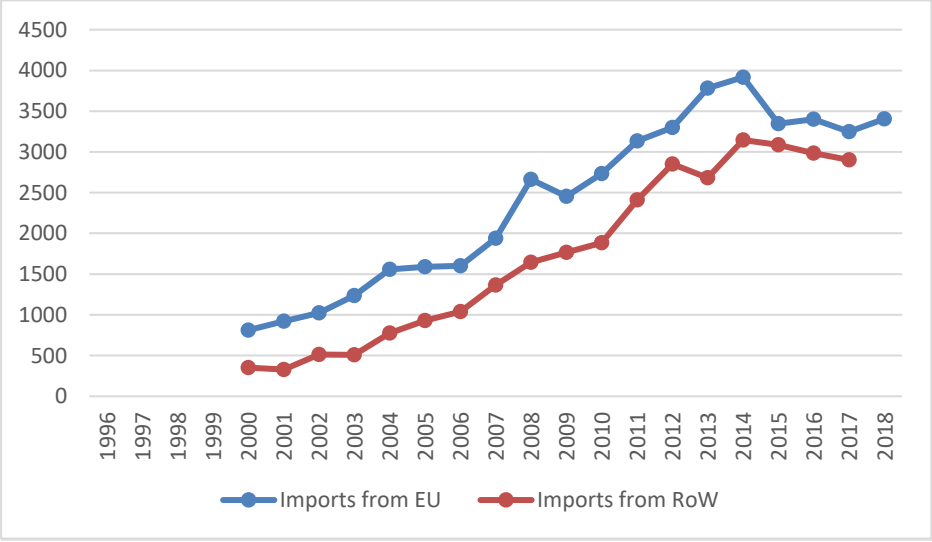
The EU is the largest trade partner of Algeria when it comes to trade in chemical products (see Figures E1.23 and E1.24), and especially for exports, the EU has become increasingly important as an export destination. For this reason, the Association Agreement could have a large impact on this sector.

Figure E1.23 Algeria's chemical exports to the EU and RoW in million Euro



Source: WITS Database.

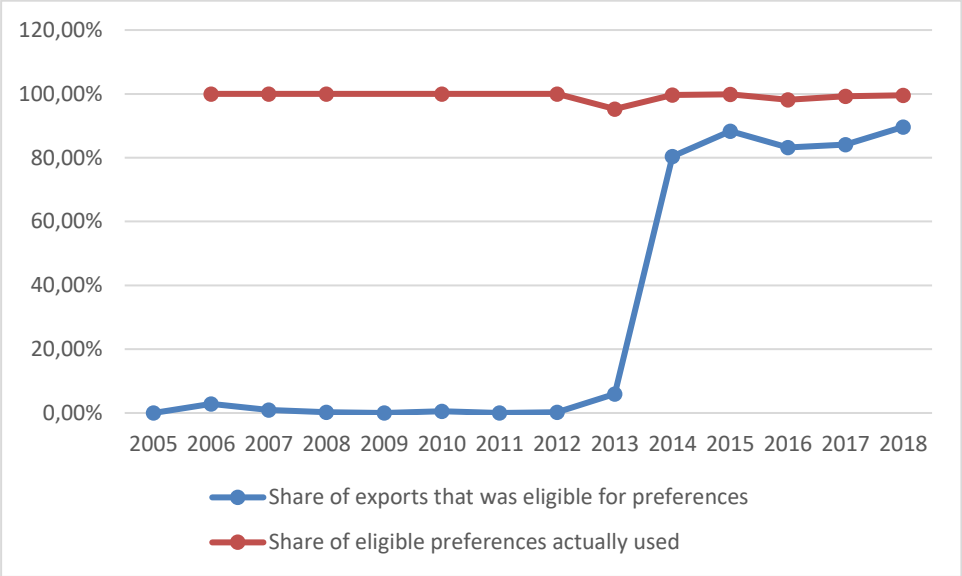
Figure E1.24 Algeria's chemical imports from the EU and RoW in million Euro



Source: WITS Database.

Figure E1.25 below shows that in terms of preference use, the share of imports that are eligible for preferences has increased over time, with a very sharp increase recorded in 2013-14, likely due to the phased liberalization of tariffs since 2014, as per the FTA. The share of eligible preferences that have been used has remained constant at full utilization, despite a slight drop in 2012-2013 (Figure E1.25). This suggests that all the chemical exporters in Algeria are generally aware of the eligibility requirements and that criteria such as rules of origin do not pose a strict impediment to export. This is not surprising as the exported products are produced mainly with local inputs, and the number of companies involved in exporting is low. Moreover, the increase of preference margins in the sector for Algerian exporters since the entry into force of the Euro-Med FTA also helps to explain the full rate of utilization[1155].

Figure E1.25 Preference utilization of Algerian chemical exports to the EU



Source: Eurostat Easy Comext and own computations.

Algeria – Conclusions on the impact of the FTA

The partial equilibrium modelling estimates a substantial increase in exports compared to a situation where the agreement is not in place. When examining trade data over this time period, the increasing exports to the EU have grown more than exports to the rest of the world. Moreover, Algerian chemical exports to the EU have grown by approximately three times the impact estimated by the CGE model. Imports, on the other hand, grew approximately in line with the estimated impact of CGE model. The sub-sectors which received the largest boost from trade liberalization have been fertilizers and inorganic chemicals. Fertilizer chemicals, such as Ammonia and Urea, make up roughly 82 % of total Algerian chemical exports to the EU and showed an outstanding cumulative annual growth rate of over 50 % between 2013 and 2018.

Nevertheless, nearly all Algerian chemical exports to the EU are characterized by products of low or very low complexity, indicating the lack of sophistication and competitiveness of the sector. This also reflects the low knowledge intensity in the sector and potential to create value added jobs[1156]. In the same time frame, however, Algeria's imports of sophisticated chemical products from the EU, such as pharmaceuticals and plastics, have increased dramatically, while imports of nearly all other sub-sectors such as rubber and essential oils have remained steady or decreased.

These trends indicate that despite overall increased chemical exports, Algeria is increasingly importing high value added chemical products such as plastics and pharmaceuticals, while increasingly exporting uncomplex fertilizers and inorganic chemicals.

[1155] See figure 4.9 in the Economic Chapter of this study.
[1156] The Product Complexity Index (PCI) is a measure of the relative knowledge intensity of a product, by considering the knowledge intensity of its exporters. The complexity is measured by the mix of products that a country is able to make and export. Some products embedding large amounts of knowledge from many different sectors cannot be made in simpler economies. As an indication the higher the index, the more complex a certain product is. In 2017 the highest index was 2.998 and the lowest - 4.553.

Aside from its ongoing high reliance on oil and gas exports, various reasons can be considered as to why Algeria has not been able to follow an export transformation path. Algeria's lack of competitiveness can be related to the overvalued Algerian dinar, fueled by years of constant oil revenues and failure to promote diversification towards industrial sectors[1157]. Moreover, the overall lack of scale in the industry and a business environment unconducive to (foreign) investment has further worsened the situation[1158].

The fertilizer chemical production has largely been dominated by the presence of state-owned oil and gas enterprise Sonatrach. While major international joint ventures have taken place in the past decades, the government of Algeria seems to have been always at the center of such ventures, exercising a large degree of discretion. Moreover, numerous corruption scandals involving top Sonatrach executives undermined the image of the company and overall industry in the past decade[1159]. While the Government of Algeria seems to promote FDI, its current policies have failed to materialize in further investments and economic transformation.

Given these circumstances, the FTA had a positive impact on the level of chemical exports and imports. Nevertheless, due its domestic policy context, Algeria failed to significantly boost its exports of sophisticated chemicals. The pharmaceutical sector has also witnessed some changes in recent years, mainly due to increasing joint ventures between state owned enterprise Group Saidal and a number of MNCs. Regardless the impact on additional pharmaceutical exports has been negligible overt the same period, with limited export growth occurring towards African destination markets. Protectionist measures such as the ban on hundreds of foreign-produced pharmaceuticals by the Government of Algeria has severely impacted imports. While the FTA offers opportunities for further growth, these opportunities need to be accompanied by the right mix of supporting policies and facilitation of domestic and foreign investments.

Lessons learned

Algeria's current state-centred regime, with recurring involvement of SOE Sonatrach, has limited competition and market entry in the sector, which seems to have limited in turn the development of new sub sectors. The current import ban on pharmaceutical products has not led to a noticeable increase in competitiveness nor export capability of domestic producers. Moreover, while foreign ownership restrictions of domestic companies and LCRs might have been introduced to protect some infant industries, they also likely raised production costs in other sectors, creating distortions that prevent a rapid diversification. In addition, the pprotection against imports can prevent the productivity gains and innovations that are needed to promote diversification over the long term, particularly in sectors where imported inputs incorporate significant technological progress[1160].

Considering the lack of export potential across chemical sub-sectors, the business environment also seemed to have played arole, as the country's current doing business rankings are relatively low, both globally and among regional peers[1161]. Moreover, business climate issues go beyond governance and the conditions for starting a business and include financial sector conditions and labour market conditions. For the creation of new export oriented chemical sub-sectors, not only impediments to trade (both exports and imports) matter, but also issues like constraints in access to finance and skilled labour for new enterprises.

[1157] As also shown in the Export Potential Map, Algeria has not been able to develop potential in downstream, more sophisticated chemical industries.
[1158] Algeria's issues in the more sophisticated chemical sectors, including plastics and pharmaceuticals, are similar to the issues faced by most resources-rich countries: a lack of competitiveness and scale in the industry, high production costs and low productivity, induced by competition with the resource sector for workers and capital (IMF, 2018a).
[1159] https://www.bbc.com/afrique/region/2013/02/130221_algeria_corruption.
[1160] See: https://www.elibrary.imf.org/view/IMF002/22176-9781484341407/22176-9781484341407/22176-9781484341407_A002.xml?redirect=true.
[1161] https://www.doingbusiness.org/en/rankings and https://www.doingbusiness.org/content/dam/doingBusiness/country/a/algeria/DZA.pdf.

Egypt

Egypt - Overview of the chemicals sector

Egyptian chemical exports to the EU are largely dominated by fertilizers-related compounds, with over a third of the country's chemical exports to the EU being represented by urea. The second and third highest exported chemical products after urea are polyethylene and methanol, representing less than half of the export value of the highest-ranking chemical. Altogether, chemicals represent a considerable portion of the country's exports, making up about 17% of Egypt's total exports. In 2017, the chemicals sector made up about 3% of national GDP and 12% of industrial production.[1162]

The chemical and fertiliser industries were prominent drivers of industrial output in Egypt in late 2018, further highlighting the importance of this sector.[1163] Nevertheless, the country still struggles in diversifying its production and meeting domestic demand of more sophisticated chemical products such as rubber and plastic compounds, with over 60% of refined polymers being imported.[1164]

Table E1.18 Top 10 EU chemical imports from Egypt, in EUR, 2017[1165]

HS Code	Product	Trade value	Share in sectoral imports	Product complexity index
310210	Urea	€ 505.569.353,00	34,8%	-1.391
290511	Methanol 'methyl alcohol'	€ 178.513.795,00	12,3%	-0.676
390120	Polyethylene with a specific gravity of >= 0,94, in primary forms	€ 124.591.095,00	8,6%	0.013
390110	Polyethylene with a specific gravity of < 0,94, in primary forms	€ 71.227.042,00	4,9%	0.373
392020	Plates, sheets, film, foil and strip, of non-cellular polymers of ethylene	€ 63.827.279,00	4,4%	0.067
392210	Baths, shower-baths, sinks and wash-basins, of plastics	€ 57.897.426,00	4,0%	-0.283
281512	Sodium hydroxide 'caustic soda' in aqueous solution 'soda lye or liquid soda'	€ 44.066.147,00	3,0%	0.666
390210	Polypropylene, in primary forms	€ 37.482.603,00	2,6%	-0.034
280300	Carbon	€ 30.178.925,00	2,1%	0.324
381700	Mixed alkylbenzenes and mixed alkylnaphthalenes	€ 29.023.355,00	2,0%	-0.064

Source: Eurostat Easy Comext.

[1162] https://www.egypttoday.com/Article/3/34238/Egypt-s-chemical-sector-investment-records-36B.
[1163] https://www.globalmarketsinternational.com/latestmarketpost/egypt-chemical-industry-companies-projects-petrochemical-agrochemical-pharmaceutical/.
[1164] Ibid.
[1165] The Product Complexity Index (PCI) is a measure of the relative knowledge intensity of a product, by considering the knowledge intensity of its exporters. The complexity is measured by the mix of products that a country is able to make and export. Some products embedding large amounts of knowledge from many different sectors cannot be made in simpler economies. Thus, the complexity index shows how complex the networks are, which are needed to produce a certain good.

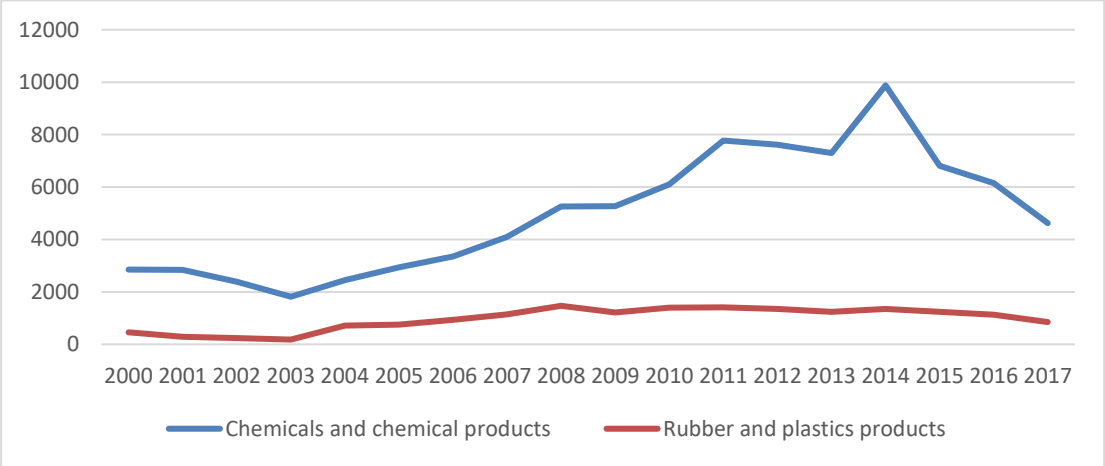
Egypt – Key characteristics of the chemicals sector

Egypt has been striving to invest in the chemical industry over the past two decades, as part of a broader cross ministerial industrial plan named *Sustainable Development Strategy (SDS): Egypt Vision 2030*[1166]. In 2002, the Government of Egypt introduced a 20-year national plan to increase local chemical production, with an estimated more than three million tons of products expected by end of 2020[1167]. The total value of this industrial development plan was USD 10 billion, and included the intention to build new production plants and expand the capacity of intermediate and final products.[1168] The Export Council for Chemicals and Fertilizers estimated an increase of 22% for the 2018 exports over the past year, reaching USD 5.5 billion.[1169] Nevertheless, as presented below, the above mentioned plans and estimates have not translated into concrete results in terms of output growth for the sector in Egypt.

Greenfield FDI to Egypt does not seem to have been conducive to job creation, skills development nor economic diversification, a fact which was confirmed during consultations with stakeholders[1170]. Stakeholder consultations also confirmed that FDI tailored to the production of higher value added chemical products has been limited, with most FDI in the country being in the oil and gas sector, which, as a capital intensive industry, has also not been conducive to job creation.[1171]

Chemicals as percentage of value added in manufacturing has decreased in recent years, from 16 % in 2007 to roughly 8 % in 2015. On the other hand, according to World Bank data, manufacturing value added excluding chemicals, textiles, food and machinery equipment increased from 42 % in 2007 to 71 % in 2016. In the same time period, services value added as percentage of GDP increased from 45 % to over 50 %. Services also employs over 50% of the Egyptian workforce according to ILO figures, while industry employs roughly a quarter, with constant figures over the course of the past three decades[1172].

Figure E1.26 Egypt output of chemicals, in million EUR



Source: UNIDO INDSTAT 2 (2019) database.

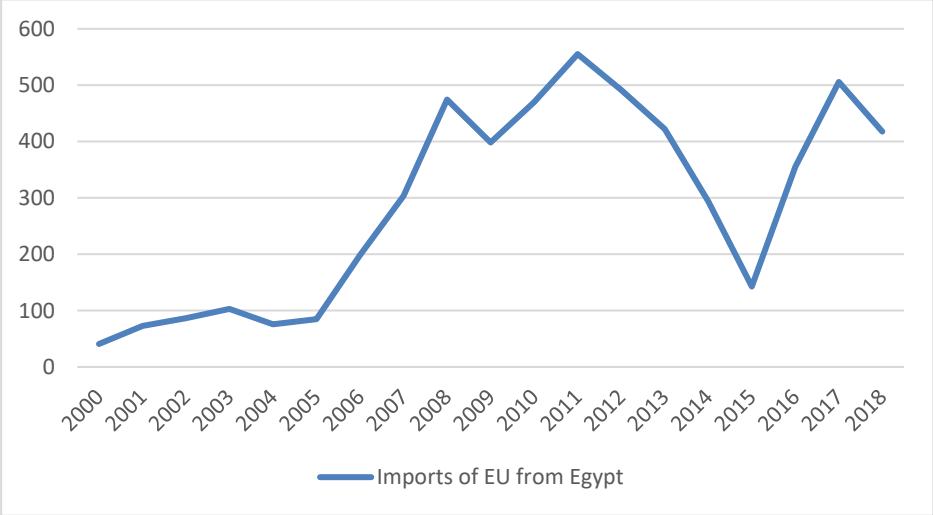
[1166] See: http://www.cabinet.gov.eg/English/GovernmentStrategy/Pages/Egypt%E2%80%99sVision2030.aspx.
[1167] https://www.egypttoday.com/Article/3/34268/Egypt-s-chemicals-sector-to-boom-on-more-projects-underway.
[1168] https://www.globalmarketsinternational.com/latestmarketpost/egypt-chemical-industry-companies-projects-petrochemical-agrochemical-pharmaceutical/.
[1169] https://www.globalmarketsinternational.com/latestmarketpost/egypt-chemical-industry-companies-projects-petrochemical-agrochemical-pharmaceutical/.
[1170] http://www.oecd.org/mena/competitiveness/ERTF-Jeddah-2018-Background-note-FDI.pdf.
[1171] FDIs to Egypt do not contribute to economic diversification. In fact, they tend to be concentrated in market-seeking endeavors associated with natural resource-seeking investment. In contrast, the share of efficiency-seeking investment is very low. Given that this is the type of FDI that can help an economy foster diversification and upgrading, the current FDI mix is not conducive to advance Egypt's development objectives as specified in Egypt Vision 2030.
[1172] https://data.worldbank.org/.

With urea being a large share of both output and export in Egypt, it is easy to explain why the trend of its exports are similar to that of chemicals output. While production has slowed, the government has been pushing for growth in the petrochemical sector, together with expanding natural gas production, aiming to increase exports.[1173]

Being ranked 16th globally in natural gas production and gas reserves[1174], Egypt has a competitive advantage in the production of basic fertilizers, as all primary inputs are readily available. This also places Egypt as the 11th producer of urea in the world.[1175]When the EPA took place, starting in 2004, Egyptian production and export of this fertiliser increased drastically (including to the EU), indicating a likely correlation. Despite a sizeable drop in exports starting in 2011, with a likely correlation with political instability, exports have been able to bounce back since 2015 and the sector continues to dominate chemical production. While Egypt shows relatively high levels of chemical exports to the EU, a large amount of fertilizers has historically been sold domestically to feed the growing demand from agricultural producers along the Nile basin[1176].

Egypt's agricultural sector is mostly based around the Nile and the Nile Delta. Several production plants which produce ammonia and urea are also located in these geographies, thus providing fertilisers for the crops close to the sales market. [1177] The steady growth (about 3%) in agriculture has increased the demand for agricultural chemicals as well[1178], with urea being a very popular and easy to obtain option domestically.

Figure E1.27 Egypt exports of urea to the EU, million EUR



Source: Eurostat Easy Comext.

[1173] https://www.globalmarketsinternational.com/latestmarketpost/egypt-chemical-industry-companies-projects-petrochemical-agrochemical-pharmaceutical/.
[1174] http://www.wraconferences.com/wp-content/uploads/2015/12/Hussein-Selmy-NADS-2015.pdf.
[1175] http://www.factfish.com/statistic-country/egypt/urea%2C%20production.
[1176] http://www.fao.org/3/y5863e/y5863e08.htm.
[1177] https://www.chemicals-technology.com/projects/helwanfertiliserco/.
[1178] https://www.globalmarketsinternational.com/latestmarketpost/egypt-chemical-industry-companies-projects-petrochemical-agrochemical-pharmaceutical/.

Box E1.2 Success Story: Namaa[1179]

Namaa was established in 2015 but the CEO had long experience in the sector as he worked as country manager of a US company in Egypt 15 years ago. The company can be classified as both an agribusiness (flavours) and chemicals firm (fragrances). It is specialised in the manufacture of fine fragrances for personal care perfumes, cosmetics, detergents, household care, flavours, and essential oils and raw materials for the pharmaceutical industry.

Namaa operates in partnership with Green Gardens Group (3G) – in Egypt's first industrial zone of Kom Oshim Fayoum. The company's annual turnover is slightly below USD 2 million and the work is highly seasonal, with the management office being composed of less than 10 staff members, reaching 25 in peak season. The company managed to successfully export 85% of its production to various countries all over the world, mainly to the EU, the UK, Russia, Thailand, Malaysia and Japan and to a smaller extent to the US. The company exports two main products: essential oils (100% natural) and fragrance oils (formula).

The company faced several issues overtime, namely related to red tape and poor business environment. Problems relate for example to obtaining land, license procedures, and reimbursement of export taxes. It is mainly the bureaucracy and long response times that cause most problems.

According to the CEO of the company, the FTA could have an impact on the environment through production of organic products as there is high demand for these in the EU. While the Egyptian government organizes meetings to promote trade it could play a bigger role in supporting investors according to the CEO.

Egypt is also the largest producer and consumer of varnish in North Africa. Although data for this industry is very scarce, market research indicates expected annual growth of 2.1% between 2018 and 2023 for protective paints (e.g. for infrastructure projects), and an annual growth rate of about 4.5% for water-based paints and varnishes between 2014 and 2018.[1180] The government is also planning improvements in the national health-care system, leading to projections of an increase in FDI in pharmaceuticals. The development of the pharmaceutical sector could facilitate the transition of the Egyptian economy towards more complex or sophisticated industries, relying more heavily on scientific knowledge and advanced technology. With a much higher level of economic complexity, pharmaceutical products could hence contribute to Egypt's structural transformation and improve the attractiveness of its export basket[1181].

Taking a closer look at the market structure, the availability of data is limited. However, it is known that, in 2019, the Chamber of Chemical Industries counted almost 9500 companies in the Egyptian economy. Plastics, rubber and petrochemicals represented about half of these. The Egyptian market is heavily regulated in the chemicals industry, including market entry which suggests that these numbers are likely to be relatively stable over time. According to the Egyptian Ministry of Investment, the main companies in the sector are state owned Delta Company for Fertilizers, Semadco and KIMA produce nitrogenous fertilizers. The private companies Abu Qir Fertilizers, Alexandria Fertilizers, EBIC, Helwan Fertilizers, Liquifert, MOPCO Fertilizers, Suez Fertilizers, and The Egyptian Fertilizers Company are also active in this sector. In April 2019, the local fertilizer manufacturer Phosphate Misr received the exclusive right to exploit rock phosphate deposits in the Abu Tartur region. Oil Minister Tarek El Molla signed a corresponding license agreement.[1182]

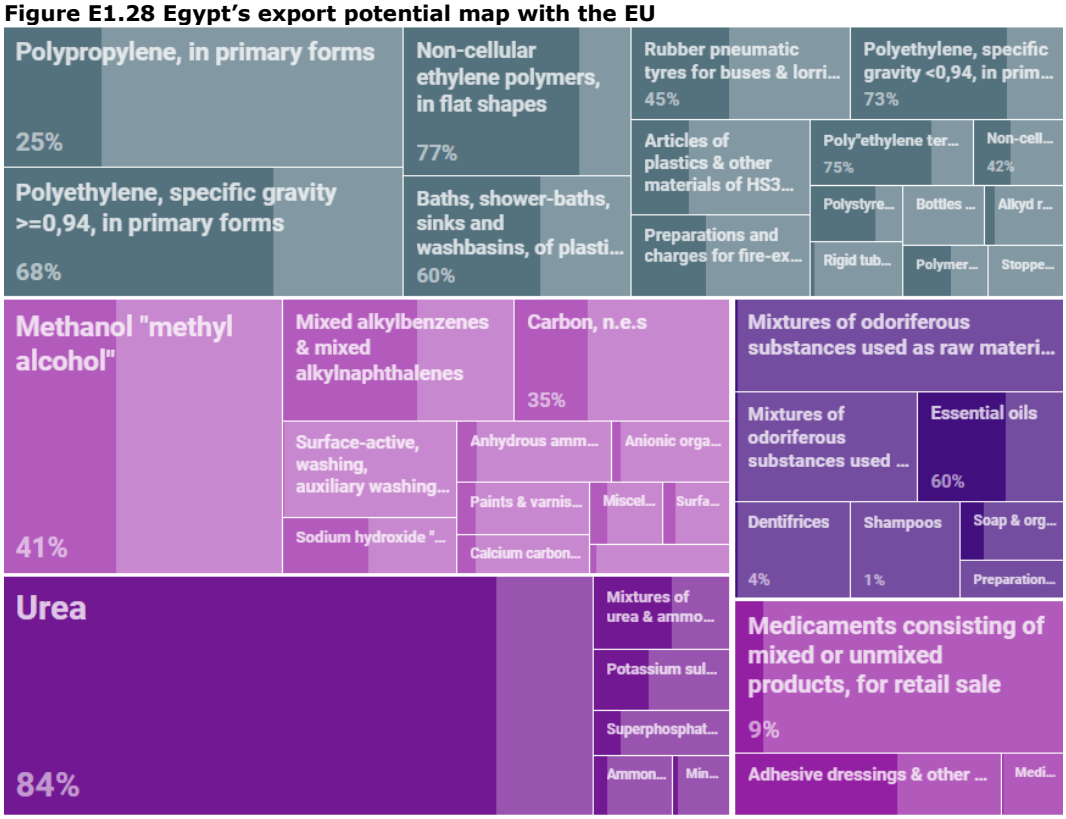
[1179] Interview with the CEO of Namaa Flavours & Fragrances, Agribusiness/Chemicals. 12 January 2020.
[1180] https://www.globalmarketsinternational.com/latestmarketpost/egypt-chemical-industry-companies-projects-petrochemical-agrochemical-pharmaceutical/.
[1181] A suitable proxy to measure the complexity of a sector is the Product Complexity Index developed in Hidalgo & Hausmann (2009). This indicator is 0.38 for Pharmaceutical industries. The same methodology shows that the complexity of the Egyptian economy, measured by the Economic Complexity Index (ECI), was -0.35 in 2016. Hausmann & Klinger (2006) link the notion of structural transformation in an economy to its ability to specialize in complex goods. The basic premise is that the productive specialization of a country is indicative of its state of economic development, with most advanced economies specialized in goods intensive in knowledge and technology. On this regard, a simple comparison of the level of complexity for Pharmaceutical industries and Egypt's export basket confirms that the development of the former would contribute to a more complex export structure in the country. See: https://oec.world/en/rankings/country/neci/.
[1182] https://www.globalmarketsinternational.com/latestmarketpost/egypt-chemical-industry-companies-projects-petrochemical-agrochemical-pharmaceutical/.

The chemical sector faces several challenges related to business environment, which are relevant across all sectors. Such challenges are mainly related to policy instability, inflation, corruption, difficulties accessing finance and an adequately educated workforce, as well as burdensome processes for business licensing and permits[1183]. The government has been repeatedly reported to be slow refunding taxes on exports. At the same time, there seems to be a lack of information, for firms, as they find it difficult to familiarise themselves with the Rules of Origin and EU regulation, but also for customs officials, who are not familiar with more specialised products and request extensive, tedious documentation for all items. Firms also tend to struggle in finding investors, as the government does not seem to provide much support in that regard, especially in terms of investment promotion policies and match-making services.

Export Potential

According to the Export Potential Map[1184], given its current endowments, Egypt could focus on exporting a higher share of the organic chemicals, including methanol, perfumery and cosmetics, other than essential oils, or medicaments. Methanol appears to have large potential for export growth to the EU, as do cosmetics and medicaments, for which the country seems to have hardly tapped its exports potential. Polypropylene (which also belongs to the top 10 exported products) only reaches 25% of their export potential. On the other hand, urea, the main export product of the chemicals sector, has reached most of its export potential overall, and almost all of it has been exercised in the EU market. Hence, there is not a lot of potential from growth from this product, thus creating an expectation for a slow-down of export growth in the sector. As urea represents over a third of the Egyptian export to the EU, this may affect additional output of the industry in the near term.

Figure E1.28 Egypt's export potential map with the EU



Source: Export Potential Map, https://exportpotential.intracen.org/en/.

Egypt - Trade developments and FTA-related effects

The CGE modelling provides an estimation of what the effect of the FTA are compared to a situation where the FTA would not be in place. It estimates that, imports and exports with the EU increased by 80% and 27% respectively, while output decreased by 1.7%.[1185] In reality, the sector did not develop as expected, both in terms of trade flows and output. Exports have grown by about half

[1183] WBG Doing Business report and the World Economic Forum's Global Competitiveness Index.
[1184] https://exportpotential.intracen.org/en/.
[1185] CGE model results sent by the European Commission.

the predicted percentage, imports have only grown at single digits and national output of chemicals has dramatically decreased in the CGE time period, recording roughly a 40 % drop. The 2011 revolution resulted in social unrest and political instability until 2014, which hindered industrial output across all sectors of the economy[1186]. Moreover, the government to yet deliver results through its 2030 Sustainable Development Strategy to attract more FDI in the industry, including chemicals[1187]. Nevertheless, Egypt increased imports overtime, specifically of products for which it does not have a comparative advantage. Egyptian firms have also taken advantage of the available preferential tariff rates, with nearly 100% of exporters using them.

PE modelling results for Egypt from 2011 to 2018

	Change in Exports		Change in imports	
	Relative	Million EUR	Relative	Million EUR
Chemical, rubber and plastic products	27%	287	80%	1286

Note: This sector corresponds to the GTAP 9 sector chemical, rubber and plastic products (crp), which is an aggregate of the GTAP 10 sectors chemical products (chm), basic pharmaceuticals (bph) and rubber and plastic products (rpp).

CGE modelling results for Egypt from 2011 to 2018

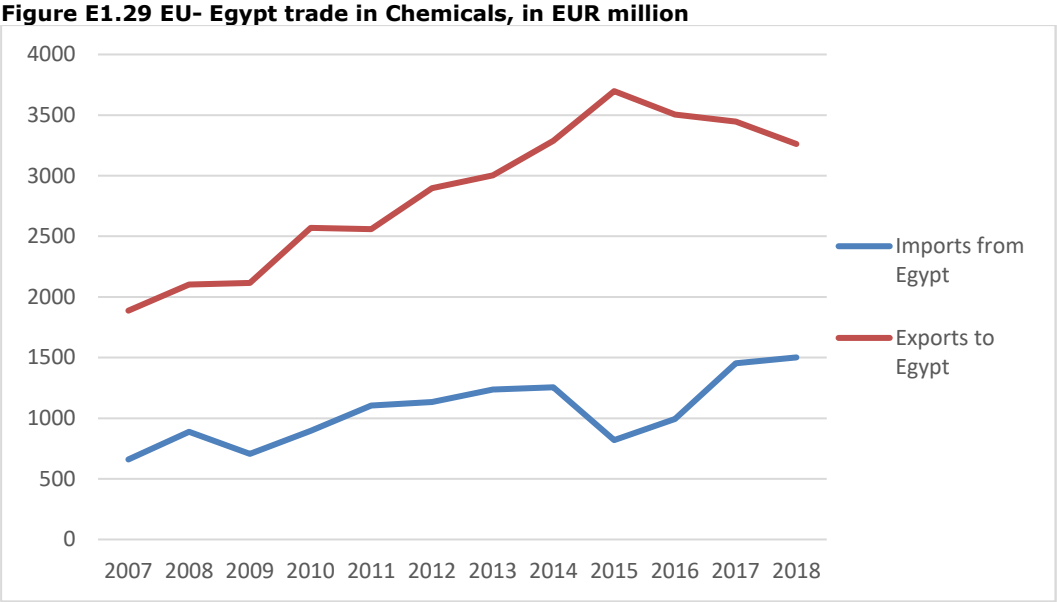
	Change in Output	
	Relative	Million EUR
Chemical, rubber and plastic products	-1,7%	-230

Note: This sector corresponds to the GTAP 9 sector chemical, rubber and plastic products (crp), which is an aggregate of the GTAP 10 sectors chemical products (chm), basic pharmaceuticals (bph) and rubber and plastic products (rpp).

Trade in the chemicals sector is largely dependent on Europe, with most of Egypt's exports being destined to major EU economies. Next after the EU, Egypt ships most of its chemicals production to Turkey. The US is also an important destination for Egyptian methanol, while plastics are largely exported to countries in the region, such as Morocco, Sudan, Iraq and Algeria.[1188] Contrastingly, China is a major player in providing urea and polyethylene to Egypt, while Saudi Arabia is a major receiver of plastic imports from Egypt. Iran provides about 95% of the methanol imported by Egypt.[1189] In fact, Egypt is a major export destination for Iran, exporting significant amounts of non-oil commodities, chemicals and methanol being major parts of this trade flow.[1190]

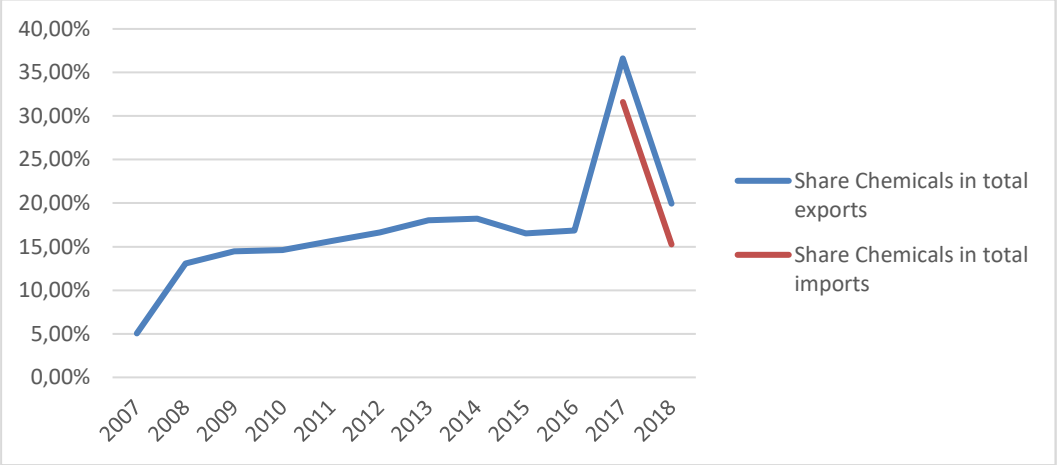
[1186] See: https://erf.org.eg/wp-content/uploads/2014/07/767.pdf.
[1187] http://extwprlegs1.fao.org/docs/pdf/egy151569.pdf.
[1188] UN Comtrade, data from 2017.
[1189] UN Comtrade, data from 2017.
[1190] https://financialtribune.com/articles/domestic-economy/97833/irans-non-oil-trade-with-egypt-at-220m.

Figure E1.29 EU- Egypt trade in Chemicals, in EUR million



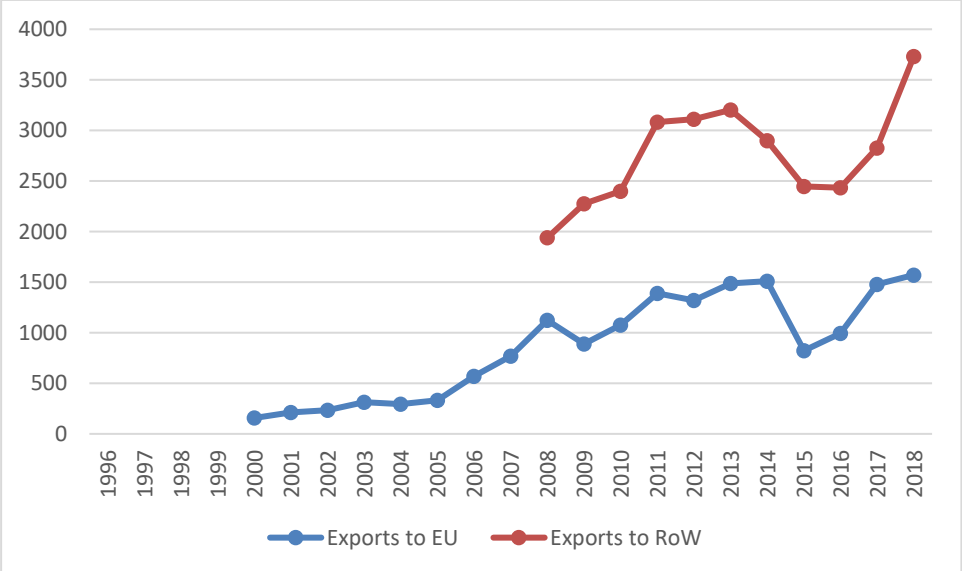
Source: Eurostat Easy Comext.

Figure E1.30 Share of Chemicals in exports and imports, 2007 to 2018



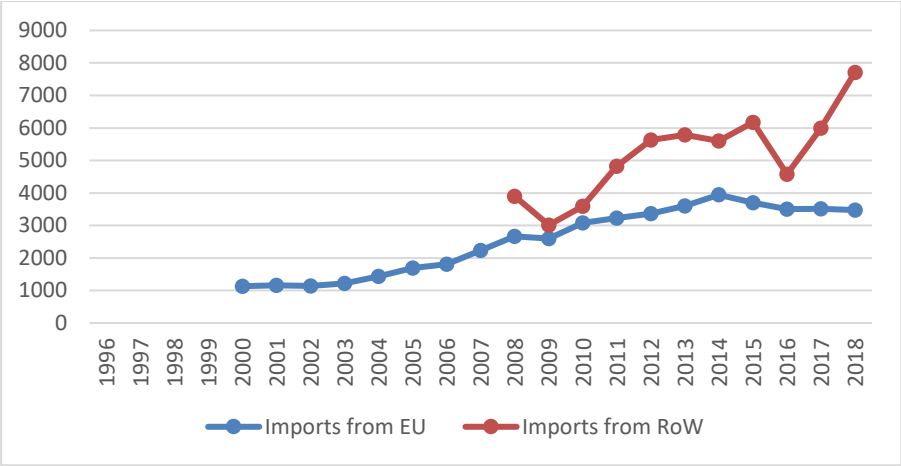
Source: UN Comtrade.

Figure E1.31 Egypt's chemical exports to the EU and RoW in million Euro



Source: WITS Database.

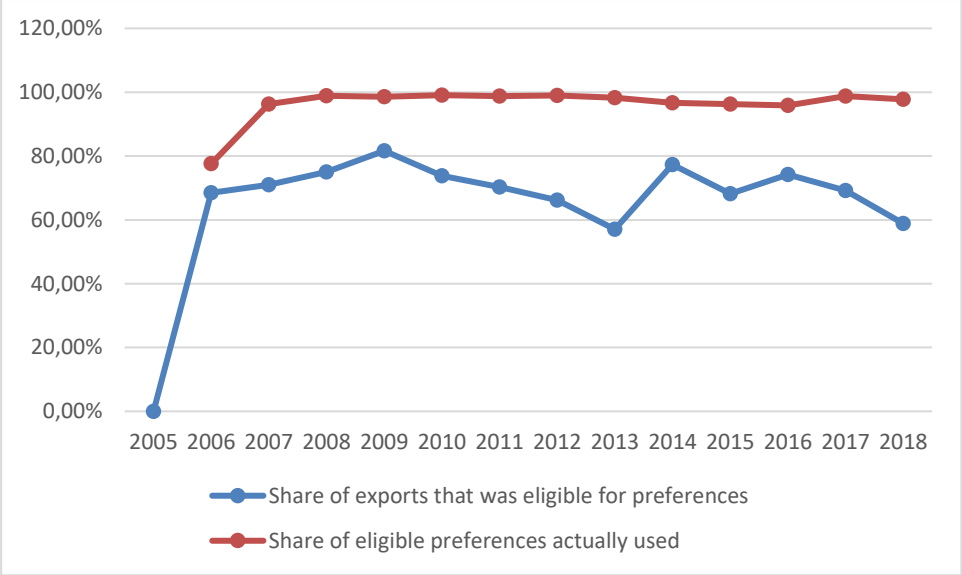
Figure E1.32 Egypt's chemical imports from the EU and RoW in million Euro



Source: WITS Database.

The majority of Egypt's chemicals exports are eligible for preferences, as shown in figure 4.42 summarizing preference utilization. In general, exporters have a utilisation rate close to 100 %. Preference margins to access the EU market have also increased since the establishment of the FTA, as shown in figure 4.9 in the economic chapter of this study. However, over time the share of eligible exports has fluctuated after the sharp increase after the agreement was implemented. These changes in eligibility are likely reflecting a changing composition of exports.

Table E1.33 Preference utilization of Egyptian chemical exports to the EU



Source: Eurostat Easy Comext and own computations.

Egypt - Conclusions and lessons learned

The Association Agreement can be seen as having been only a marginal success, especially in light of the local circumstances unrelated to the FTA. In the wake of the 2011 Egyptian revolution, social and political unrest broke out in the country, with several violent clashes taking place across major cities in the country. Political instability followed until the presidential election held in 2014, which saw the landslide victory of former Egyptian Defence Minister Abdel Fattah el-Sisi[1191]. Ever since the outbreak of the revolution, investor confidence in Egypt worsened, and so did the fundamentals of the economy, hindering exports, imports as well as industrial production.[1192]

[1191] https://www.bbc.com/news/world-middle-east-27614776.
[1192] See: https://www.brookings.edu/research/egypts-imf-program-assessing-the-political-economy-challenges/.

Most chemical products are eligible for preferential tariff rates and most of these are also utilised by the local producers. A very small share of producers does not use these preferential rates, which could be caused by misinformation or bureaucracy and, in particular, difficulties in finding the necessary information. No specific issues were raised by stakeholders in this regard. Nevertheless, though not strictly comparable, the estimated impacts of the CGE modelling and actual trade developments differ. Chemicals industrial output decreased dramatically over the time period, much more than the estimated impact from the CGE model, while exports and imports increased at a lower rate than the estimated impact. Basic chemicals such as urea and methanol represent a large share of Egypt's chemical exports to the EU. The decrease in exports of these chemicals in the aftermath of Egypt's revolution in 2011 has had a negative impact on all chemical exports to the EU until 2015.

The EU FTA does not appear to have triggered more FDI or knowledge transfer from the EU to Egypt. Local stakeholders perceived that, although the investment in the industry has been increasing, this effect is likely to be attributable to the governmental project to stimulate the sector rather than to the FTA. Efficiency seeking (export oriented) FDI can lead to the formation of clusters, where local SMEs and suppliers benefit from their proximity to multinational enterprises (MNE), mainly through spill-over effects and knowledge transfer. The sentiment of local stakeholders seems to indicate this phenomenon did not occur in Egypt. FDI levels seem to have been relatively low in the sector, and spill over effects seem to be limited. This is likely to be partly due to the current unattractiveness of Egypt's investment climate.

Jordan

Jordan - Overview of the chemicals sector

Chemicals form a large part of Jordan's industry and exports. Prior to the Association Agreement between the EU and Jordan, Jordan already produced chemicals, but the sector's importance and contribution to the economy has increased over time. Currently, more than 40% of all exported goods consist of chemical products. Overall, the chemicals sector itself is not diversified with the largest chemical export product making up 30.8% of exports to the EU and the top five chemical EU export products making up 73.9%. Potassium nitrate, an ionic salt used in fertilizers and food preservation, is the largest exported chemical from Jordan to the EU. As shown in table E1.19 the top 7 exported chemical products from Jordan, representing 80% of total chemical exports, are mainly basic chemicals with a low level of complexity.

Table E1.19 Top 10 EU imports from Jordan, in EUR, 2017[1193]

HS Code	Product	Trade value	Share in sectoral imports	Product Complexity Index
283421	Nitrate of potassium	€ 43.217.828,00	30,8%	-0.279
310420	Potassium chloride for use as fertiliser	€ 20.314.594,00	14,5%	-0.835
280130	Fluorine; bromine	€ 17.980.767,00	12,8%	-1.161
310530	Diammonium hydrogenorthophosphate	€ 16.049.408,00	11,4%	-0.754
310540	Ammonium dihydrogenorthophosphate	€ 6.210.319,00	4,4%	-0.704
310551	Mineral or chemical fertilisers containing nitrates and phosphates	€ 6.157.471,00	4,4%	-0.923
310520	Mineral or chemical fertilisers containing the three fertilising elements nitrogen, phosphorus and potassium	€ 4.044.379,00	2,9%	-0.923
290819	Derivatives containing only halogen substituents and their salts, of phenols or phenol-alcohols	€ 3.491.150,00	2,5%	1.143

[1193] The Product Complexity Index (PCI) is a measure of the relative knowledge intensity of a product, by considering the knowledge intensity of its exporters. The complexity is measured by the mix of products that a country is able to make and export. Some products embedding large amounts of knowledge from many different sectors cannot be made in simpler economies. Thus, the complexity index shows how complex the networks are, which are needed to produce a certain good.

281520	Potassium hydroxide "caustic potash"	€ 2.826.357,00	2,0%	0.916
293399	Heterocyclic compounds with nitrogen hetero-atom[s] only	€ 2.511.017,00	1,8%	1.213

Source: Eurostat Easy Comext.

Jordan - Key characteristics of the chemicals sector

In the 1970s and 1980s, Jordan's chemical industry was mainly formed by a handful of state-owned companies that harvested minerals and produced semi-processed materials. According to the Oxford Business Group country report of 2014, however, this made the country's economic performance rather sensitive to commodity prices[1194]. In combination with expensive imported skills and equipment, it also deteriorated Jordan's trade balance. Through government efforts to strengthen SMEs and particularly tech, pharmaceutical and engineering companies, this trend seems to have been overcome.

Pharmaceuticals

As previously mentioned in the section focused on opportunities for the South Mediterranean countries, pharmaceutical companies can be divided among originator companies and generic companies. Originator companies spend a large part of their turnover on R&D activities for new medicines, whereas generic companies focus more on manufacturing products similar to originator products but only after the IPRs of the originator products have expired. As in other MENA countries, pharmaceutical companies in Jordan are almost exclusively generic companies. These companies rely on producing items whose IP rights have expired in Jordan and its export destinations, or products without IP rights in Jordan but with expiring patents in export destinations.

The pharmaceutical sector in Jordan is controlled by the regulatory agency JFDA, the Jordan Food and Drug Administration, which regulates the sector in line with internationally accepted standards. JPAM, the Jordanian Association of Pharmaceutical Manufacturers, is another relevant agency that represents the industry's interests to the government[1195].

Inorganic chemicals and fertilizers

Jordan is a country rich in minerals. According to the US Geological Survey, Jordan is the third largest producer of bromine, the fifth largest producer of phosphate rock and the seventh largest producer of potash (2019). These minerals form the input for mineral based industries, such as the production of fertilizer.

All phosphate reserves are controlled by the Jordan Phosphate Mines Company (JPMC). JPMC is a state-owned company founded in 1953[1196] and is partially owned by the Indian company IPL. In 2014, the company extracted more than 8 million tons a year from three locations: the White valley mine, the Al-Hassa mine, and the Eshidiya mine. The majority of raw phosphates is directly exported, whereas the remaining materials are processed, for example as phosphoric acid or diammonium fertilizer. A large part of these secondary products are also exported.

In 2014, three main plants were active: a fertilizer plant in Aqaba is capable of producing 1 million tons of diammonium phosphate per year, another plant (owned by the Jordan India Fertilizer Company) producers compound fertilizer at a rate of 300,000 tons per year, and a plant (owned by the Indo-Jordan Chemicals Co L.d) near Eshidiya produces phosphoric acids at a rate of 200,000 per year. In the past few years, investments have been made to establish more plants to transform raw phosphates into chemicals. The Jordan Phosphate Mines company also runs the Nippon Jordan Fertilizer Company and PT Petro Jordan Abadi.

[1194] The Report: Jordan 2014. By Oxford Business Group. Retrieved from: https://books.google.nl/books?id=qtA_CwAAQBAJ&pg=PA116&lpg=PA116&dq=jordan+how+many+people+work+in+the+chemical+sector&.
[1195] See: Oxford Business Group Jordan 2014 Report.
[1196] https://www.youtube.com/watch?v=Clu1jQCjw-I.

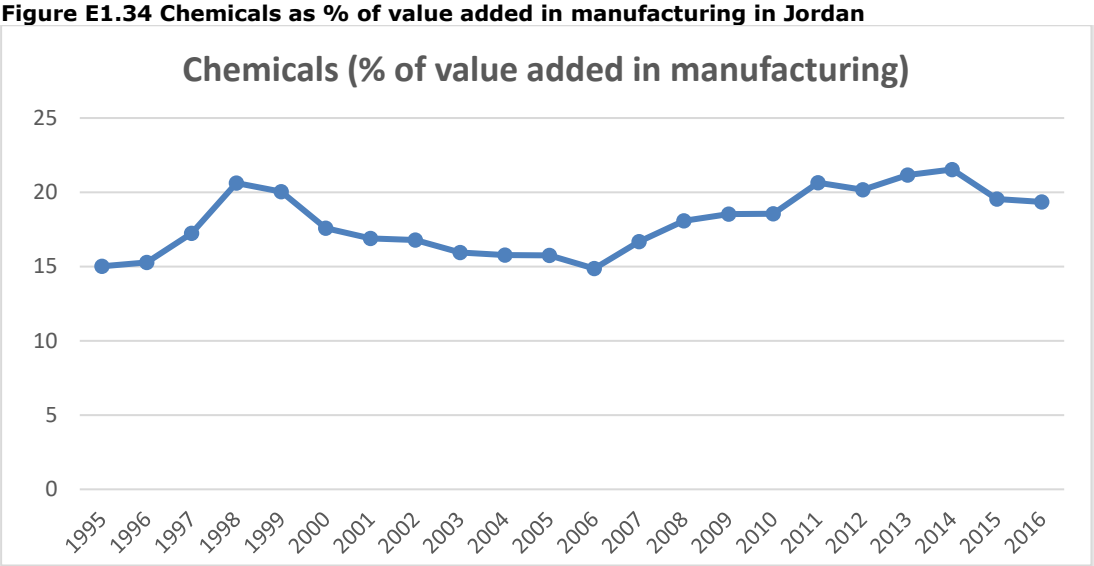
Potash forms another abundant deposit and is mainly found in the Dead Sea area. The Arab Potash company focuses on harvesting minerals from the Dead Sea by allowing water to evaporate and processing the remaining slurry. Potash is then used as input for potassium fertilizer. The Arab Potash company is the eighth largest potash producer globally and exports more than 90% of its products, mostly to India, China and Malaysia.

The Arab Potash company also (partially) owns the Jordan Bromine Company that focuses on the extraction of bromine, the Arab Fertilizers and Chemicals Industries (KEMPACO) that produces potassium nitrate fertilizer and the Numeira Mixed Salts and Mud Company that produces cosmetics[1197].

In addition to these large companies, a handful of smaller companies are involved in subsectors such as glycerince or plastic, to name a few. Most of the companies which are not state-owned are small and family owned, often posing a problem to the creation of sustainable growth strategies and, ultimately, companies' own survival.

The production of chemicals takes up an increasingly large share of total manufacturing (Figure E1.34), yet this share has been decreasing since 2014. Several reasons exist for this slowdown. First, the instability in the region has had economic consequences for Jordan. Tourism, which constitutes almost a third of Jordan's exports, slowed down, and closed borders with Iraq and Syria, have negatively impacted overall welfare. Second, the global drop in potash prices from 2010 until 2017 has specifically affected the Jordanian chemicals industry[1198].

Figure E1.34 Chemicals as % of value added in manufacturing in Jordan



Source: World Bank (2020). United Nations Industrial Development Organization, International Yearbook of Industrial Statistics.

Employment

Data on employment in the chemicals sector is limited, yet 9.6% of the working population (around 1.700.000 in 2018) is working in the manufacturing sector, which amounts to roughly 166,000 workers. Less than 1% of the working population is working in mining and quarrying[1199], which would amount to around 10,000 workers. During consultations WITH? it was mentioned that the pharmaceutical sector employs around 11,000 workers directly and 29,000 indirectly.

The quality and skill level of the available workforce is rather high, as chemistry curricula at several universities are highly developed. Chemistry education programmes at universities in Jordan are counted among the best in the Middle East and many students from Iraq and the Gulf states attend these programmes. Currently around 4,000 students are enrolled, which provides the sector with enough skilled workers. Vocational training for working in the pharmaceutical industry, however, has not been available in Jordan until recent times. In 2014, however, the Jordanian government

[1197] https://www.jordanbromine.com/Pages/viewpage?pageID=1.
[1198] See: http://documents.worldbank.org/curated/en/114741497625111236/pdf/116343-V1-WP-Jordan-PUBLIC-6-19-2017.pdf.

[1199] The National Labour Market Figures (2014-2018). Retreived from: http://www.mol.gov.jo/.

introduced an ad-hoc training facility and developed an appropriate curriculum to educate students to specifically work in the pharmaceutical sector.

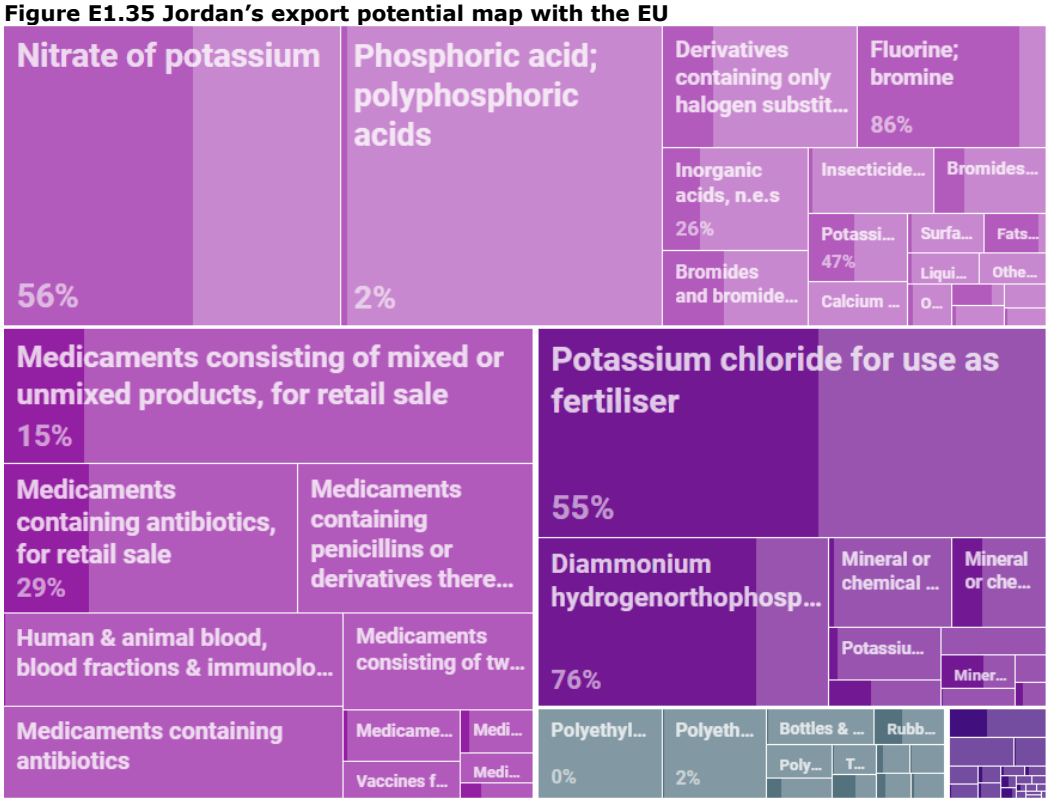
Transport

The harbour in Aqaba is very important to the chemicals sector and can load ships with a capacity of 100,000 tons. In addition, Aqaba has a number of storage facilities that allow for the storage of large amounts of materials.

Export Potential

According to the Export Potential Map[1200], given its current endowments, Jordan could focus on exporting a higher share of Phosphoric acid, for which it has a great production capacity, but only 2 % of the export potential has been met. Potassium nitrate and Potassium chloride, although they are its most exported chemicals to the EU, also only reached around 55 % of their potential, which could be improved in the future. A very large, yet so far almost untouched sector for Jordan is in medicaments. Due to its health standards and regulations, this sector may be quite difficult to penetrate for Jordan but, once there, Jordan could profit greatly from the export volumes to the EU. A smaller share of potential can also be found in the plastics industry, more specifically polyethylene products. This sector is also relatively undeveloped in their exports, although the potential is not large enough that it should become a priority. Furthermore, as a sector known to cause large amounts of pollution and environmental damage, the environmental impacts of this selection should be first evaluated.

Figure E1.35 Jordan's export potential map with the EU



Source: Export Potential Map, https://exportpotential.intracen.org/en/.

Jordan - Trade developments and FTA-related effects

Most of Jordan's chemicals exports are destined for neighbouring countries and other countries in Asia and the MENA region. Jordan's pharmaceuticals are destined for Saudi Arabia, Iraq, Lebanon, the UAE, Libya, Sudan and Algeria, among others. Jordan's fertilizers, in turn, are destined to India, Indonesia, China, Malaysia, Iraq and Turkey. Some fertilizer exports go to Bulgaria.

A substantial part of Jordan's chemicals come from the EU. Pharmaceutical products are mostly imported from, Switzerland, Germany, Belgium, France, the UK and the Netherlands. Other sources for pharmaceutical products include the UAE, Saudi Arabia and the USA. Fertilizers imports from the EU mostly consist of mixed fertilizers from Spain, Italy and Belgium. Other sources for fertilizer

[1200] https://exportpotential.intracen.org/en/.

include China, Saudi Arabia, the UAE and Egypt. The types of fertilizers that are imported are mostly mixed fertilizers or nitrogen fertilizer, as opposed to phosphate or potassium fertilizers.

The CGE modelling estimates the impact of the FTA between Jordan and the EU. While the definition of the sector in the CGE modelling slightly differs from the definition employed in this chapter, with some caveats, the modelling results are nonetheless broadly comparable with the actual development as seen in trade data. The CGE model suggests a positive, but modest, impact of the Association Agreement on exports and a more positive impact on imports. Domestic output is estimated to modestly increase under the FTA as well.

PE modelling results for Jordan from 2011 to 2018

	Change in Exports		Change in imports	
	Relative	Million EUR	Relative	Million EUR
Chemical, rubber and plastic products	5%	4	11%	76

Note: This sector corresponds to the GTAP 9 sector chemical, rubber and plastic products (crp), which is an aggregate of the GTAP 10 sectors chemical products (chm), basic pharmaceuticals (bph) and rubber and plastic products (rpp).

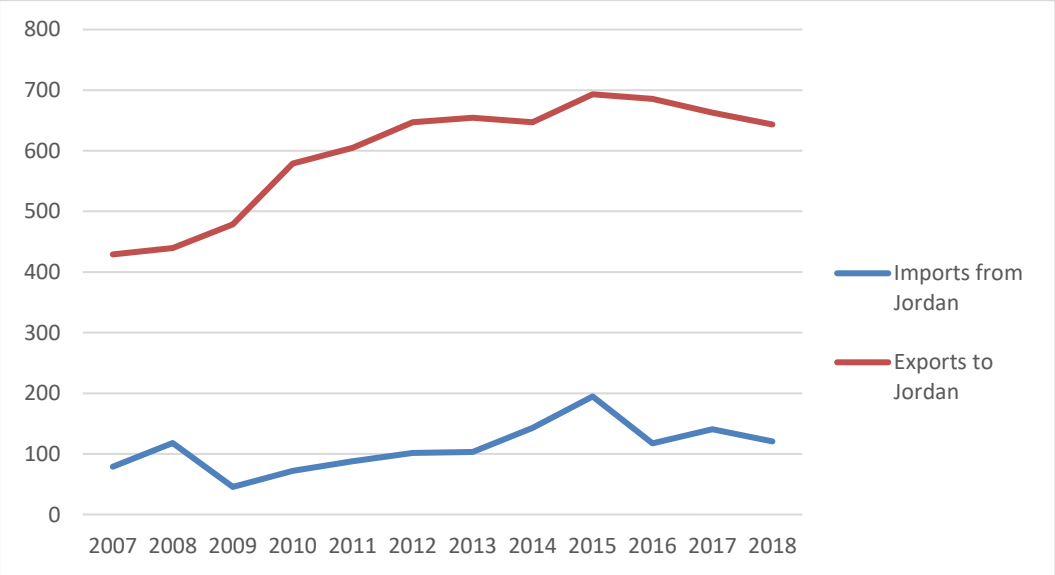
CGE modelling results for Jordan from 2011 to 2018

	Change in Output	
	Relative	Million EUR
Chemical, rubber and plastic products	0,5%	15

Note: This sector corresponds to the GTAP 9 sector chemical, rubber and plastic products (crp), which is an aggregate of the GTAP 10 sectors chemical products (chm), basic pharmaceuticals (bph) and rubber and plastic products (rpp).

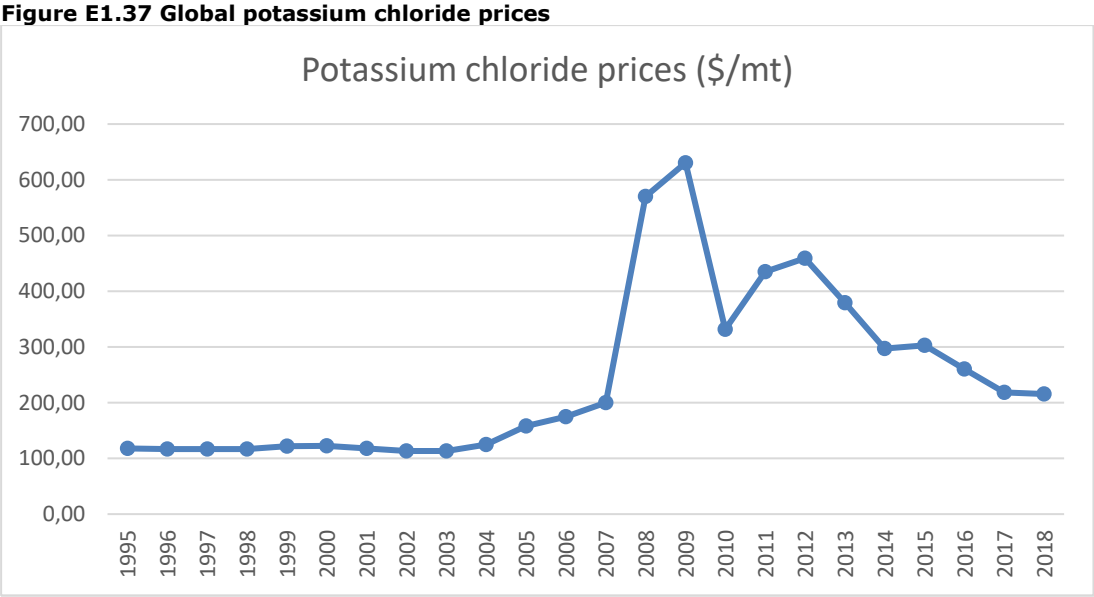
Although Jordan has increased its exports and imports in general in the chemicals sector, two major downturns have taken place in the last two decades that also affected trade in chemicals with the EU (see Figure E1.36 below). The first one is caused by the financial crisis in 2009. The second downturn is caused by the global drop in potassium prices and affected Jordan as of 2015 (see Figure E1.37 below). The reasons that this drop in commodity price caused such a one-on-one drop in trade value relates to Jordan's limited diversification of exports to Europe. The exports of chemicals to the EU are mainly driven by phosphate and potash-based products. Pharmaceuticals, on the other hand, are negligible in terms of exports to the EU and, in turn, represent one of the main Jordanian imports from the EU.

Figure E1.36 EU- Jordan trade in Chemicals, in EUR million



Source: Eurostat Easy Comext.

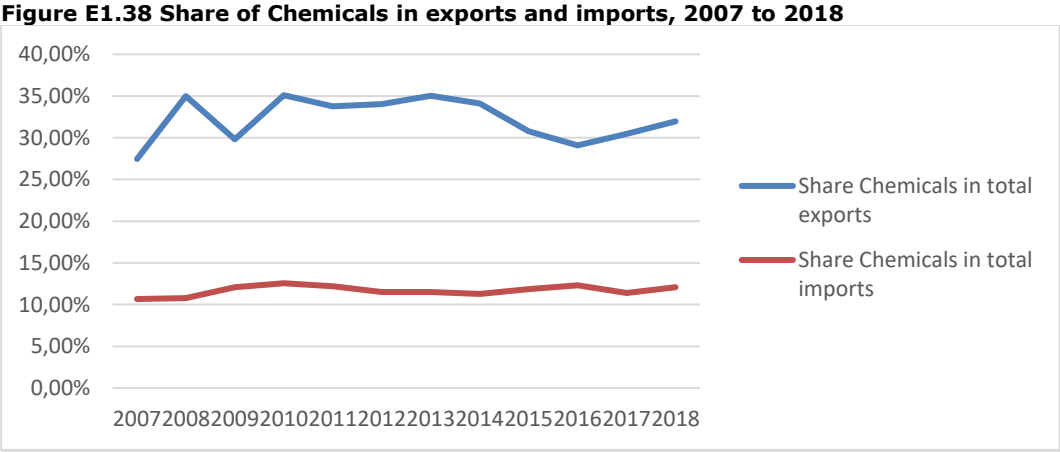
Figure E1.37 Global potassium chloride prices



Source: World Bank Commodity Price data (2020)[1201].

The EU imports chemicals from nearby markets. For example, the EU imports potassium chloride mainly from Russia and Belarus, whereas it imports phosphate-based fertilizers mainly from Morocco.[1202]

Figure E1.38 Share of Chemicals in exports and imports, 2007 to 2018

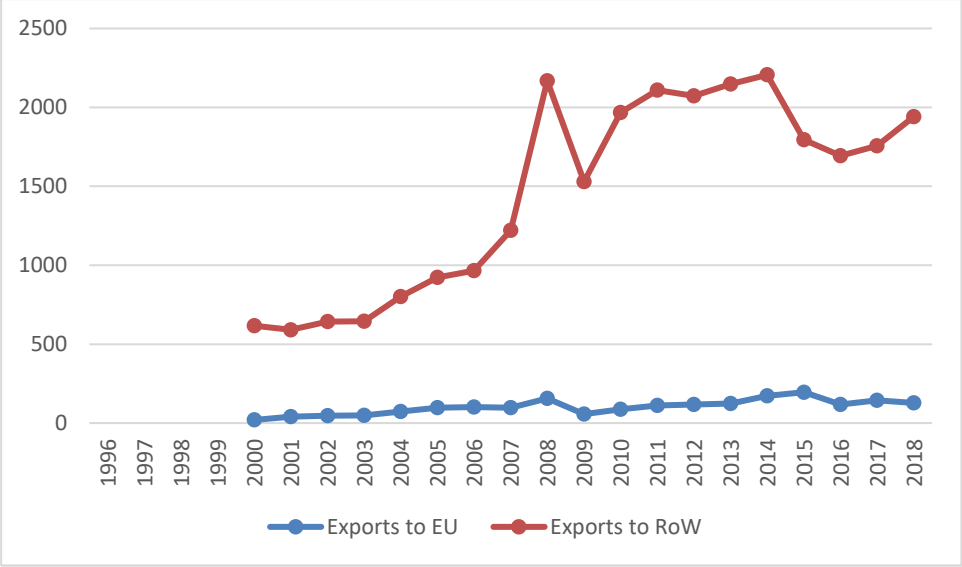


Source: UN Comtrade.

While trade volumes with the EU have increased since the entry into force of the FTA, trade with the rest of the world has expanded more significantly. Exports to the rest of the world have increased dramatically since 2000, with a major spike up to 2007 followed by a noticeable decrease in 2008, likely as a result of the financial crisis. Following the crisis, exports to non-EU countries have continued to increase despite a significant downturn in 2015. As shown in figure E1.39, compared to global exports, Jordanian exports to the EU have been rather stagnant over the course of the past two decades, with no comparable increases. On the other hand, imports from the EU have shown a significant increase post 2005 until 2014, although growth has noticeably contracted since 2015. Once again, compared to imports from the rest of the world, EU imports have not grown as impressively.

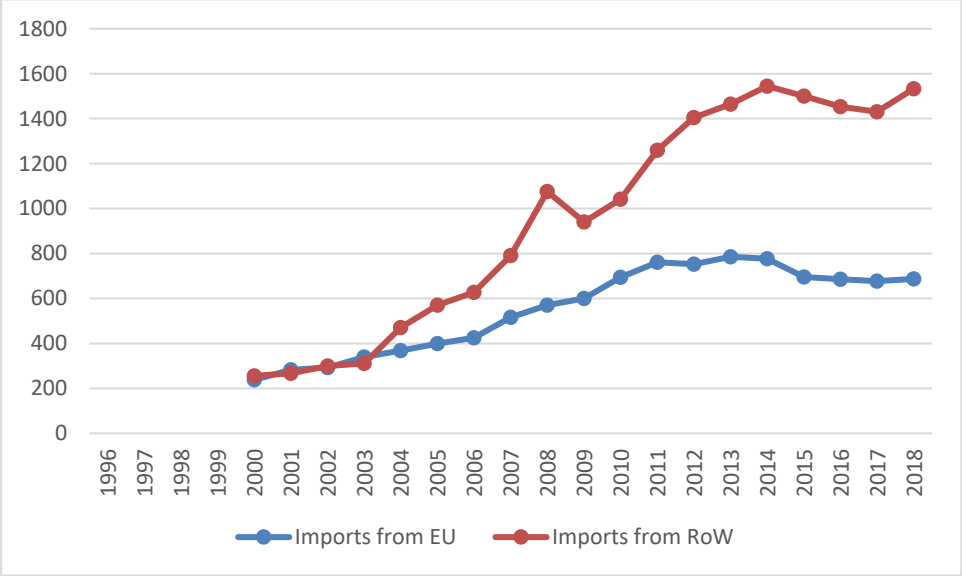
[1201] Database constructed based on data form https://www.eldis.org/organisation/A2875, http://pubdocs.worldbank.org/en/928931570034997598/CMO-Pink-Sheet-October-2019.pdf and http://pubdocs.worldbank.org/en/386711578078060390/CMO-Pink-Sheet-January-2020.pdf.
[1202] https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/farming/documents/market-brief-fertilisers_june2019_en.pdf.

Figure E1.39 Jordan's chemical exports to the EU and RoW in million Euro[1203]



Source: WITS Database.

Figure E1.40 Jordan's chemical imports from the EU and RoW in million Euro

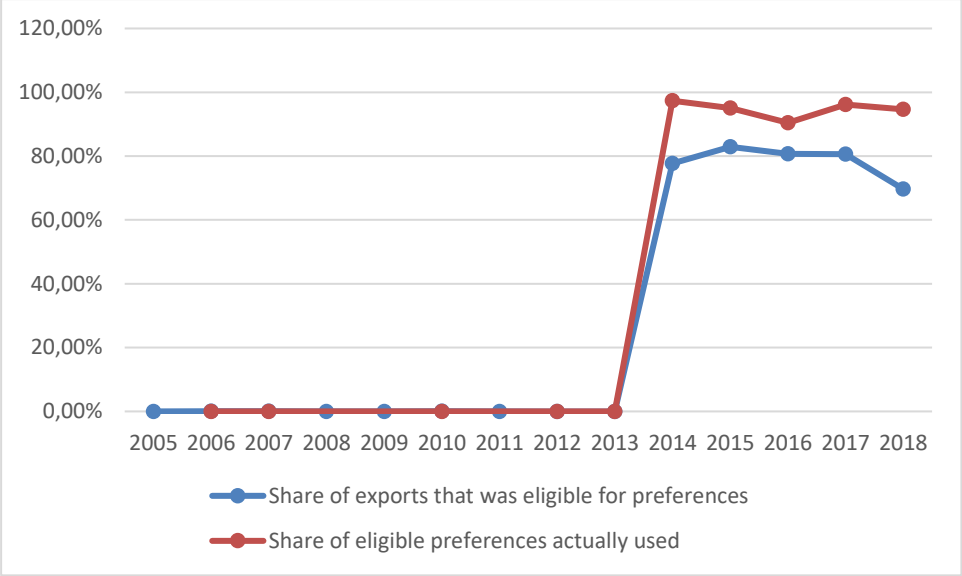


Source: WITS Database.

As shown in figure E1.41, most (but not all) of Jordan's chemicals exports are eligible for preferences. In general, exporters use these preferences, with a utilisation rate close to 100 %. However, over time the share of eligible exports has also fallen, likely reflecting a changing composition of exports. Preference margins for Jordanian exports to access the EU have also increased since the entry into force of the EuroMed agreement, as shown in section 3.3 of this report.

[1203] The slight spike in 2008 in the trade with the rest of the world stems from an increase in fertiliser exports to India in the same year.

Figure E1.41 Preference utilization of Jordanian chemical exports to the EU



Source: Eurostat Easy Comext and own computations.

Obstacles to trade

A number of factors form obstacles in exporting to the EU. Some of these reasons are merely an indication of Jordan's trade patterns. For instance, when it comes to the export of pharmaceutical and other chemical products, stakeholders mentioned that the Iraqi and Saudi Arabian markets are not saturated yet. As transport costs are quite high, exporting to these countries is cheaper than exporting to the EU. Other factors relate to the EU market directly. The large variety in consumer preferences makes it hard to understand consumer needs well and to export at a large scale. Moreover, the diversity of consumer preferences in combination with limited capacity from Jordanian companies makes entrepreneurs reluctant to invest in export capacity targeting the EU.

Furthermore, companies face difficulties in meeting EU regulations, for example with regards to safety and intellectual property, and especially the latter affect the pharmaceutical sector. Jordanian companies faced difficulties overcoming the current EU IPR system.

Lastly, multiple stakeholders have indicated that they received limited support from the government. The government indirectly enables trade by keeping the economy open and by recognizing the importance of the chemicals sector. The Jordan Economic Growth Plan 2018-2022 recognizes that "Jordan must invest in preparing its manufacturing sector for compliance with EU quality requirements, identifying and establishing private sector trade linkages and partnerships, credit facilities, and feasible transport solutions"[1204]. Nonetheless, multiple stakeholders have indicated that they would appreciate additional government measures to help companies export at a practical level. One specific factor that impedes imports from the EU is related to the dual use regulation. The dual use regulation makes EU companies reluctant to ship to Jordan, as a company needs to go through lengthy procedures to obtain multiple permits.

Jordan - Conclusions and lessons learned

From the observed trade data, it seems that the impact of the FTA on Jordan's imports and exports from the EU has been positive, with increases in both exports and imports. The share of exports eligible for preferences increased after 2013 to approximately 80 %, with almost all exporters taking advantage of this as of 2014, with minor changes following this figure in the following years. However, the data suggests that the overall impact of the agreement on Jordanian trade has been limited. This becomes especially noticeable when comparing EU trade flows with those from the rest of the world, with the latter having grown exponentially over the same time period. While the United states has been and remains Jordan's largest single trading partner[1205], within the chemicals

[1204] http://extwprlegs1.fao.org/docs/pdf/jor170691.pdf.
[1205] The agreement signed between Jordan and the USA in 1996 to designate qualified industrial zones (QIZs), allowed for duty free export to the US and strengthened Jordan's industry. This policy has especially impacted the textiles and clothing sector (see Chapter 6.1). Although these exports are mainly directed to the US, the investment that are made to support the QIZs are likely to positively effect trade with other partners as well.

sector countries such as India and Saudi Arabia have been the main export destinations for Jordanian products. Asia and the Middle East remain the largest destination regions of Jordanian chemicals, while the EU has only kept a marginal role over the past decade[1206].

From the perspective of several stakeholders, the impact has also been rather limited. In several interviews, stakeholders mentioned that they did not see more EU investment in Jordan. Any increase in exports is also likely to be caused by a few companies only and did impact the Jordanian chemical industry as a whole.

This also leads to the question of what helped some companies benefit from the FTA whereas the majority of stakeholders still has the impression that the FTA did not have the impact they hoped for. Although a number of factors can be identified that help Jordanian companies export to the EU, their success can sometimes rely on the skills and attitude of a limited number of individual people. This is well illustrated by the story of Al Shohra, a start-up active in the sales of stretch film. Even though this story shows that it is possible and potentially profitable to export to the EU, it also indicates that Jordanian companies willing to do so need to invest time in acquiring the required language skills and knowledge.

Box E1.3 Success story: Al Shohra Plastics[1207]

Al Shohra Plastics is a company started by people that were intentional about making use of the FTA between Jordan and the EU. The owners of Al Shohra started thinking in terms of opportunities and found out that Saudi Arabia exports its plastics made from petrochemicals to the EU at a tariff rate of 6.5 %. Now that Jordan can export to the EU duty free, Al Shohra's founder decided to capitalize on that opportunity by producing and selling a niche product. Al Shohra now imports polyethylene from Saudi Arabia, from which it produces stretch film for the EU market.

Al Shohra had three main strategies which helped them succeed. First of all, the founders recognized that companies that serve the local market are used to making high margins. In order to export to the EU, they had to accept lower margins and produce larger volumes instead. Second, the founders specifically invested in building relationships with potential EU clients, by travelling to the EU, visiting trade fairs, bringing samples and understanding the export procedures and quality requirements. Lastly, they were able to finance these investments.

Among other, more general success factors put forward by Jordanian stakeholders are R&D funding to the pharmaceutical sector from donors in EU and USA[1208] as well as the relaxation of the rules of origin in 2016.[1209]

Tunisia

Tunisia - Overview of the chemicals sector

While significant, Tunisian chemical exports to the EU are dwarfed by the production of textiles and machinery and transportation equipment components (namely wiring sets). Nearly half of Tunisia's exports of chemicals stem from plastic products, while diammonium hydrogen orthophosphate accounts for nearly 20 % of total Tunisian exported chemicals. Diammonium Hydrogen orthophosphate is a chemical used as an input to produce various fertilizers and plant protection products, as well as textile and paper dyes and pharmaceuticals. Hence, it represents an intermediate product to be used for further production in the importing countries. Among plastic products exported, product complexity varies greatly, ranging from more complex items such as plates sheets, film and pipes to simple glued plastic clothing accessories. Nevertheless, thank to is focus on plastics, when compared to peer exporters among Southern Mediterranean countries, Tunisia presents a clear higher complexity in its chemical export matrix.

[1206] See: https://atlas.cid.harvard.edu/explore/stack?country=113&year=2017&startYear=1995&productClass=HS&product=5&target=Product&partner=undefined.
[1207] Stakeholder interview.
[1208] Interview Jordanian Chemical Society.
[1209] Interview MIT.

Table E1.20 Top 10 EU imports from Tunisia, in EUR, 2017[1210]

HS Code	Product	Trade value	Share in sectoral imports	Product complexity index
392690	Articles of plastics and articles of other materials of heading 3901 to 3914, n.e.s (excl. goods of 9619)	€ 141.620.404,00	28,6%	0.755
310530	Diammonium hydrogenorthophosphate	€ 94.833.349,00	19,1%	-0.754
392010	Plates, sheets, film, foil and strip, of non-cellular polymers of ethylene	€ 43.069.634,00	8,7%	0.067
391729	Rigid tubes, pipes and hoses, of plastics	€ 22.602.115,00	4,6%	0.331
280920	Phosphoric acid; polyphosphoric acids	€ 20.407.492,00	4,1%	-0.727
392190	Plates, sheets, film, foil and strip, of plastics	€ 14.812.515,00	3,0%	0.997
330129	Essential oils	€ 14.191.713,00	2,9%	-1.17
392630	Fittings for furniture, coachwork and the like, of plastics	€ 11.961.558,00	2,4%	0.813
283526	Phosphates of calcium	€ 9.113.710,00	1,8%	-0.21
392620	Articles of apparel and clothing accessories produced by the stitching or sticking together of plastic sheeting, incl. gloves, mittens and mitts	€ 7.322.354,00	1,5%	-1.78

Source: Eurostat Easy Comext.

Tunisia - Key characteristics of the chemicals sector

Limited data is available for the domestic production in the chemicals sector. According to the Tunisian Industry Portal, as of November 2019, Tunisia's overall industrial sector is comprised of about 5300 enterprises, of which 2300 are engaged in export[1211]. Of these, the chemical sector consists of 560 companies, of which 140 are producing for the export market, making up roughly 10 % of the Tunisian industry. The sector employs around 54,000 workers, of which more than half are hired by enterprises involved in export. Many of these companies have some degree of foreign ownership, mostly by French and Italian investors. The total number of enterprises with foreign participation is 164, 89 of which are 100% foreign owned, with France being the main country to (co-)own enterprises in Tunisia.

Most of the employment in the chemical industry takes place in the basic chemicals and pharmaceuticals subsectors. While roughly of half both exporting and non-exporting Tunisian chemical firms operate in plastic production, the sector which employs most workers per firm is by far basic chemicals (with an average of 493 employees per firm), followed by the pharmaceutical industry (168 employees per firm); the plastics industry ranks third with an average of 71 workers

[1210] The Product Complexity Index (PCI) is a measure of the relative knowledge intensity of a product, by considering the knowledge intensity of its exporters. The complexity is measured by the mix of products that a country is able to make and export. Some products embedding large amounts of knowledge from many different sectors cannot be made in simpler economies. Thus, the complexity index shows how complex the networks are, which are needed to produce a certain good.
[1211] Tunisian Industry Portal, http://www.tunisieindustrie.nat.tn/en/tissu.asp.

employed per firm[1212]. These three sectors are also the sectors most involved in exports.[1213]In 2016 chemical companies represented an important growth component of manufacturing export, being accountable for approximately 18% of total manufacturing export growth[1214].

Once a thriving sector, the production of phosphate-based fertilizers has lost much of its competitiveness in recent years. The root causes revolve mainly around local labour disputes initiated after 2011 as well rising production costs coupled with declining global phosphate prices[1215]. While Tunisia's hydrocarbon riches are not of the same scale as neighboring Algeria and Libya, the country has quantifiable phosphates reserves, which have contributed to build a sizeable fertilizer industry over the years. Most Tunisian phosphates are still utilized to supply local fertilizer manufacturing plants. The domestic phosphate processing industry is dominated by two firms: the state-owned Group Chimique Tunisien (GCT) and the Tunisian Indian Fertilizers company (TIFERT), which produces mainly phosphoric acid. In the years following the Arab Spring, phosphate production fell from 8.2m tonnes in 2010 to an average of 3m tonnes annually between 2011 and 2015. Current production stands just above 3 million tonnes per year, compared to an average of 7.8m tonnes annually between 2005 and 2009[1216]. In an attempt to boost the country's fertilizer production, GCT inaugurated a new trisodium phosphate plant in M'dhilla in late November 2019[1217].

Since the mid-1990s, the Tunisian pharmaceutical industry has been largely privatized and has since grown rapidly at annual rates of over 15%, driven mainly by growing domestic demand and export potential. According to national statistics, the pharmaceutical sector in Tunisia is currently composed of 66 firms, of which 14 are export oriented. Within these group, several firms are joint ventures of Tunisian entrepreneurs with foreign companies. With a turnover of TND 108 million (EUR35 million), Adwya is the largest local drug manufacturer[1218]. Apart from Adwya, other large pharmaceutical groups include Unimed, Sanofi Tunisie, Teriak and Opalia[1219]. As local private production meets approximately 60% of the domestic market's needs, the country still relies heavily on imports. Exports account for less than 10% of local production and are composed of subcontracting deals to supply European markets. According to the Tunisian Investment Promotion Agency, the pharmaceutical sector has contributed to 2% of GDP in 2018, employing 8,800 workers and generating € 164.7 million of exports in 2018 and 3,5% of African continent clinical trials.[1220]

The plastics sector has achieved average annual growth of about 10% ever since 2011. The sector is made up of over 280 companies, employing nearly 20,000 workers and contributing to 3% to Tunisia's GDP, according to Tunisia's Foreign Investment Promotion Agency[1221]. The majority of plastics firms are clustered in the north of the country where there is sufficient access to shipping and transport infrastructure, large labour pools and several industrial zones. The technical plastics segment as well as high-density polyethylene pipes and polyvinyl chloride pipes have also seen a growth in demand, also as a result of a higher volume of infrastructure investment across Tunisia[1222]. The main export destinations for Tunisian plastic products are France and Italy, receiving cumulatively 50% of the exported volume.

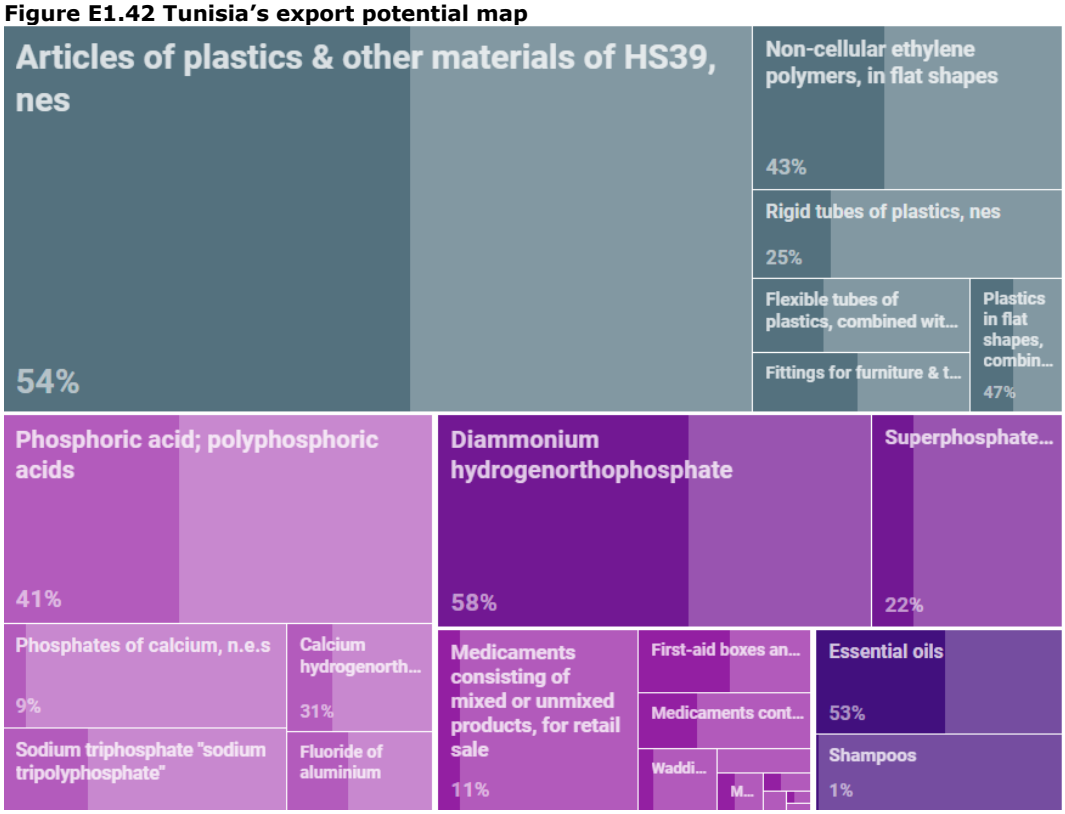
Export Potential

Although the preferential tariff rates do not apply to all chemicals, the proportion of them has increased significantly over time, while the tariff rates overall have noticeably dropped. Over the last few years, Tunisian producers have begun taking advantage of all available preferential tariffs, thus opening the door for more trade with the EU. Nevertheless, according to the Export Potential Map below[1223], Tunisia has only tapped into a little over half of its export potential for its two main

[1212] Own calculations based on Tunisian Industry Portal, http://www.tunisieindustrie.nat.tn/en/tissu.asp.
[1213] Tunisian Industry Portal, http://www.tunisieindustrie.nat.tn/en/zoom.asp?action=list&idsect=04.
[1214]https://oxfordbusinessgroup.com/overview/variety-and-diversity-investors-have-wide-range-options-across-manufacturing-field-diverse-line.
[1215] World Bank Group "Pink sheet" commodity prices. See: https://www.worldbank.org/en/research/commodity-markets.
[1216] Based on data from US Geological Survey Mineral Resources Program.
[1217] http://kapitalis.com/tunisie/2019/11/30/youssef-chahed-visite-le-groupe-chimique-tunisien-et-inaugure-la-nouvelle-usine-mdhilla-2/.
[1218] http://www.bvmt.com.tn/fr/adwya-etats-financiers-semestriels-30-06-2019.
[1219] https://oxfordbusinessgroup.com/overview/variety-and-diversity-investors-have-wide-range-options-across-manufacturing-field-diverse-line.
[1220] https://www.tia.gov.tn/en/opportunities-investment.
[1221] See: http://www.investintunisia.tn/En/home_46_33.
[1222] See: https://oxfordbusinessgroup.com/overview/variety-and-diversity-investors-have-wide-range-options-across-manufacturing-field-diverse-line.
[1223] https://exportpotential.intracen.org/en/.

chemical sub-categories. Within the currently exported chemical categories, exporters could further target European partners beyond France and Italy, as many relatively large markets in the EU are currently barely reached.

Figure E1.42 Tunisia's export potential map



Source: Export Potential Map, https://exportpotential.intracen.org/en/.

Moreover, Tunisia could further revive its export of diammonium hydrogen orthophosphate, its second most exported chemical to the EU, although environmental hazards related to this export should be carefully considered by Tunisian authorities. While no hazards have been flagged by ECHA members for Diammonium Hydrogen orthophosphate, media reports show that the chemical industry in Tunisia has causing alarming rates of pollution in the area[1224]. Effects include decimating marine life in the Tunisian Bay and the release of the chemical is believed to be a cause of cancer and disease to humans and animals alike. If Tunisia is to increase its production of phosphates damage is expected to increase, unless measures are taken at the national regulatory level to reduce the damages caused on the environment[1225].

Tunisia - Trade developments and FTA-related effects

The CGE modelling provides an estimation of what the effect of the FTA are compared to a situation where the FTA would not be in place. The CGE model suggests a positive impact of the Association Agreement on both exports and imports, but a decrease in output cumulatively for all sectors taken into consideration (Table E1.21 and E1.22) equaling to a EUR 78 million contraction.

Table E1.21 PE modelling results for Tunisia from 2011 to 2018

	Change in Exports		Change in imports	
	Relative	Million EUR	Relative	Million EUR
Chemical, rubber and plastic products	26%	116	62%	566

Note: This sector corresponds to the GTAP 9 sector chemical, rubber and plastic products (crp), which is an aggregate of the GTAP 10 sectors chemical products (chm), basic pharmaceuticals (bph) and rubber and plastic products (rpp).

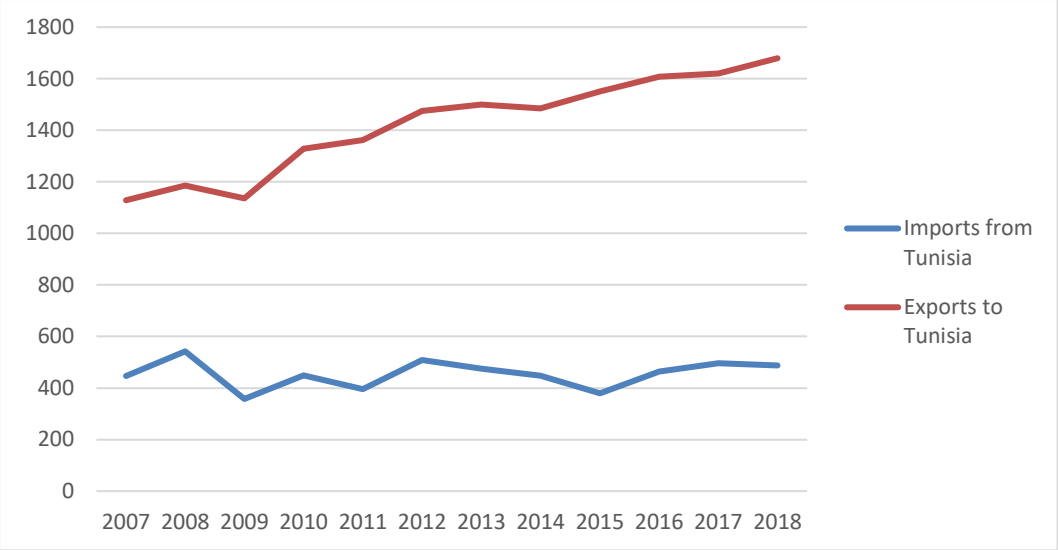
[1224] https://echa.europa.eu/nl/substance-information/-/substanceinfo/100.029.079.
[1225] https://www.aljazeera.com/news/2019/08/tunisia-chemical-plants-causing-devastating-pollution-190810123352398.html.

Table E1.22 CGE modelling results from 2011 to 2018

	Change in Output	
	Relative	Million EUR
Chemical, rubber and plastic products	-2,0%	-78

Note: This sector corresponds to the GTAP 9 sector chemical, rubber and plastic products (crp), which is an aggregate of the GTAP 10 sectors chemical products (chm), basic pharmaceuticals (bph) and rubber and plastic products (rpp).

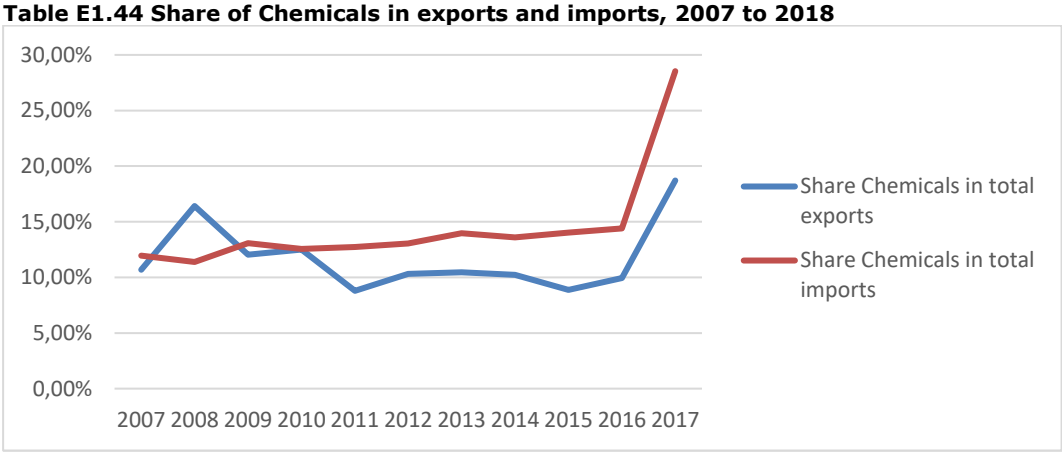
Figure E1.43 EU- Tunisia trade in Chemicals, in EUR million



Source: Eurostat Easy Comext.

Overall, both Tunisian exports and imports grew, though the growth is more limited than the CGE model estimates. Tunisian imports from the EU saw fairly constant yearly increases. Tunisian exports to the EU remained somewhat stable for the selected period, with a decline post 2012 and gaining grounds after 2015. While the share of chemicals in total imports grew timidly from 12 % in 2007 to 14 % in 2016, from 2016 to 2017 the share of chemical imports doubled, reaching 28 % by end of 2017. The share of chemical exports as percentage of total Tunisian exports declined from 11 % in 2007 to below 9 % in 2016 but, similarly to imports, the share of chemical exports rose to nearly 20 % of total by end of 2017.

Table E1.44 Share of Chemicals in exports and imports, 2007 to 2018



Source: UN Comtrade.

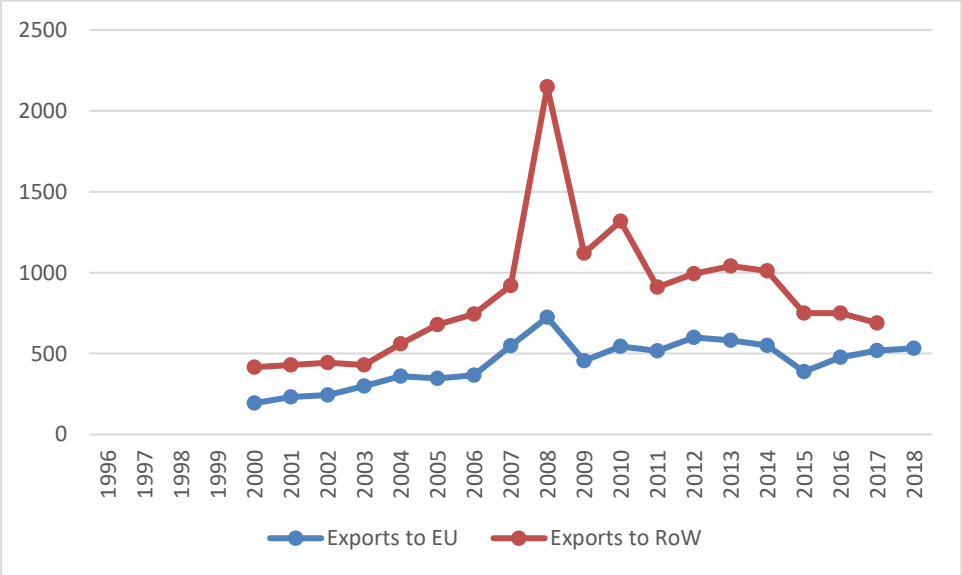
Sub-sectoral trends during this time period show that chemical import growth from the EU during this time period was driven almost entirely by organic chemicals and pharmaceutical imports. Export growth, on the other hand, was driven by the dramatic expansion of plastics exports, which experienced an approximate cumulative annual growth rate of 24%. Nevertheless, the increase in share of chemical exports sector is partially explained by the downturn of other sectors from Tunisia to the EU over the course of the time period, notably in textiles and clothing. Despite the impressive growth in recent years of plastics exports from Tunisia, the share of this sub-sector

within the country's main export matrix explains the limited effects on overall export growth to the EU.

While the industry has been able to evolve, shifting away from basic chemicals and growing its export readiness in plastic products production, a significant amount of diversification has not taken place in the last few years. Import growth from the EU has been mainly focused on organic chemicals and pharmaceuticals and, although the latter has witnessed mild fluctuations over the past decade, it has remained fairly constant. However, trade data alone does not allow us to assess the relative quantitative importance of these different uses.

Trade in the Chemical sector sees a strong presence of EU partners, particularly in terms of imports. France, Germany and Italy all together represent roughly 40 % of total chemical imports from source countries. Interestingly, in terms of exports, EU countries play a smaller role, with Turkey and Bangladesh being the first and second destination country for Tunisian chemicals respectively. Tunisian exports 'share to the rest of the world have increased over the time period, reaching a peak of 75 % in 2008, but immediately decreasing in the aftermath of the financial crisis, reaching roughly 57 % in 2017. Nevertheless, Italy and France are still within the top ten destination countries for Tunisian chemicals.

Table E1.45 Tunisia's chemical exports to the EU and RoW in million Euro



Source: WITS Database.

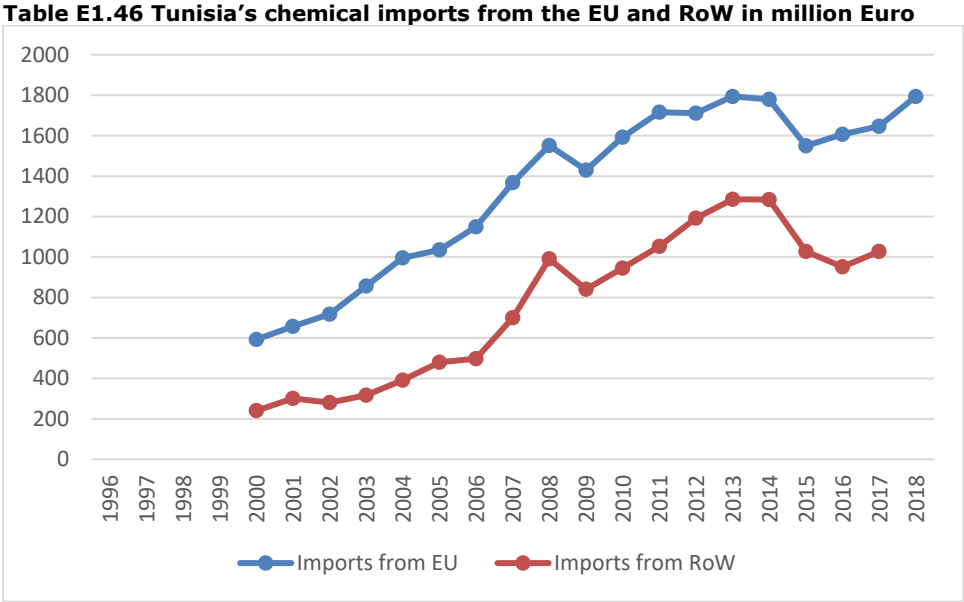
The EU is Tunisia's main trading partner, with EU countries representing over 60 % of total import origins. Given their geographical proximity and historical links, France and Italy have always been important commercial partners for Tunisia and to this day they still represent the two major import source countries as well as export destinations for all sectors. The trend for both imports from the EU and the rest of the world evolved in a synchronized manner, with both import flows increasing steadily from 2000 until the outbreak of the great financial crisis in 2008, where both trade flows were impacted negatively. Since 2009 both imports from the EU and the rest of the world have gained momentum again, increasing until 2012, when a steep decrease impacted both flows.

As shown in table 4.34 above, in 2008 there was a peak in the Tunisian exports, both to the EU and especially to the rest of the world. The main driver of this increase was the fertiliser sub-sector. In the EU, this affected mainly France and the UK, whose imports from Tunisia increased considerably in 2008. Regarding the rest of the world, most of the increase was due to increased exports to India, Turkey and Iran, but also Brazil, Vietnam and Bangladesh. Turkey, India and Libya also account for the export increase in 2010. Another notable factor is also that there is no available data in the UN Comtrade/ WITS Database for fertilisers exported before 2008. Thus, although there was a definite decrease in exports after 2008, we cannot say for sure what the changes in this sub-sector were in the years prior[1226].

[1226] The trends shown are partially the result of additional data availability.

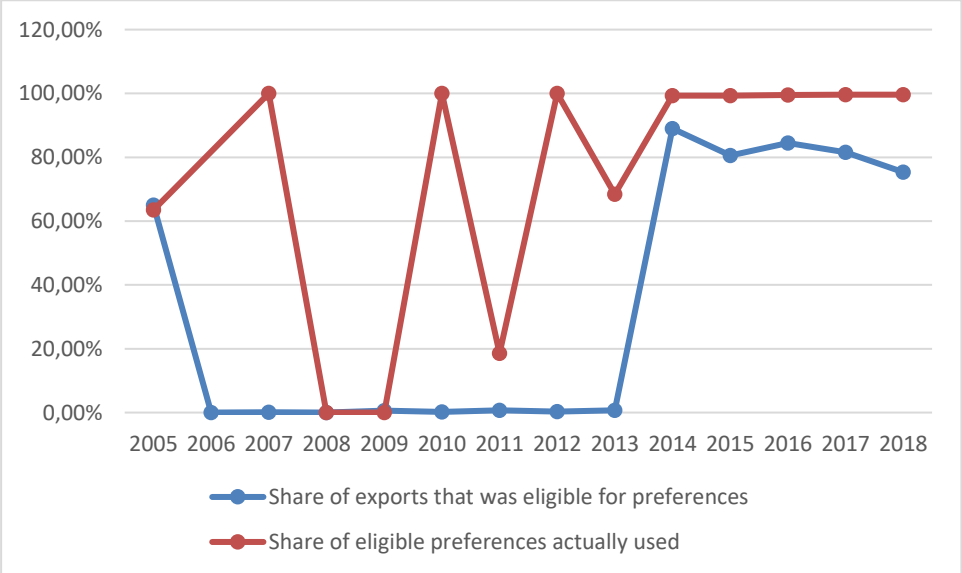
The aftermath of the Jasmine Revolution was characterized by a long period of uncertainty and instability in Tunisia with the Tunisian economy contracting in 2011, impacting Tunisian industrial production and purchasing power for the following years. During this period, Tunisia became the epicentre of a wave of political, social and economic transitions in the region[1227]. Nevertheless, the Tunisian economy showed its resilience, and imports from EU partners have been increasing since 2016, reaching their peak in 2018.

Table E1.46 Tunisia's chemical imports from the EU and RoW in million Euro



Source: WITS Database (2019).

Figure E1.47 Preference utilization of Tunisian chemical exports to the EU[1228]



Source: Eurostat Easy Comext and own computations.

Tunisia also exhibits very volatile tariff rates on EU products by sub-sector, especially with explosives. In regard to preferential tariffs, the highly volatile trends appear to stem from missing data in some, but not all products. Some sub-sectors do not have any data available before 2014 for the preferential tariff category, making it difficult to aggregate the chemical sector appropriately. A plausible explanation for the volatile preference usage may also be local administrative and institutional issues, also related to the Jasmine Revolution and its aftermath

[1227] See: https://www.abacademies.org/articles/the-resilience-of-the-tunisian-economy-after-the-2011-revolution-8019.html.

[1228] The high volatility in the preference utilisation rates most probably stems from missing data in some, but not all of the chemical sub-sectors.

until 2013, as well as delayed implementation of trade liberalization. The situation seems to have normalized after 2013, with full usage of preferences from beneficiaries.

As presented in section 3.3, the preference margins for Tunisian exports to access the EU have decreased since the entry into force of the FTA. This could be partially explained by the fact that large exporters of plastic products to the EU include countries such as Tukey and South Korea, which enjoy equal preference tariffs on chemicals as Tunisia or are part of a customs union[1229]. As Tunisia has increased its production of more sophisticated plastics products over the past two decades, it has also been facing competition from countries to which the EU has granted similar preference regimes.

Tunisia - Conclusions and lessons learned

In principle, the Association Agreement can be seen as a success. Many products in the chemical sector have become eligible for preferences, and, as of 2013, the majority of these preferences are used. Moreover, during the past decade, Tunisia was able to diversify its export basket by slowly shifting away from fertilizers and inorganic chemicals to more sophisticated plastics products. This also helps to explain how, in 2018, Tunisia ranked 44th worldwide in terms of complexity, which reflects the sophistication, diversity and specificity of exports according to the Atlas of Economic Complexity, thus, outstripping all the countries of Africa but South Africa[1230]. Exports of products from the pharmaceutical, plastics and electrical industries have performed particularly well, reflecting ongoing investments in the education sector, especially in R&D[1231]. Nevertheless, while this sectoral trend is promising, plastics remains a rather "niche" sub-sector, representing a limited share of the country's total export matrix. Moreover, while both imports and exports of Jordanian chemicals from and to the EU grew, they did not meet the estimated impact of the CGE model over the same time period.

Overall, despite the growth of the chemical industry over the past years, and the success story of the plastics sector, Tunisia has still much room to optimally diversify its export basket and tap into growing markets such as EU pharmaceuticals. Among the possible motives for this limited performance, the following stand out.

Diversification in the chemical sector is challenging, especially given the limited complexity of Tunisia's current export basket. In order to expand to additional and more sophisticated product lines, especially beyond plastics, Tunisian firms would need to acquire skilled labour and technology which are difficult to obtain. Such skilled labour, however, is key in order to attract knowledge based, efficiency seeking investments[1232]. The concentration of export-oriented companies in special economic zones in selected regions of the country, coupled with the intrinsic fiscal and financial incentives offered in these areas, has further limited the diversification of the Tunisian economy. Given the structural and institutional regional disparities in Tunisia, the development of these zones has also not benefited least developed regions[1233]. Knowledge transfer has not been able to occur between export oriented and domestic oriented firms, thus limiting the potential for industrial cooperation and development. Furthermore, laws preventing majority ownership of Tunisian companies, and disincentives from high regulation outside of the offshore economy, have also limited the spin-off benefits of foreign companies operating in the country.

The Tunisian pharmaceutical industry adheres to strict international standards and many companies are registered in the EU. However, the market environment is changing rapidly as growing competition has prompted drug manufacturers to launch new products. Without the right level of expertise and R&D, Tunisian pharmaceutical firms cannot compete and launch their products in the EU market, even after expiration of EU patents.

Moreover, investment climate issues have hindered further foreign and domestic investments. Tunisia's industry is composed largely of SMEs, which have suffered from a number of challenges endemic to emerging economies, including a limited domestic market, a lack of incentives for domestic-oriented production and problems in accessing financing options. In recent years and, specifically, in the aftermath of the Jasmine revolution, entrepreneurs in the country have been facing additional challenges including labor disputes resulting in disruption to production and weakened investor confidence. Tunisian companies constantly face issues such as red tape, with

[1229] See: https://trade.ec.europa.eu/tradehelp/myexport#?product=3908100000&partner=KR&reporter=IT.
[1230] See: http://atlas.cid.harvard.edu/rankings/.
[1231] See: http://www.oecd.org/economy/surveys/Tunisia-2018-OECD-economic-survey-overview.pdf.
[1232] https://blogs.worldbank.org/psd/why-does-efficiency-seeking-fdi-matter.
[1233] See: https://www.brookings.edu/wp-content/uploads/2016/07/L2C_WP17_Ayadi-and-Mattoussi-1.pdf.

the country ranking low also in terms of market efficiency, pay and productivity[12341235].Hence, much more needs to be done from an institutional perspective in order to improve competitiveness and facilitate exports of chemicals, to achieve long-awaited export diversification and economic transformation.

[1234] http://www3.weforum.org/docs/Arab-World-Competitiveness-Report-2018/WEF_GCI_2017_2018_Profile_Tunisia.pdf.

[1235] https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Working%20Paper%20%20No%20123%20%20PDF%20%20.pdf.

MACHINERY AND TRANSPORT

Algeria

Algeria – Overview of the machinery and transport equipment sector

Algeria's machinery and transportation equipment exports to the EU are extremely limited and are dwarfed by exports of hydrocarbons. While hydrocarbons worth more than EUR 17 billion were exported to the EU in 2017, machinery and transportation equipment exports accounted for less than EUR 68 million. At the six-digit level, only the top ten exports exceed a trade volume of EUR one million, and only the three top exports exceed a trade volume of EUR 2 million. In fact, these low figures raise the question whether trade in these narrow categories is backed by a viable, let alone export-oriented, industry. Other explanations might include statistical discrepancies, re-exports, [the sale of used equipment] or one-off sales by industries otherwise squarely oriented towards the domestic market.[1236] However, the top export, automatic washing machines, is driven by a viable export industry, the production plant in Sétif of Brandt, a French household appliance manufacturer purchased by the Algerian conglomerate Cevital (well known for its export-oriented business model) in 2014. However, this is an exception for a sector that otherwise is not strongly contributing to exports.

Table E1.23 Top Ten EU imports from Algeria, in EUR, 2017

HS Code	Product	Trade value	Share in sectoral imports	Complexity
845011	Automatic washing machines, of a dry capacity < 10 kg	26,186,076	38.6%	2226
870421	Diesel powered trucks weighing < 5 tonnes	6,427,593	9.5%	2197
841182	Gas turbine engines not elsewhere specified (n.e.s.) of a power > 5000 kW	3,762,819	5.5%	1018
880330	Aircraft parts n.e.s.	1,919,512	2.8%	1672
841191	Parts of turbo-jet or turbo-propeller engines	1,603,894	2.4%	211
870322	Small Sized Cars	1,220,501	1.8%	1634
842539	Winches or capstans n.e.s.	1,200,618	1.8%	2469
841490	Parts of vacuum pumps, compressors, fans, blowers, hoods	1,095,589	1.6%	554
842649	Cranes & lifting frames, self-propelled, not on tyres	1,088,922	1.6%	1212
852871	Television receivers/monitors/projectors	1,073,285	1.6%	3277

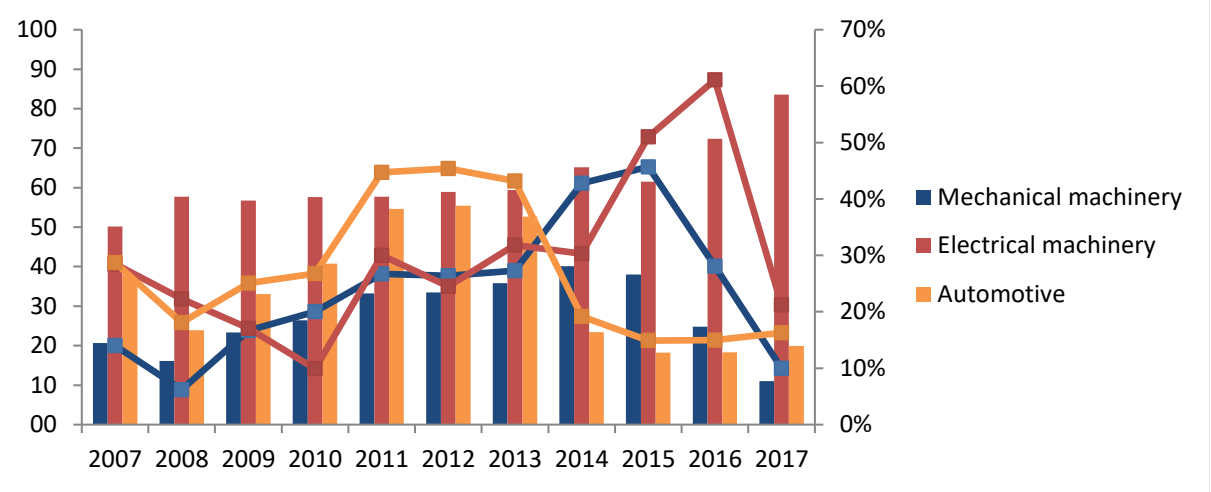
Source: Eurostat Easy Comext; Observatory of Economic Complexity.
Note: EU imports under HS 84 to 89 at the six-digit level. Complexity ranks products from 1 (most complex) to 5943 (least complex).

Algeria – Key characteristics of the sector

Only limited data are available for domestic production in the machinery and transportation equipment sector. The available data suggest that the sector is operating still well below the peak it reached before the protracted period of civil unrest known as the "Black Decade" (*la décennie noire*) (1991-1999). Furthermore, the sector is operating well below its capacity, with capacity utilisation rarely exceeding 60 to 80%, and in some cases falling below 20%. In recent years, production and capacity utilisation has also fluctuated considerably, in particular for the mechanical machinery and automotive sectors. These sectors expanded after the 2008 global financial crisis, but contracted after 2014, suggesting a relationship with the 2000 to 2014 commodity boom, as well as the critical role of domestic (and not export) demand for these sectors.

[1236] This might also be seen from a comparison of exports over time. For example, exports of diesel-powered trucks (HS 870421) to the EU have fluctuated between EUR 6.4 million in 2017 and only EUR 970 in 2015. Similarly, exports of gas turbine engines (HS 841182) have fluctuated between EUR 3.8 million in 2017 and zero in 2015.

Figure E1.48 Production index, base year 1989=100 (columns, left-hand side axis), capacity utilisation in percent (lines, right-hand side axis), 2007 to 2017



Source: Office National des Statistiques, Activité Industrielle 2007- 2017, http://www.ons.dz/-Activite-Industrielle-.html.
Note: The definition of the sector does not exactly coincide with the definition employed in the rest of the chapter.

Algeria - Trade developments and FTA-related effects

The Partial Equilibrium (PE) modelling provides an indication of the impact of the trade chapters of the Association Agreement. While the definition of the sector in the PE modelling slightly differs from the definition employed in this chapter, with some limitations the modelling results are nonetheless broadly comparable with the actual development as seen in trade data. The PE model suggests a positive, but very modest impact of the Association Agreement on exports and a more significant impact on imports. The largest impact is for the other machinery and equipment sector, but is, with EUR 6,0 million, rather limited (Table E1.24).

Table E1.24 PE modelling results for Algeria

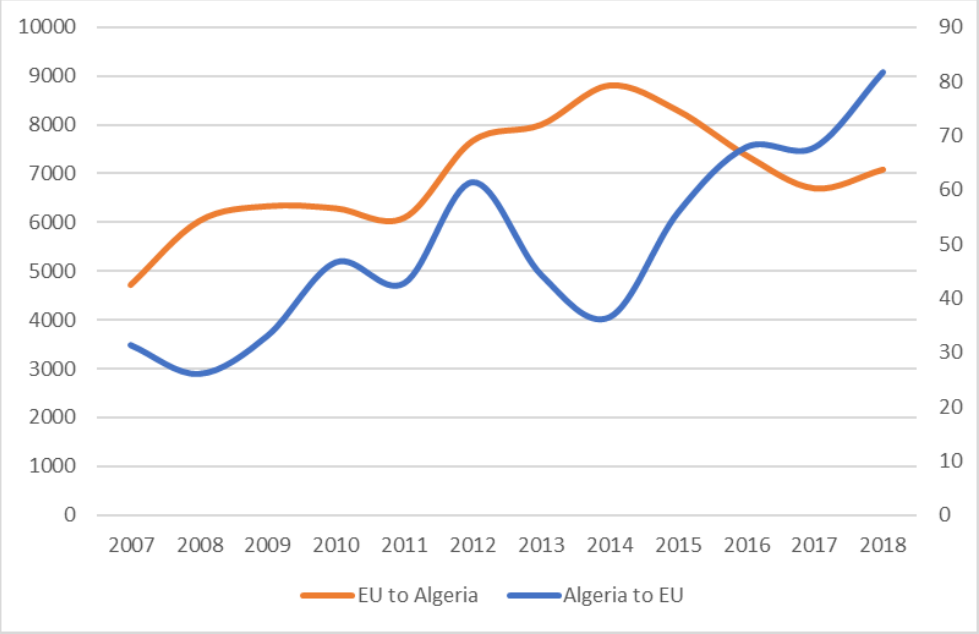
	Change in Exports		Change in imports	
	Relative	Million EUR	Relative	Million EUR
Electronic equipment	13%	1	28%	100
Motor vehicles and parts	17%	0	14%	233
Other transport equipment	7%	1	14%	43
Other machinery and equipment	17%	6	24%	713

Note: These sectors correspond to the GTAP sectors electronic equipment (ele), motor vehicles and parts (mvh), other transport equipment (otn) and other machinery and equipment n.e.c. (ome).

Actual trade in machinery and transportation equipment developed as follows. Algeria imports from the EU almost doubled between 2007 and 2014, but fell almost as rapidly thereafter, following the commodity boom of 2000 to 2014 ended (Figure E1.49). Nonetheless, the share of imports of machinery and transport equipment has remained relatively constant over time (Figure E1.50). Algeria exports to the EU moderately increased, even after 2014, but still remain at a very low level (Figure E1.49). Within the sector, Algerian exports of mechanical and to a lesser extent electrical machinery dominate. Most exports exhibit considerable fluctuations over time (Annex Figure E2.18). Algerian imports from the EU are mostly in mechanical machinery and automotive, and similarly exhibit considerable fluctuations over time. In particular automotive imports are highly volatile, peaking right before the commodity boom ended, and rapidly contracting thereafter[1237] (Annex Figure E2.17).

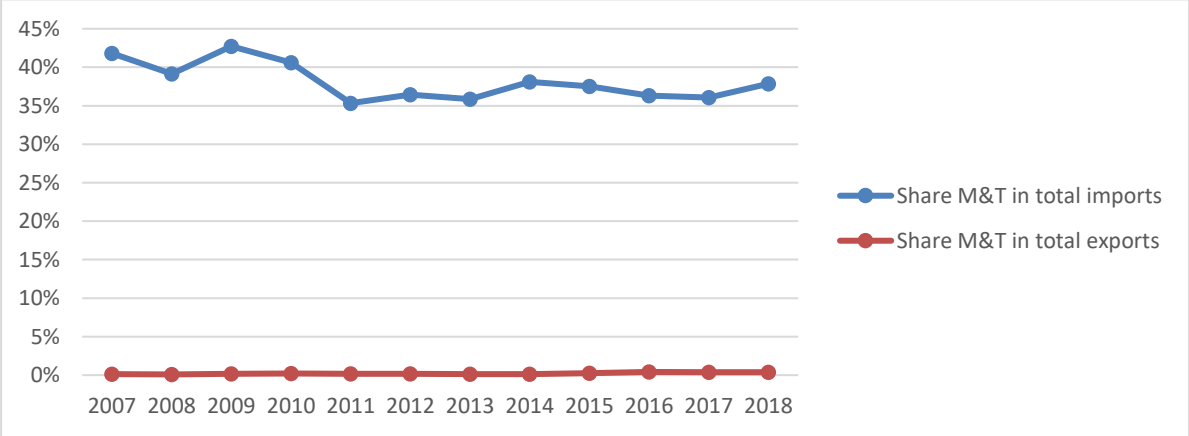
[1237] Quantitative measures and other restrictions could also have played a role in curtailing EU automotive exports. See https://madb.europa.eu/madb/barriers_result.htm?isSps=false&countries=DZ&sectors=7.

Figure E1.49 Algeria-EU imports (left-hand side axis) and exports (right-hand side axis) of machinery and transport equipment, in EUR million, 2007-2018



Source: Eurostat Easy Comext.

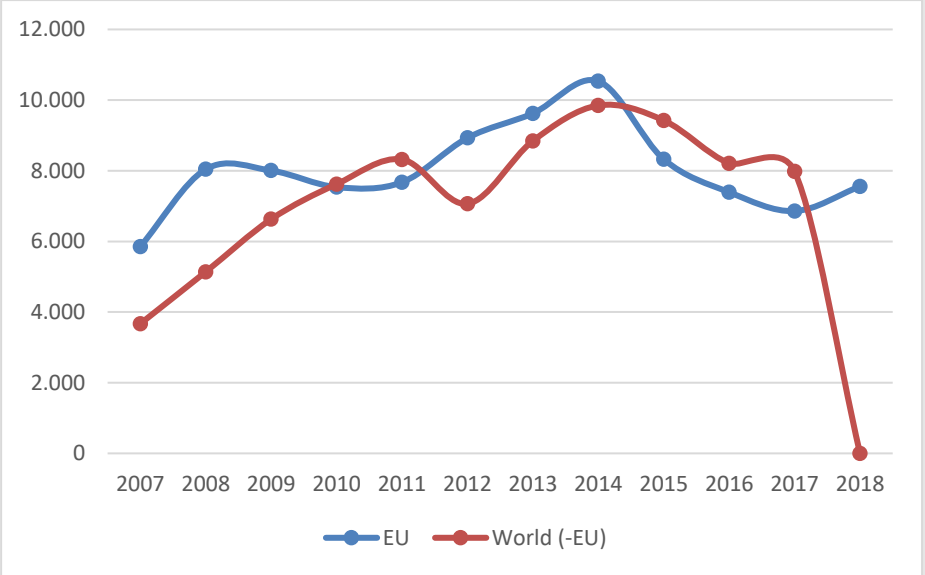
Figure E1.50 Share of machinery and transport equipment in exports and imports, 2007 to 2018



Source: WITS Database (2019).

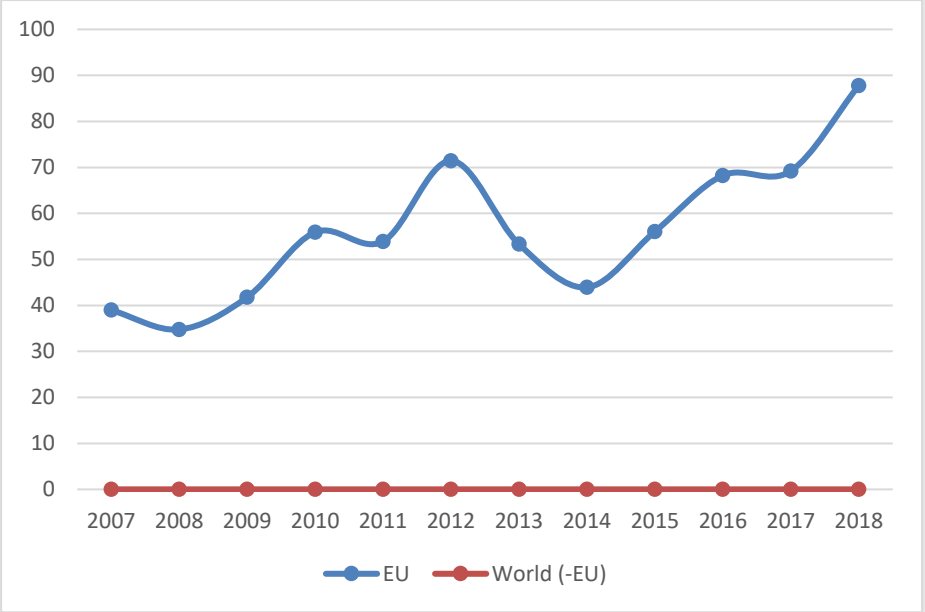
The EU is the largest trade partner of Algeria when it comes to trade in machinery and transport equipment (see Figures E1.49 and E1.50). For this reason, the Association Agreement could have a large impact on this sector.

Figure E1.51 Algeria's transport and machinery equipment imports from the EU and RoW in EUR million, 2007-2018



Source: WITS Database (2019).

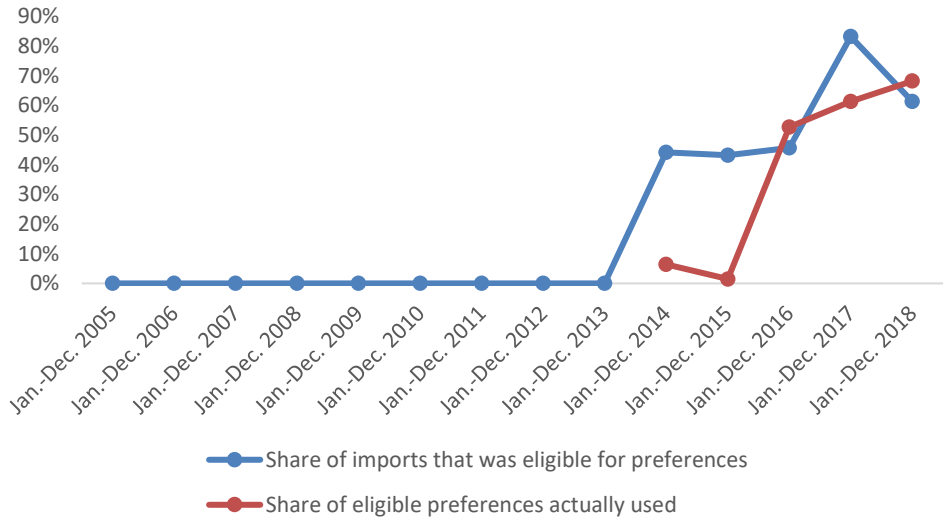
Figure E1.52 Algeria's transport and machinery equipment exports to the EU and RoW in EUR million, 2007-2018



Source: WITS Database (2019).

Reflecting the very limited extent of machinery and transportation equipment exports, preference eligibility and preference use present a confusing picture. The share of imports that are eligible for preference has increased over time, albeit with fluctuations. The share of eligible preferences that are used has also increased, more slowly, but is still below 70% (Figure E1.53). Among the possible explanations, as also alluded to above, might be the small value of trade in narrow categories as well as the often one-off nature of trade (and thus high compliance costs with rules of origin). Furthermore, as pointed out in a recent report from the European Commission on trade with partners around the world, changes in market conditions—particularly with the exit and entry of players—can affect use rates (European Commission, 2019). Nevertheless, preferential tariff margins in access to the EU market since the entry into force of Euro-Med FTAs have increased for Algerian exporters (see section 3.3).

Figure E1.53 Preference utilisation of Algerian machinery and transportation equipment exports to the EU



Source: Eurostat Easy Comext.

Algeria - Conclusions and lessons learned

The partial equilibrium modelling results moderated already any expectations on the Association Agreement as a significant booster for Algeria's exports. However, other countries have arguably started at similar low levels of machinery and transportation equipment exports. This begs the question why Algeria failed where Morocco, and to a lesser extent Tunisia, succeeded. While there are admittedly some success stories, such as exports of household appliances by the Cevital conglomerate under the Brandt brand, the potential of other industries is not used.

In this respect, the example of the automotive industry is instructive. This industry is the third largest in Africa, after South Africa and Morocco, producing more than 70,000 units in 2018.[1238] However, as noted above, this industry is almost entirely oriented towards the domestic market, a market that is one of the largest in Africa, in particular during times of high oil prices. The industry is protected by import quotas and other import restrictions[1239], and is not competitive; for example, it is reported that an Algerian-made Renault Symbol costs about EUR 1600 more than the same model imported from Europe.[1240] There are various reasons for this lack of competitiveness, from the focus on the government's industrial policy which leads to import substitution, to the lack of scale in the industry, and more generally to the business environment.

In the end, the issues faced by the machinery and transportation equipment are similar to the issues faced by most resources-rich countries: a lack of competitiveness, induced by an overvalued exchange rate (partially remedied by the depreciation of the dinar in recent years), and high production costs and low productivity, induced by competition with the resource sector for workers and capital (IMF, 2018a). Given these circumstances, it is no surprise that the Association Agreement failed to significantly boost Algeria's machinery and transportation equipment trade. While the agreement offers opportunities, these opportunities need to be seized, by employing the right mix of supporting policies and investments.

Egypt

Egypt – Overview of the machinery and transport equipment sector

Egypt's machinery and transportation equipment exports to the EU are limited and also dwarfed by exports in other categories such as agriculture, textiles or hydrocarbons sectors that have relatively simple value chains in comparison to machinery and transport. In the latter dominant sectors, Egypt supplies source materials rather than fitting within a longer value chain. The transportation equipment exports are also dwarfed by the more sizeable exports of Morocco and Tunisia in this sector. Notwithstanding this reality, some exports in very narrow six-digit categories are sizeable,

[1238] See http://www.oica.net/wp-content/uploads/By-country-2018.xls.
[1239] See https://madb.europa.eu/madb/barriers_result.htm?isSps=false&countries=DZ&sectors=7.
[1240] See http://northafricapost.com/34502-renault-considers-closing-algeria-plant-after-import-restrictions.html.

in particular electrical and automotive parts. However, with the top three products already accounting for more than two thirds of Egypt's exports in machinery and transportation equipment, beyond the top ten, the trade values in specific products are rather limited. It is actually falling below ten million, and falling below two million beyond the 25 most-traded products. Thus, only for a few products can we presume that they are backed by a viable export-oriented industry. With few exceptions, most of Egypt's sectoral exports are intermediate inputs of limited complexity.

Table E1.25 Top Ten EU imports from Egypt, in EUR, 2017

HS Code	Product	Trade value	Share in sectoral imports	Complexity
854430	Ignition/other wiring sets for vehicles/aircraft/ship	232,080,834	33.1%	3856
852990	Parts for radio/tv transmit/receive equipment, n.e.s.	128,245,161	18.3%	2727
854449	Electric conductors, n.e.s. < 80 volts, no connectors	95,523,363	13.6%	2570
851610	Electric instant, storage and immersion water heaters	47,643,077	6.8%	960
853650	Electrical switches for < 1,000 volts, n.e.s.	24,778,055	3.5%	2257
870830	Brake system parts except linings for motor vehicles	15,613,171	2.2%	710
851629	Electric space heating n.e.s. and soil heating apparatus	15,226,873	2.2%	927
870210	Diesel powered buses	13,344,553	1.9%	1902
890190	Cargo vessels other than tanker or refrigerated	9,077,609	1.3%	3801
854460	Electric conductors, for over 1,000 volts, n.e.s.	7,945,976	1.1%	2268

Source: Eurostat Easy Comext; Observatory of Economic Complexity.
Note: EU imports under HS 84 to 89 at the six-digit level. Complexity ranks products from 1 (most complex) to 5943 (least complex).

Egypt – Key characteristics of the sector

Egypt has, historically, not been very well integrated into global markets, with the sector's competitiveness as well as exchange rate imbalances both being identified as factors in Egypt's relatively poor performance. Egypt's move to integrate itself better into the global economy began, arguably, in the 1970s with its "Open Door" policy, which was a limited liberalization of the economy. This included, for example, a removal of a ban on foreign vehicle imports as well as on spare parts. Further liberalization took place when Egypt joined the WTO in 1995 and as part of the 2004 Euro-Mediterranean Association Agreement. It was expected that the recognition of the significance of these events would have led to an increase in economic activity for the machinery and transport sector.

In the wake of 2004, Egypt began several initiatives specifically targeting the manufacturing industry. The Industrial Modernization Center, running within the Ministry of Trade and Industry, initiated the National Supplier Development Programme, one of their three specialised programmes. This programme looked to identify the top 100 local manufacturing firms based on their potential to export. Those that had been identified as having this high potential would then receive access to funding for upgrades to their facilities, with 85 percent of funding provided by the Center and the remaining funds provided by the receiving institution (El-Haddad, 2017). Egypt also initiated other forms of financial support for companies that needed to move up the value chain, such as the Egypt Technology Transfer and Innovation Centres (ETTICs). This funding was meant to develop R&D capacities in strategic industries by providing funding to SMEs (OECD, 2010).

In 2006, the Ministry also produced further policies that would affect the sector, including the Egypt Industrial Development Strategy. The main goal of this strategy was to increase gross domestic investment in industry, including eight specific sectors:

1) Human resources and entrepreneurship;
2) Access to finance;
3) Infrastructure;
4) Innovation and technology;
5) Quality assurance;
6) Enterprise competitiveness;
7) Exports;
8) Foreign direct investment.

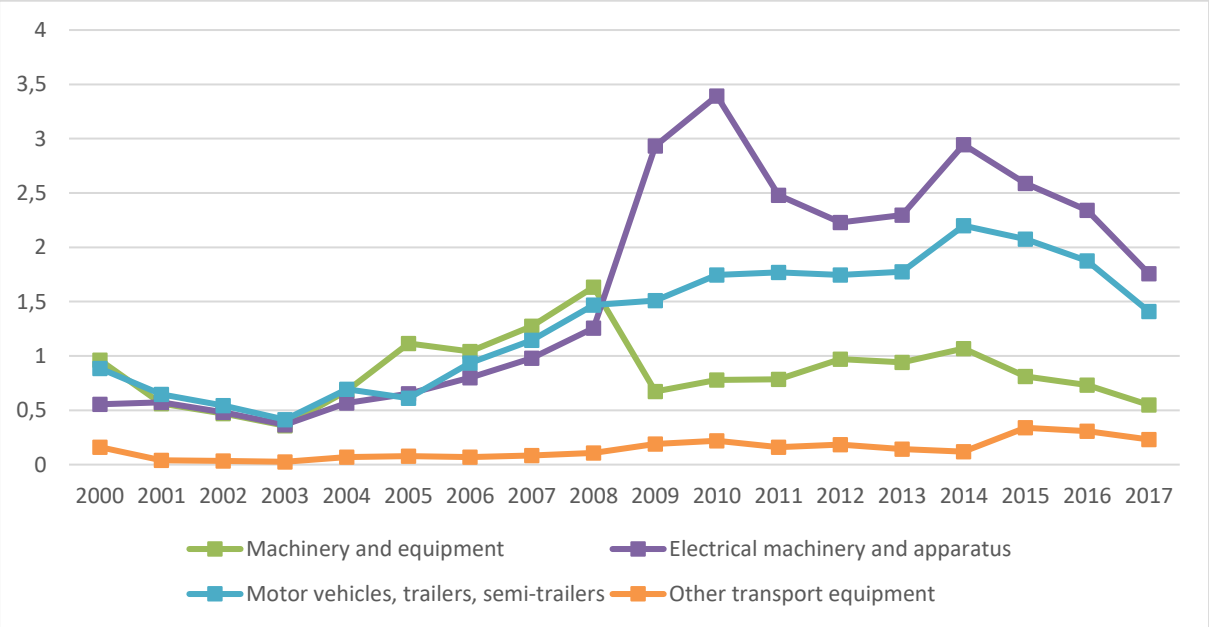
And while trade policy enjoyed liberalization and the industry support that could have been aimed at global competitiveness, its practical application led to relatively limited competition. In the automotive sector, for example, foreign brands that wanted to start assembly operations only managed to do so when they cooperated with well-connected firms, including the state-run firm NASCO and the Mansour Automotive Company. Funding for export companies, rather than encouraging competitiveness, arguably functioned as a subsidy for local manufacturers, which did not lead to increased productivity. As the OECD noted in the years following the introduction of the programme, even at its inception, there was an awareness that the programme could end up supporting established companies and those well connected in local industry networks (2010). As noted by Marcus Loewe of the German Development Institute, no authentic private sector participation exists in the country, with the chambers of commerce, professional unions, and employer associations all serving the government more than their members (2013).

This is one reason why, while Egypt enjoyed a surge in investment and economic growth in the period leading up to the 2011 revolution, after 2004 profits were largely in the extractive and service sectors, with manufacturing achieving relatively low levels of productivity gains. Of the significant gains for foreign direct investment, for example, only four percent went to manufacturing during this period (Loewe, 2013).

In addition to industrial policies that failed to provide incentives for firms to innovate and export, Egypt's currency, was generally considered to have been overvalued. This overvaluation was particularly noticeable from the mid-1990s to the late 2000s, with the removal of the currency's peg to the US dollar. The backlash of industrial policies combined with currency overvaluation explain Egypt's further depressing export competitiveness.

Only limited data is available for domestic production in the machinery and transportation equipment sector. The data that is available suggests that the sector has developed unevenly. While in general it has grown until 2014, thereafter all sub-sectors have shrunk, sometimes drastically.[1241] The most important sub-sectors are electrical machinery and automotive. Machinery and equipment as well as other transportation equipment only play a limited role.[1242]

Figure E1.54 Output in USD billions, 2000 to 2016



Source: UNIDO INDSTAT2 database, http://stat.unido.org/database.
Note: The definition of the sector does not exactly coincide with the definition employed in the rest of the chapter.

Egypt – Trade developments and FTA-related effects

The CGE modelling provides a rigorous assessment of what the impact of the FTA could have been. While the definition of the sector in the CGE modelling slightly differs from the definition employed in this chapter, with some caveats, the modelling results are nonetheless broadly comparable with

[1241] However, as output is measured in US-dollar some of these fluctuations can also be explained by changes in the exchange rate of the Egyptian Pound.
[1242] The drastic drop in the output of the machinery and equipment sub-sector around 2008.

the actual development as seen in trade data. The CGE model suggests a positive, but modest, impact of the Association Agreement on both exports and imports. In general, the impact on imports is larger than for exports (Table E1.26). The largest impact is in the category of "other machinery and equipment," with exports increasing by EUR 78 million and positive growth in output (Table E127). The impact on other sectors is more limited, with exports increasing by only between EUR zero and 21 million.

Table E1.26 CGE modelling results for Egypt

	Change in Exports		Change in imports	
	Relative	Million EUR	Relative	Million EUR
Electronic equipment	0%	0	13%	51
Motor vehicles and parts	44%	21	184%	385
Other transport equipment	20%	3	30%	151
Other machinery and equipment	19%	78	37%	970

Note: GTAP sectors electronic equipment (ele), motor vehicles and parts (mvh), other transport equipment (otn) and other machinery and equipment n.e.c. (ome).

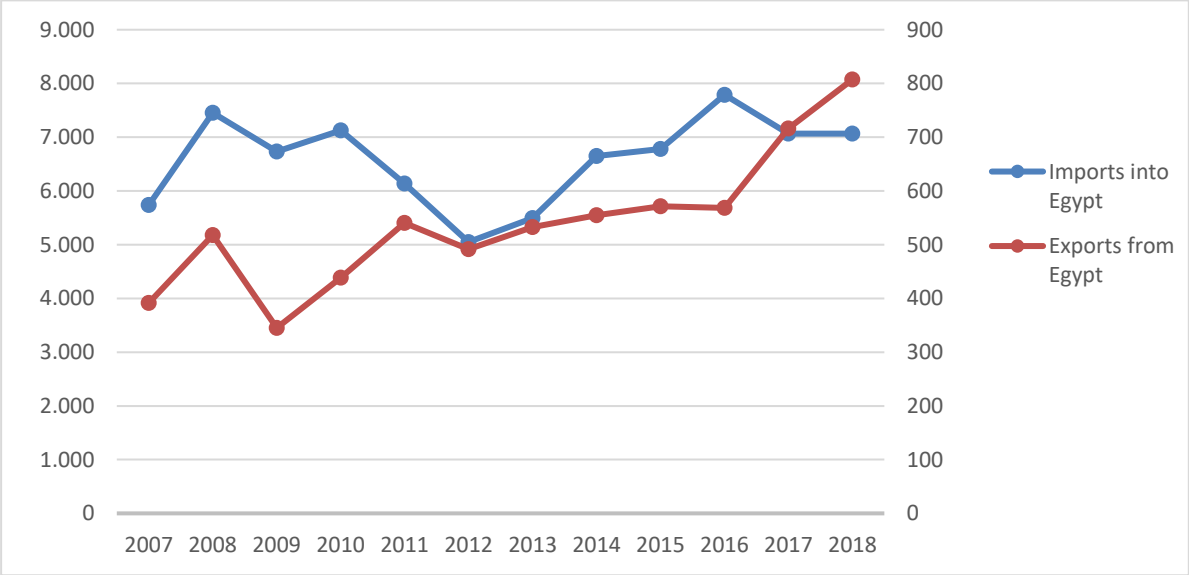
Table E1.27 CGE modelling results

	Change in Output	
	Relative	Million EUR
Electronic equipment	-0.3%	-16
Motor vehicles and parts	-1.9%	-100
Other transport equipment	-0.7%	-10
Other machinery and equipment	2.1%	35

Note: GTAP sectors electronic equipment (ele), motor vehicles and parts (mvh), other transport equipment (otn) and other machinery and equipment n.e.c. (ome).

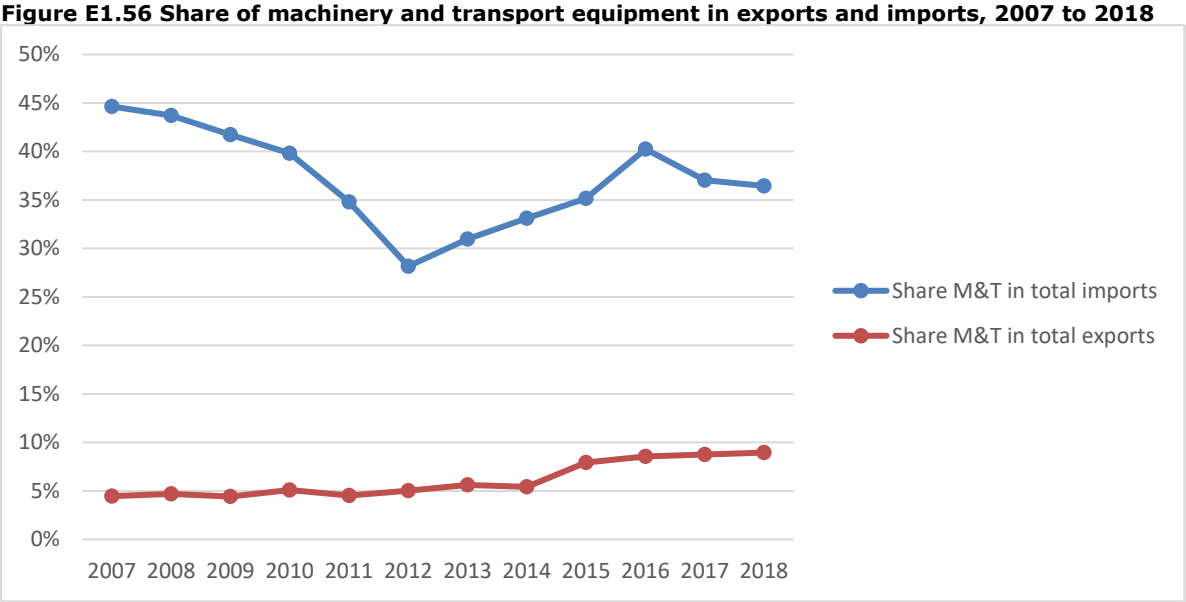
In reality, exports of machinery and transportation equipment from Egypt almost doubled from about EUR 400 million in 2007 to 800 million in 2018 (Figure E1.55). This is a modest amount if set against the size of total Egyptian exports to the EU of EUR 8.5 billion. Imports developed more unevenly, and have not significantly changed from their 2007 level.

Figure E1.55 Egypt-EU imports (left-hand side axis) and exports (right-hand side axis) of machinery and transport equipment, in EUR million, 2007-2018



Source: Eurostat Easy Comext.

Figure E1.56 Share of machinery and transport equipment in exports and imports, 2007 to 2018

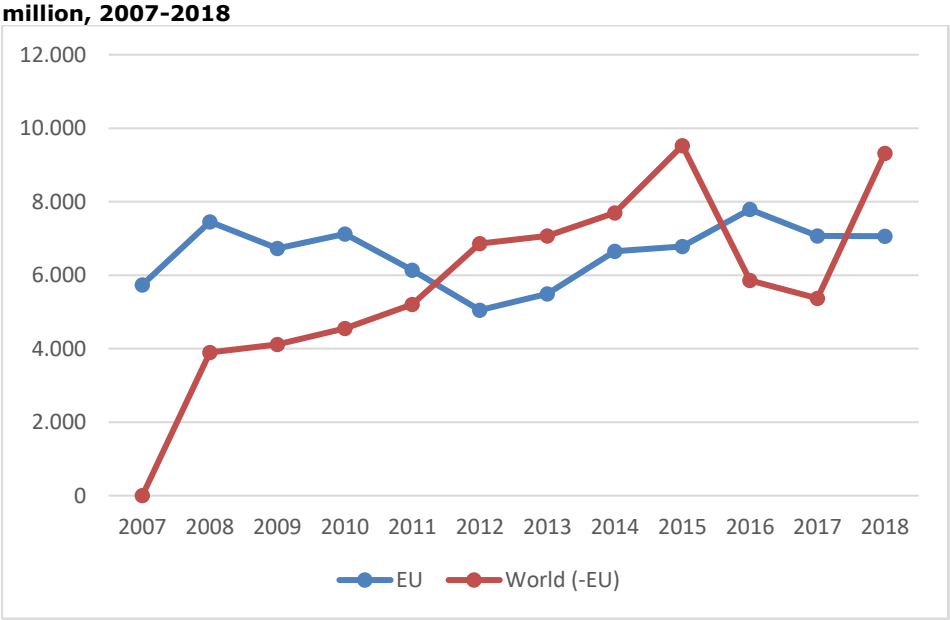


Source: WITS Database (2019).

Within the sector, exports of electrical machinery and equipment increasingly dominate. Despite the fact that stakeholders indicated that 95% of exports in the electrical equipment sector are limited by the requirement to obtain a license, it is the only sector that experienced an increase in exports. While other sectors have seen a decline, exports of electrical machinery and equipment more than tripled between 2007 and 2018. There is thus now very little diversification in Egypt's exports in this sector to the EU. On the other side, imports have fluctuated considerably between 2007 and 2018, with no clear up or downward trend (meaning that the actual impact of the Association Agreement is likely negligible). These imports consist of final products, capital products used in Egyptian industries as well as intermediate inputs.

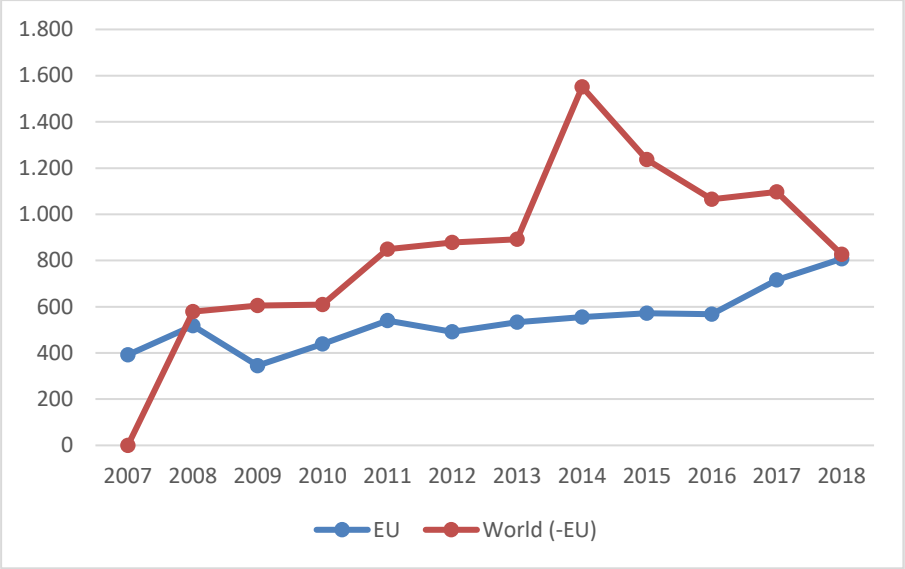
The EU forms a major partner to Egypt in trade in machinery and transport equipment (see Figure E1.57 and E1.58). Yet, trade with the rest of the world has been increasing quite rapidly, indicating the growing importance of trade partners other than the EU. Among Egypt's main import origins are China, the United Arab Emirates, South Korea, Japan, India, Thailand and Turkey. Export destinations include the United Arab Emirates, Turkey, Qatar, Japan, Cyprus, Saudi Arabia, Iraq, Sudan, as well as a number of other African countries.

Figure E1.57 Egypt's transport and machinery equipment imports from the EU and RoW in EUR million, 2007-2018



Source: WITS Database (2019).

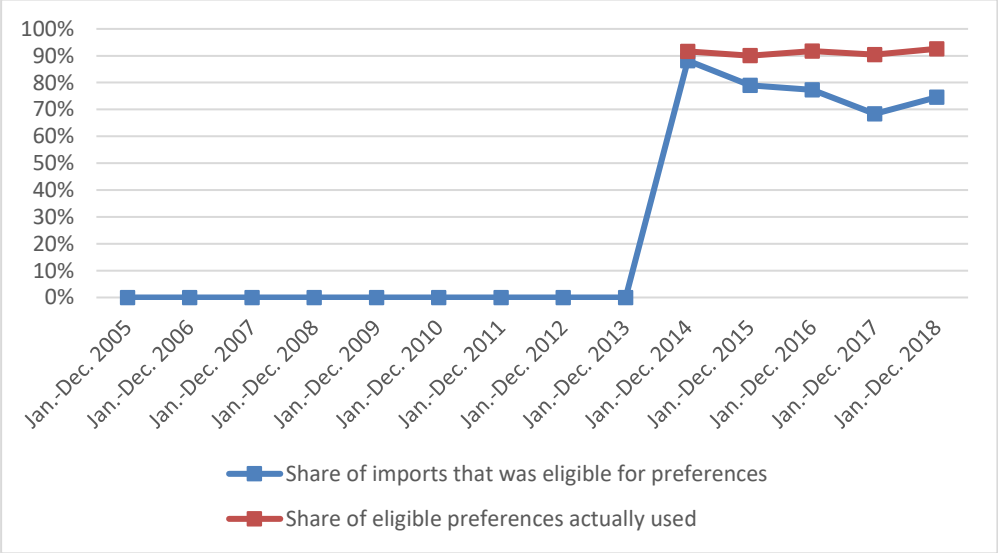
Figure E1.58 Egypt's transport and machinery equipment exports to the EU and RoW in EUR million, 2007-2018



Source: WITS Database (2019).

Most (but not all) of Egypt's machinery and transportation equipment exports are eligible for preferences. In general, exporters use these preferences, with an utilisation rate close to 100 percent. However, over time the share of eligible exports has also fallen, likely reflecting a changing composition of exports[1243] (Figure E1.59). As highlighted in section 3.3, preferential tariff margins in access to the EU market since the entry into force of Euro-Med FTAs have increased for Egypt, both in the transport and electrical machinery sectors.

Figure E1.59 Preference utilisation of Egyptian machinery and transportation equipment exports to the EU



Source: Eurostat Easy Comext.

Egypt - Conclusions on impact of the FTA

In general, the impact of the Association Agreement has been positive but modest, as is also suggested by the modelling results. While Egypt's machinery and transportation equipment exports have grown, the output levels for machinery and transport equipment decreased. This was especially true for electrical machinery and motor vehicles. Egypt had a starting point of relatively limited exports of machinery and transportation equipment. However, other countries have arguably started at similarly low levels of machinery and transportation equipment exports.

[1243] There have been no recent EU safeguard actions on Egyptian exports in the machinery and transportation equipment sector. All EU safeguard actions have concerned raw materials such as glass fibres and ferro-silicone.

In this respect, the example of the automotive industry is instructive. The Egyptian automotive industry is the fourth largest in Africa, after South Africa, Morocco and Algeria, producing 69,000 units in 2018. It is also one of the oldest automotive industries in Africa, developed under traditional import substitution policies. However, this industry is currently still oriented towards the domestic market. It remains protected through tariff barriers and non-tariff barriers, such as local content requirements, and is not competitive on the world market. There are various reasons for this lack of competitiveness, from the lack of exposure to international competition, the lack of scale in the industry, limited innovation in the sector (Sakr & Sweilam, 2015) or more generally the business environment (El-Haddad, Hodge & Manek, 2017).

During consultations, stakeholders confirmed Egypt's protectionist policies. It was pointed out that Egyptian tariffs on some automobile parts are an important reason for limited trade. Egypt still charges 80% tariff rates for automobiles parts, whereas other SMCs (such as Morocco) do not. As of 2016, non tariff barriers (NTBs) also affected EU exports. The main NTB is the compulsory registration of exports from the EU, which is especially prevalent for spare parts. This is problematic, as the EU is a key investment partner for Egypt in the sector. While the automotive sector is still quite limited, six companies, including BMW, have set up trade hubs in Egypt.

Moreover, stakeholders from the Egyptian private sector also mentioned that as of 2016, the Central Bank of Egypt set limits and made complex procedures for B2B transfers, with the latter being limited to 50,000 Egyptian pounds. While this measure was only lifted for essential goods, it had a severe impact on Egyptian SMEs in machinery and transportation equipment.

With respect to exports of electrical equipment the license requirements are considered to be restricting, as 95% of the export products need this license according to stakeholders.

Finally, stakeholders pointed out that although exports to the EU have been low, export of products such as wind turbines and solar energy to third countries has been steadily increasing.

Morocco

Morocco – Overview of the machinery and transport equipment sector

Machinery and transportation equipment is an important sector for Morocco, with significant exports to the European Union, in particular in the automotive industry and, to a lesser extent, the electrical machinery and aerospace sector. Key exports are highly concentrated in a few narrow sub-sectors, with the two leading sub-sectors at the four-digit level already constituting more than seventy percent of Morocco's exports in machinery and transportation equipment. Similarly, the top five exports at the six-digit level account already for more than seventy percent of total exports. By far the most important exports to the European Union are ignition and wiring sets for the automotive industry, followed by micro cars and small diesel engine cars. Other important exports include electric parts, automotive and aerospace parts, and cars and trucks. Morocco also exports a mix of final products and intermediate inputs, of limited to moderate complexity (Table 4.43).

Table E1.28 Top Ten EU imports from Morocco, in EUR, 2017

HS Code	Product	Trade value	Share in sectoral imports	Complexity
854430	Ignition/other wiring sets for vehicles/aircraft/ship	2,163,880,292	35.6%	3856
870321	Micro cars	921,546,958	15.1%	1761
870331	Small Diesel Engine Cars	611,163,712	10.0%	1054
853710	Electrical control and distribution boards, < 1kV	343,485,270	5.6%	1587
880330	Aircraft parts n.e.s.	316,525,946	5.2%	1672
870322	Small Sized Cars	191,916,616	3.2%	1634
854442	Electric conductors, nes < 80 volts, with connectors	186,299,469	3.1%	3369
870323	Medium Sized Cars	181,567,590	3.0%	401
870421	Diesel powered trucks weighing < 5 tonnes	119,491,716	2.0%	2197
853690	Electrical switch, protector, connecter for < 1kV	83,554,767	1.4%	1191

Source: Eurostat Easy Comext; Observatory of Economic Complexity.
Note: EU imports under HS 84 to 89 at the six-digit level. Complexity ranks products from 1 (most complex) to 5943 (least complex).

Morocco – Key characteristics of the sector

Limited data is available for domestic production in the machinery and transportation equipment. Employment data indicates that between 2011 and 2016 the sector grew modestly, from 85,000 to 110,000 jobs. In contrast, turnover has more than doubled from 44 billion to 83 billion dirham. The largest industries are automotive, in terms of turnover, and electrical machinery, in terms of employment.[1244] Furthermore, the automotive sector grew rapidly, having almost quadrupled its turnover and tripled its employment between 2011 and 2016 (Figure E1.60).

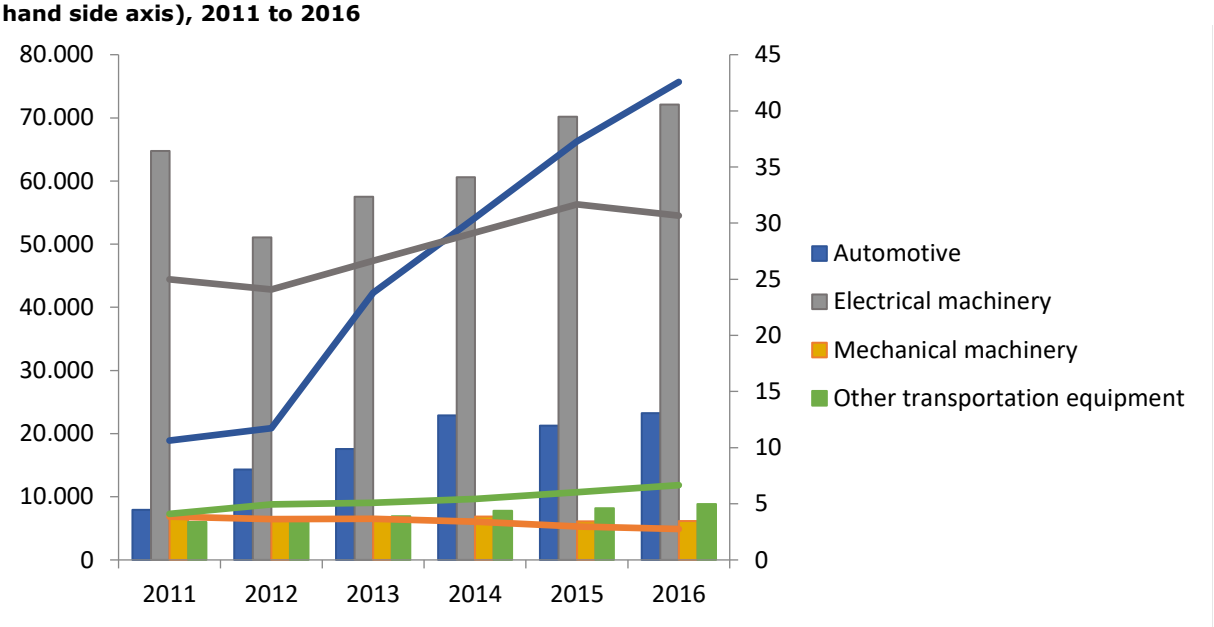
The automotive sector remains the largest sector in terms of turnover and is led by Renault and the Moroccan company SOMACA, which is now also part of Renault. Together they produce around 400,000 vehicles per year. Recently, the PSA Group has opened a plant for the assembly of complete automotive units.[1245] Behind these leading companies a large network of SMEs exist which supplies parts and components, such as wires, bumpers and seats. Although most of these companies tend to engage in labour-intensive production phases in which low to medium value is added, the sector is increasingly producing high value added products such as engines (Vidican-Auktor & Hahn, 2017).

According to Eurocham Morocco, the automotive industry, has greatly improved in recent years, but still needs to attract more investors in order to generate a higher added value. The lack of encouragement of local investors was also put forward as an issue, as they need financial assistance but this is difficult due to the high cautiousness of banks. The bureaucratic system was also mentioned as discouraging both foreign and local investors from diving into the Moroccan market as opposed to other countries of the region[1246].

Despite these constraints, the automotive sector is supported through various policies. Among supporting policies are investment laws and investment incentives, providing corporate tax holidays, VAT and dividend tax exemptions, land purchase subsidies and financial incentives for investments and the purchase of equipment. The government also supported skill acquisition through creating training institutes and vocational schools. However, the important role of Renault, active in Morocco since 1928, in pushing for these policies should also be noted. These supporting policies were initially formulated and implemented in the 2005 *Plan Emergence*, providing an industrial policy framework for 2009 to 2015, and the updated *National Industrial Acceleration Plan* for 2014 to 2020 (Vidican-Auktor & Hahn, 2017).

[1244] However, a significant part of the electrical machinery subsector is also supplying components to the automotive sector, such as for example vehicle wiring.
[1245] https://www.moroccoworldnews.com/2019/06/276284/psa-kenitra-plant-officially/.
[1246] Feedback received from stakeholder workshop carried out in Rabat.

Figure E1.60 Employment (columns, left-hand side axis) and turnover in billion Dirham (lines, right-hand side axis), 2011 to 2016



Source: Haut-Commissariat au Plan, Annuaire Statistique du Maroc, https://www.hcp.ma/downloads/.
Note: The definition of the sector does not exactly coincide with the definition employed in the rest of the chapter.

Morocco – Trade developments and FTA-related effects

The CGE modelling provides an assessment of what the impact of the FTA could have been. While the definition of the sector in the CGE modelling slightly differs from the definition employed in this chapter, with some limitations the modelling results are nonetheless broadly comparable with the actual development as seen in trade data. The CGE model suggests a positive, but modest, impact of the Association Agreement on both exports and imports and on growth in output for all subsectors but other machinery and equipment (Table E1.29 and E1.30). In general, the impact on imports is relatively larger than for exports. The largest impact is for the "other machinery and equipment" sector and, to a lesser extent, the motor vehicles and parts sector. The impact on other sectors is more limited, with exports increasing by only between EUR 9 to 27 million.

Table E1.29 CGE modelling results for Morocco-trade

	Change in Exports		Change in imports	
	Relative	Million EUR	Relative	Million EUR
Electronic equipment	6%	9	19%	79
Motor vehicles and parts	56%	103	23%	310
Other transport equipment	14%	27	16%	48
Other machinery and equipment	29%	570	63%	1144

Note: GTAP sectors electronic equipment (ele), motor vehicles and parts (mvh), other transport equipment (otn) and other machinery and equipment n.e.c. (ome).

Table E1.30 CGE modelling results for Morocco-output

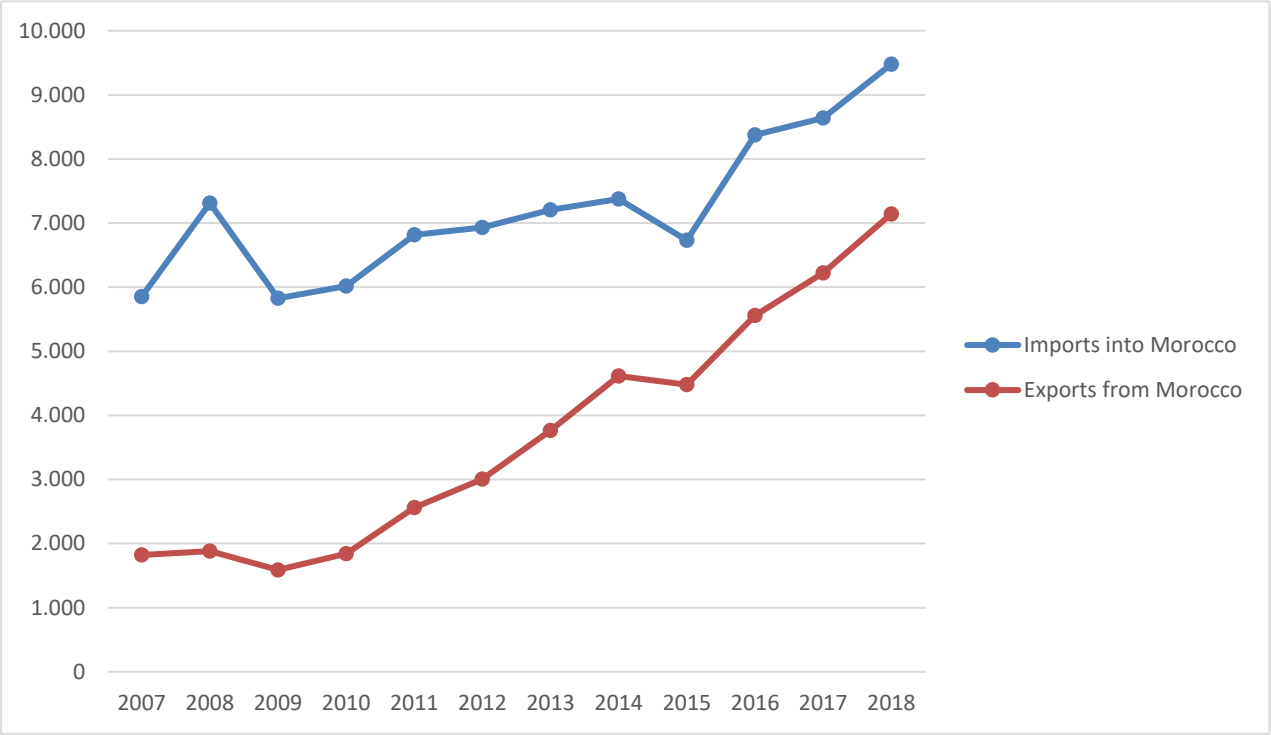
	Change in Output	
	Relative	Million EUR
Electronic equipment	0.3%	11
Motor vehicles and parts	0.4%	8
Other transport equipment	0.2%	2
Other machinery and equipment	-0.8%	-56

Note: GTAP sectors electronic equipment (ele), motor vehicles and parts (mvh), other transport equipment (otn) and other machinery and equipment n.e.c. (ome).

In reality, exports to and imports from the EU of machinery and transportation equipment have grown rapidly, more than tripling since 2007 and more than doubling since 2012 (Figure E1.61). While the share of machinery and transport equipment in total imports has remained relatively stable, the share in total exports has doubled (Figure E1.62). Within the sector, exports of electrical machinery and automotive dominate and have grown most rapidly. Particularly remarkable is the automotive industry, having grown from almost no exports to an industry

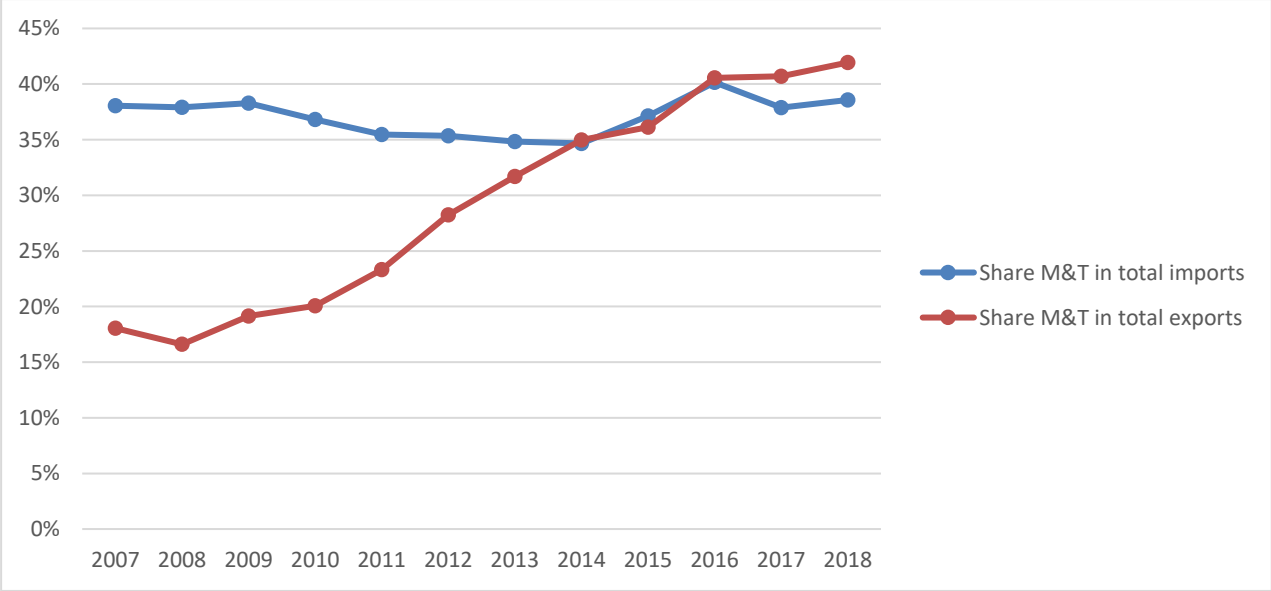
exporting cars worth almost EUR 3 billion to the EU (Annex Figure E2.24). Imports have grown much less rapidly, suggesting that the growth in imports was mainly driven by the Moroccan internal market. Imports are also far more evenly spread between the different sub-sectors. Some of these imports are either final products or capital products, used in Moroccan industries. Other imports are likely intermediate inputs. However, trade data alone does not allow us to assess the relative quantitative importance of these different uses (Annex Figure E2.23).

Figure E1.61 Morocco-EU trade in machinery and transport equipment, in EUR million, 2007-2018



Source: Eurostat Easy Comext.

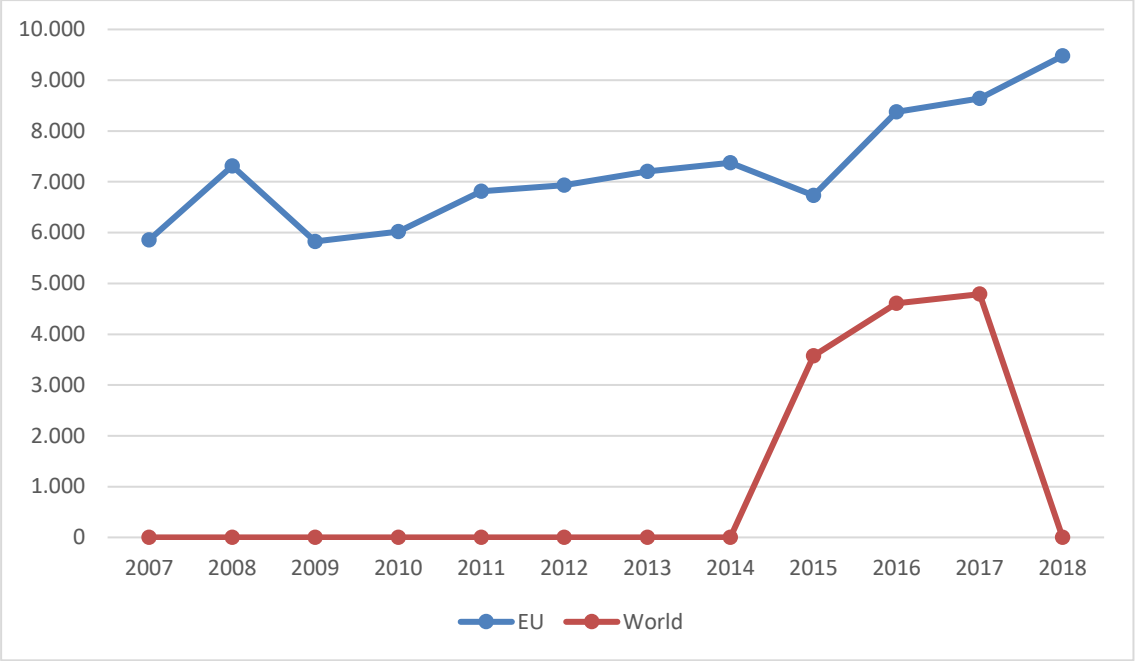
Figure E1.62 Share of machinery and transport equipment in exports and imports, 2007 to 2018



Source: WITS Database (2019).

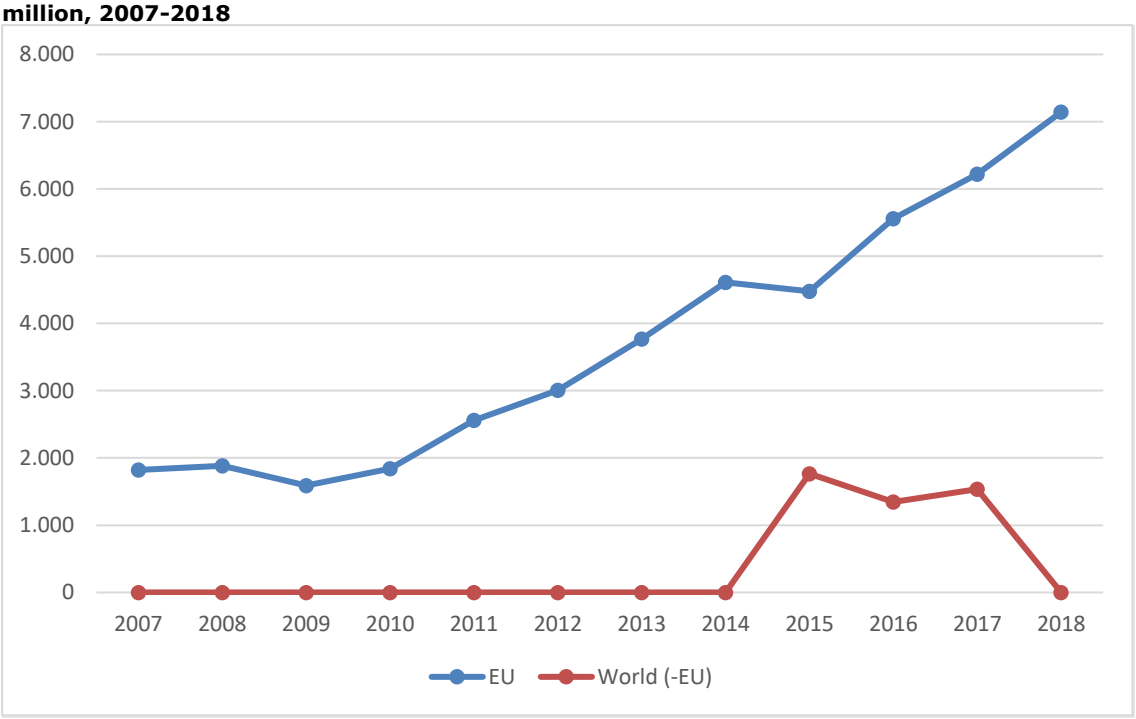
The EU is also Morocco's main trade partner when it comes to machinery and transport equipment, with the majority of imports and exports originating from or destined for the EU (see Figure E1.63 and E1.64). Moreover, trade with the EU has also expanded rapidly over the last two decades, while trade with other countries remains relatively low (in spite of data gaps due to missing data). For this reason, the Association Agreement could have had a large impact on this sector.

Figure E1.63 Morocco's transport and machinery equipment imports from the EU and RoW in EUR million, 2007-2018



Source: WITS Database (2019).

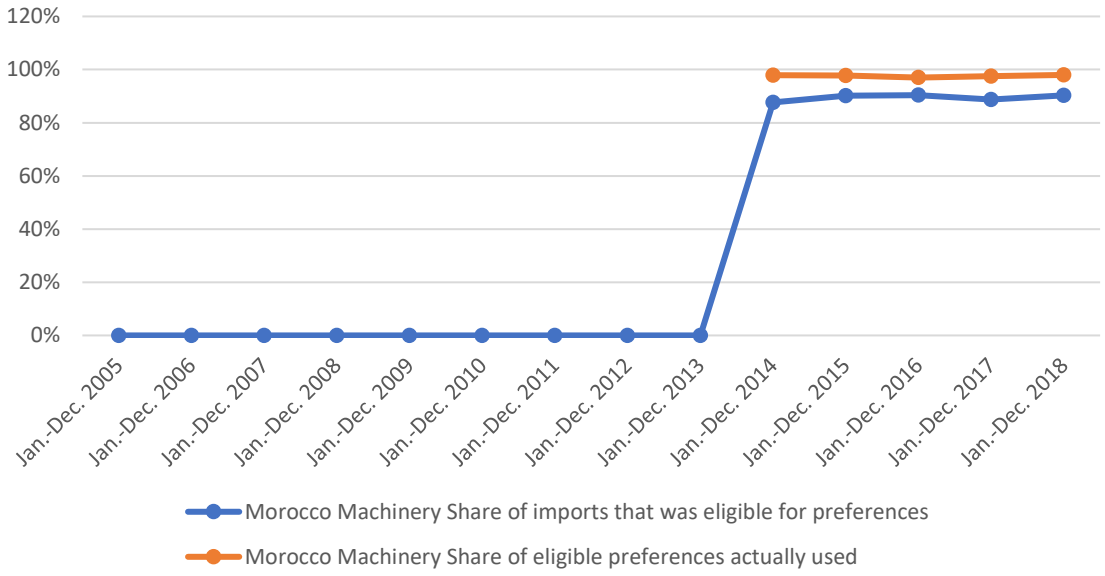
Figure E1.64 Morocco's transport and machinery equipment exports to the EU and RoW in EUR million, 2007-2018



Source: WITS Database (2019).

Most products in the machinery and transportation equipment sector have become eligible for preferences, and almost all exporters make use of these preferences (Figure E1.65). This should not come as a surprise, as EU preference margins for automotive imports are significantly higher than for other imports. As highlighted in the economic section of this study, while Morocco's preferential tariff margins in access to the EU market since the entry into force of Euro-Med FTAs have increased for electrical machinery, they have decreased for the transport sector (see section 3.3).

Figure E1.65 Preference utilisation of Moroccan machinery and transportation equipment exports to the EU



Source: Eurostat Easy Comext.

Morocco – Conclusions on impact of the FTA

Morocco has managed not only to rapidly grow exports in the machinery and transportation equipment sector, but it has also managed to move along the value chain into final products and to diversify into more complex products. The Association Agreement has contributed to this success, but only as one of several critical factors. Broadly speaking, these success factors include the inherent competitive advantages of Morocco, including geographic proximity and EU market access, and the strong and focused support provided by the Moroccan government to the sector. Among the competitive advantages of Morocco, apart from geographical proximity and EU market[1247], are the skilled and cheap labour force, the stable political situation, supporting policies, and other free trade agreement such as the Morocco-USA FTA and the possibility of an ECOWAS membership.

Feedback from The Ministry of Industry, Investment, Trade and Digital Economy confirmed the results of this analysis, indicating, for instance, that the Moroccan automotive industry is one of the fastest growing industries in the country. According to stakeholders, the sector has quickly reached the rank of first exporting industry in the country, with exports increasing over time. However, it was made clear during consultations that the sector has not yet maximized its potential for growth. With additional domestic and foreign investments, the sector could increase its competitiveness on the global market. According to stakeholders, Morocco should try to diversify its investor targeting and explore new FDI source markets, both within the EU and outside of it.

Neverheless, a real concern is posed by preferential margins and the fact that the positive impacts of the FTA might decrease overtime since the EU keeps signing FTAs with other countries. According to private sector stakeholders, this resulted in a loss of competitiveness compared to Asian counterparts. Moreover, in order to reach a true economic transformation, the overall lack of scale and competitiveness of the Moroccan industry has to be addressed by facilitating firm upgrading, and not only by attracting FDI. Lastly, feedback received from the directorate of infrastructure of the Ministry of Industry, Investment, Trade and Digital Economy highlights that transportation costs remain too high and are a de-facto trade impediment, especially in the case of the EU.

To summarize, while the Association Agreement was important and a critical success factor, the agreement alone is unlikely to have had a significant impact. The success of the Moroccan automotive and related sectors was only possible in conjunction with other competitive advantages as well as supporting policies. This emphasizes that while free trade agreements provide opportunities, these opportunities also need to be seized by the government and the private sector.

[1247] "We are in a perfect location at the gates of Europe", Jean-François Gal, Director Renault Morocco, Source: https://www.ft.com/content/6b825f8e-cb3f-11e5-a8ef-ea66e967dd44.

Tunisia – Overview of the machinery and transport equipment sector

Machinery and transportation equipment is an important sector for Tunisia with significant exports to the European Union, in particular in mechanical and electrical machinery, and to a lesser extent in the automotive and aircraft sector. Key exports are highly concentrated in a few narrow sub-sectors, with the top five sub-sectors at the four-digit level constituting almost two thirds of Tunisia's exports in machinery and transportation equipment. Moreover, the top five sub-sectors at the six-digit level represent almost fifty percent of the country's exports. By far the most important exports to the European Union are ignition and wiring sets for the automotive industry. Other important exports are electric parts, automotive and aerospace parts, and television and telephone parts. Most of these products are intermediate products of limited complexity (see Table E1.31).

Table E1.31 Top Ten EU imports from Tunisia, in EUR, 2017

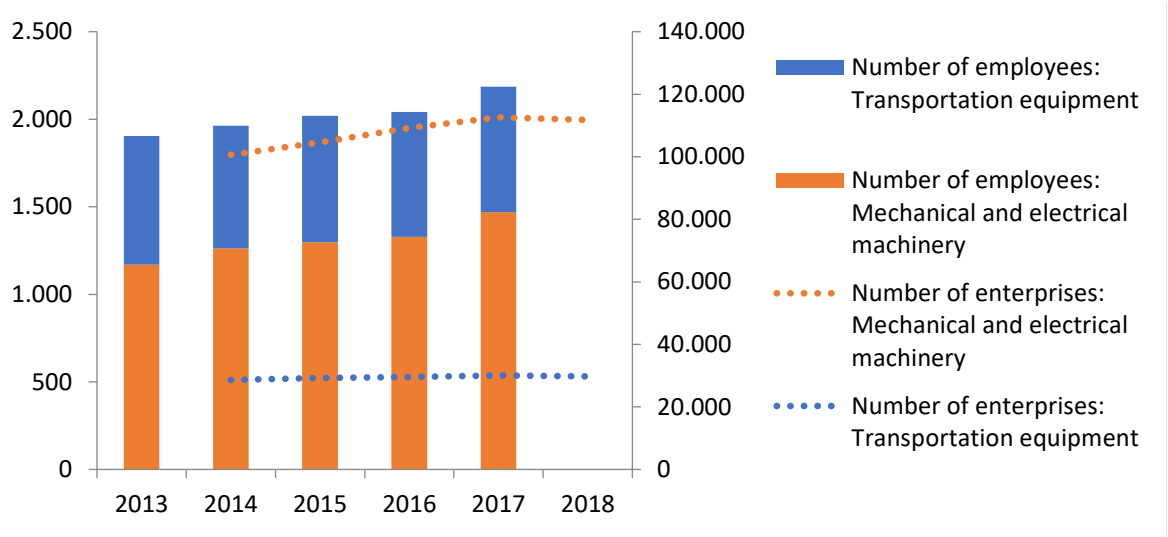
HS Code	Product	Trade value	Share in sectoral imports	Complexity
854430	Ignition/other wiring sets for vehicles/aircraft/ships	1,057,665,334	27.2%	3856
854442	Electric conductors, n.e.s. < 80 volts, with connectors	249,643,184	6.4%	3369
852871	Television receivers/monitors/projectors	176,100,211	4.5%	3277
851762	Communication apparatus (excluding telephone sets or base stations)	172,031,844	4.4%	1934
870894	Steering wheels, columns & boxes for motor vehicles	153,127,703	3.9%	1224
850140	AC motors, single-phase, n.e.s.	139,495,847	3.6%	2267
853690	Electrical switch, protector, connecter for < 1kV n.e.s.	131,990,376	3.4%	1191
880330	Aircraft parts n.e.s.	118,571,770	3.0%	1672
870899	Motor vehicle parts n.e.s.	115,663,164	3.0%	1318
854449	Electric conductors, n.e.s. < 80 volts, no connectors	109,160,843	2.8%	2570

Source: Eurostat Easy Comext; Observatory of Economic Complexity.
Note: EU imports under HS 84 to 89 at the six-digit level. Complexity ranks products from 1 (most complex) to 5943 (least complex).

Tunisia – Key characteristics of the sector

Only limited data is available for domestic production in the machinery and transportation equipment. Employment data would indicate that in the last few years sector has modestly grown, providing more than 120,000 jobs in 2017, up from 106,000 jobs in 2013. With more than 11 percent growth in 2017 this is a sizeable share of all employment in the business sector, even if this number excludes all self-employment and employment in the informal or public sector. Similarly, the number of enterprises in the sector has also modestly grown, from around 2300 in 2014 to more than 2500 in 2018.

Figure E1.66 Number of enterprises (left-hand side axis) and employees (right-hand side axis), 2013 to 2018



Source: Statistiques Tunisiennes, National Directory of Businesses, http://www.ins.tn/en/themes/entreprises#sub-322.
Note: The definition of the sector does not exactly coincide with the definition employed in the rest of the chapter.

Donor money has been used to help finance foreign companies that have set up operations in Tunisia in the machinery and transport sector. For example, the ERDB provided a EUR 15 million loan to French firm Figeac Aero, a leading supplier to Airbus, who have subsidiaries in Tunisia. Germany automotive supplier Draexlmaier also received a EUR 6.2M loan (EBRD, 2018). In 2018, the company opened a design office in Sousse to develop on-board wiring systems and electrical systems. Other major European companies in this sector, such as Alstom Transport, Safran, and Kromberg & Schubert, have also set up operations in the country.

Tunisia – Trade developments and FTA-related effects

The CGE modelling provides an assessment of what the impact of the FTA could have been. While the definition of the sector in the CGE modelling slightly differs from the definition employed in this chapter, with some caveats the modelling results are nonetheless broadly comparable with the actual development as seen in trade data. The CGE model suggests a positive, but modest impact of the Association Agreement on both exports and imports and on growth in output for all subsectors but motor vehicles and parts (Table E1.32 and E1.33). In general, the impact on imports is relatively larger than for exports. The largest impact is for the other machinery and equipment sector. The impact on other sectors is more limited, with exports increasing by only between EUR 24 to 69 million.

Table E1.32 CGE modelling results for Tunisia-trade

	Change in Exports		Change in imports	
	Relative	Million EUR	Relative	Million EUR
Electronic equipment	2%	24	14%	68
Motor vehicles and parts	12%	43	51%	299
Other transport equipment	36%	69	17%	28
Other machinery and equipment	21%	483	99%	1231

Note: GTAP sectors electronic equipment (ele), motor vehicles and parts (mvh), other transport equipment (otn) and other machinery and equipment n.e.c. (ome).

Table E1.33 CGE modelling results for Tunisia-output

	Change in Output	
	Relative	Million EUR
Electronic equipment	0.0%	0
Motor vehicles and parts	-4.7%	-43
Other transport equipment	17.6%	47
Other machinery and equipment	4.8%	145

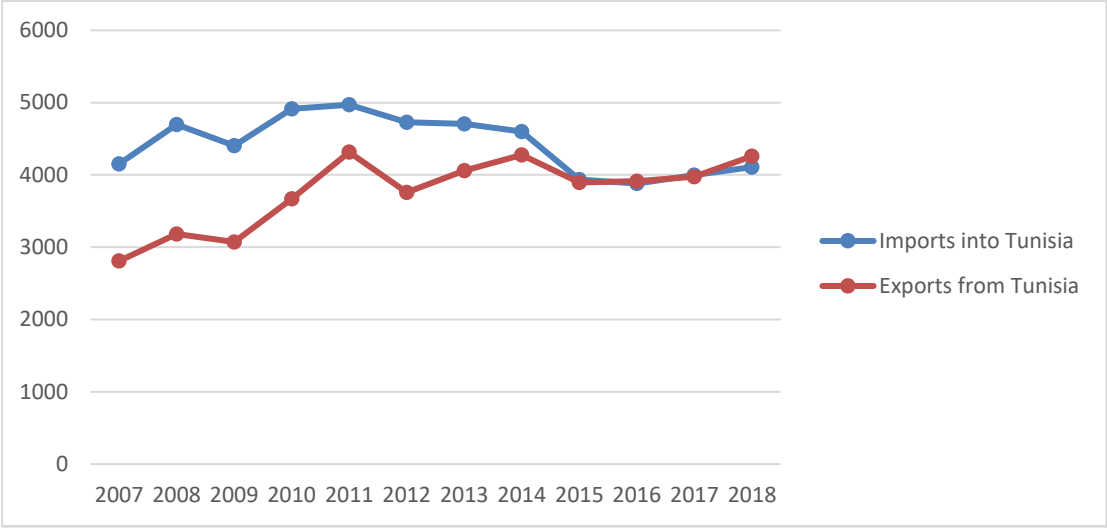
Note: GTAP sectors electronic equipment (ele), motor vehicles and parts (mvh), other transport equipment (otn) and other machinery and equipment n.e.c. (ome).

These predictions can be juxtaposed against reality, where exports and imports of machinery and transportation equipment fell moderately between 2012 and 2018. However, exports are still significant above the 2007 level and are, as of 2017, rising again (Figure E1.67). While the share of machinery and transport equipment in total imports has slightly declined, the share of the sector in total exports has steadily grown (Figure E1.68). Within the sector, exports of electrical machinery and equipment dominate. There has been very limited to no diversification in the last few years. While aerospace products and parts have grown from virtually zero before 2010 to exports of more than 100 million, the relative share is still limited.

Furthermore, this industry has also failed to significantly grow and thus contribute to diversification in the last few years. Imports have been mostly flat between 2007 and 2018, albeit with significant fluctuations between these years. Imports are also far more evenly spread between the different sub-sectors. Some of these imports are either final products or capital products, used in Tunisian industries. Other imports are likely intermediate inputs. However, trade data alone does not allow us to assess the relative quantitative importance of these different uses.

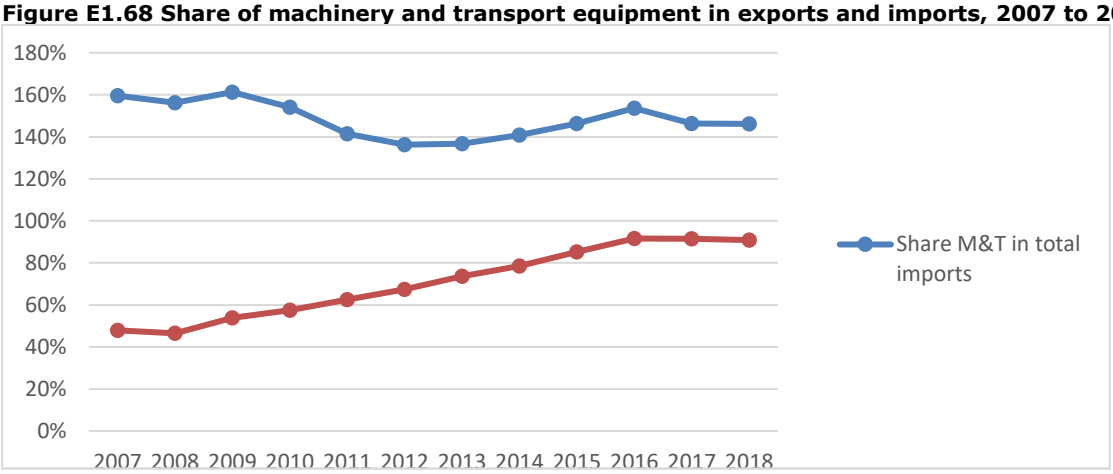
Trade in the transport and machinery equipment sector is furthermore largely depend on the EU (see Figures E1.69 and E1.70). Yet, Tunisia is increasingly sourcing its inputs from the rest of the world, so that these imports seem to grow faster than imports from the EU. Among Tunisia's main import origins are China, Turkey, Japan, South Korea, India and Taiwan.

Figure E1.67 Tunisia-EU trade in machinery and transport equipment, in EUR million, 2007-2018



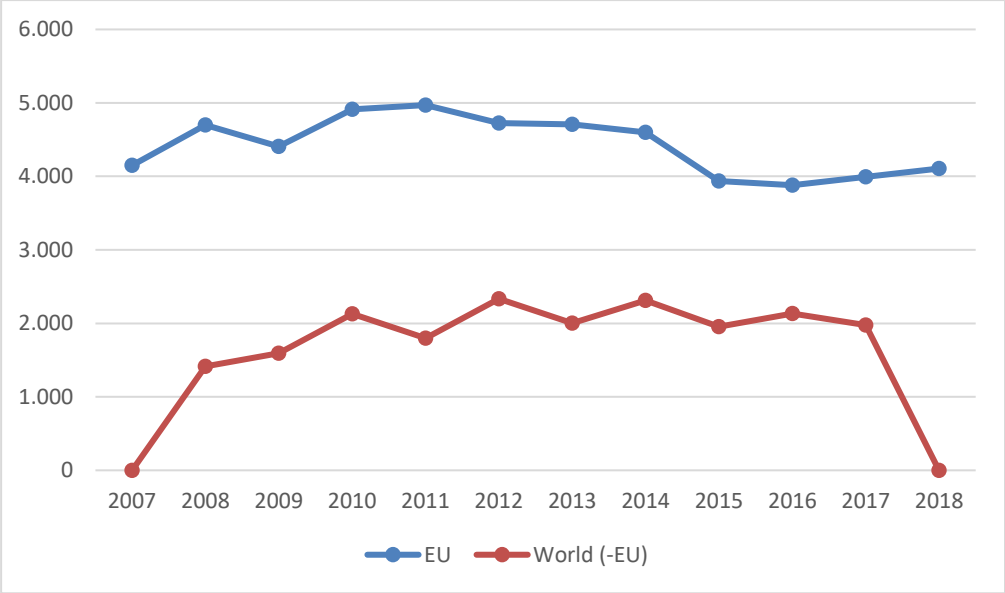
Source: Eurostat Easy Comext.

Figure E1.68 Share of machinery and transport equipment in exports and imports, 2007 to 2018



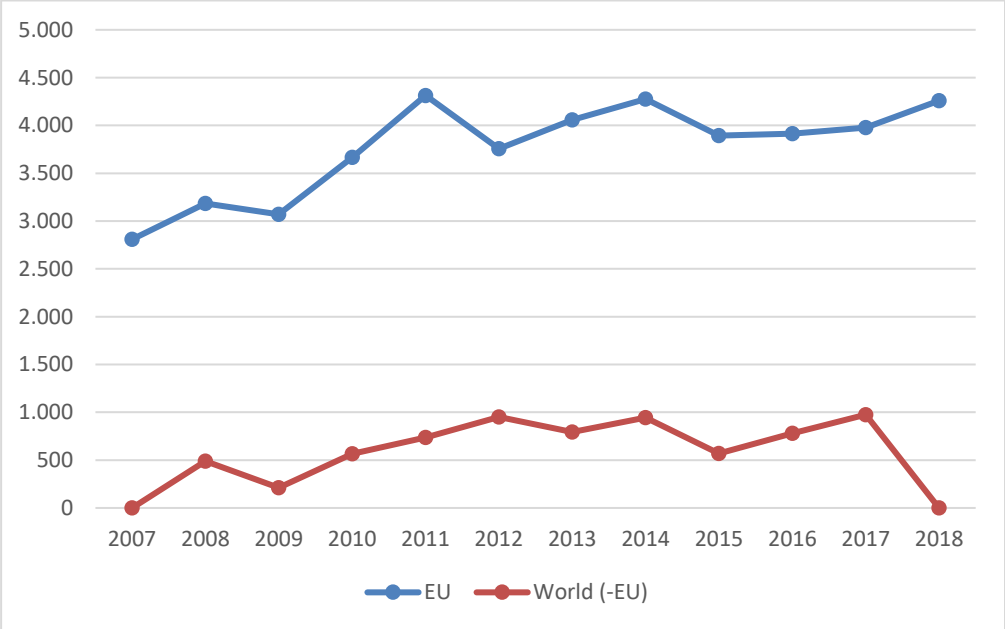
Source: WITS Database (2019).

Figure E1.69 Tunisia's transport and machinery equipment imports from the EU and RoW in EUR million, 2007-2018



Source: WITS Database (2019).

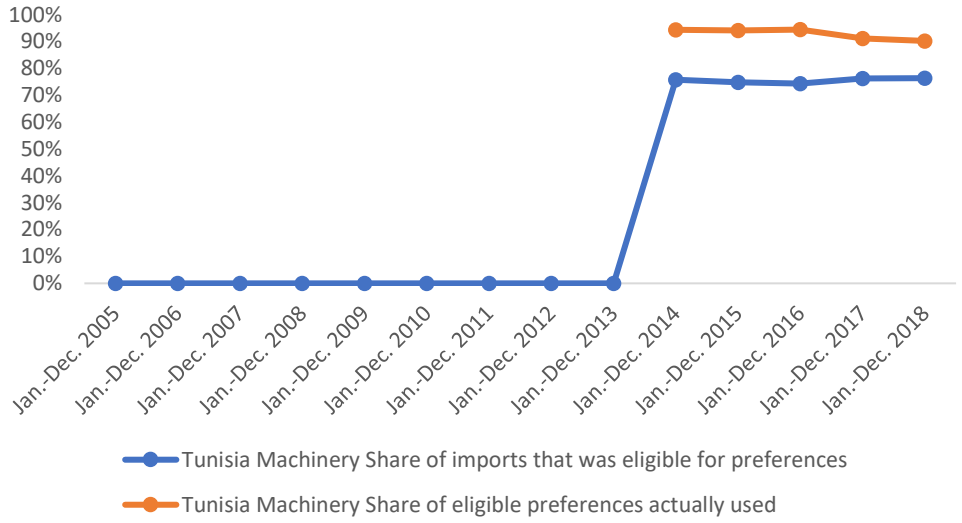
Figure E1.70 Tunisia's transport and machinery equipment exports to the EU and RoW in EUR million, 2007-2018



Source: WITS Database (2019).

Most products in the machinery and transportation equipment sector have become eligible for preferences, and the majority of these preferences are used (Figure E1.71). And yet, not all imports use the preferences. Possible reasons include limited preference margins (see also section 3.3) or difficulties in meeting rules of origin requirements on value-addition, among other reasons.

Figure E1.71 Preference utilisation of Tunisian machinery and transportation equipment exports to the EU



Source: Eurostat Easy Comext.

Tunisia – Conclusions and lessons learned

The key question is why the discrepancy between the estimated impact of the CGE model results and the actual trade developments exists. In principle, the Association Agreement can be seen as a success, with a growing export performance. However, one can question why exports have not developed more dynamically, as EU demand for machinery and transportation equipment has grown significantly in the last few years (Figure E1.67). This also holds for narrow product categories at the four-digit level in which Tunisia is exporting. For example, import demand in the EU for ignition wiring (HS 854430), the leading export of the sector, has more than doubled since 2010. Given the relatively high share of preference utilisation, rules of origin alone are unlikely to explain why exports have not increased even more.

It appears that, despite these tailwinds, Tunisia was not able to tap into this growing market. Among the possible reasons for this performance, three stand out. First, given the limited complexity of Tunisia's export basket in machinery and transportation equipment, diversification is challenging: There are relatively few neighbouring products in Tunisia's product space, that is, products that require capabilities comparable to the capabilities already acquired through Tunisia's current pattern of specialization. The bifurcation of the Tunisian economy into "onshore" (companies primarily delivering for the domestic market) and "offshore" (companies set up for exports) regimes, with the latter gaining tax and other benefits, has only served to reinforce the limited diversification of the Tunisian economy, where the unlevel playing field benefits the select companies working within special economic zones. Laws preventing majority ownership of Tunisian companies, and disincentives from high regulation outside of the offshore economy, have also limited the spin-off benefits of foreign companies operating in the country.

Second, Tunisia has also faced competition with other exporting countries and outsourcing destinations. With the preference margin over other countries being relatively narrow, and in fact, zero for some countries, this competition is intense. An example of this competition is imports of insulated wiring. While Tunisia is among the largest exporters to the EU, behind only Romania, Morocco and Germany, growth has stalled and declined since 2010. In contrast, other countries have grown very rapidly, mainly in Eastern Europe (Lithuania Moldova, Ukraine) and the Balkans (Serbia, Northern Macedonia). Some of these countries, in particular, Northern Macedonia, Serbia and Moldova, have started from zero, as evidenced by their absurdly high initial growth rates (Table E1.34). These countries draw on the same advantages as Tunisia has, including EU market access, close geographic proximity and a well-educated but cheap labour force.

Table E1.34 EU imports of insulated wiring (HS 854430), total trade value in EUR million, growth rates in percent

	Import value	Growth rate			Rank
	2018	2005 – 2018	2010 – 2018	2015 – 2018	2015 – 2018
Lithuania	193	37%	1773%	181%	1.
Serbia	710	29,2082%	668%	138%	2.
N. Macedonia	477	23,871,260,850%	92,524,167%	122%	3.
Moldova	318		1,009%	100%	4.
USA	286	197%	155%	97%	5.
Ukraine	855	534%	136%	55%	6.
Germany	1,184	107%	148%	52%	7.
Hungary	697	111%	185%	46%	8.
Spain	636	229%	458%	45%	9.
India	116	798%	224%	43%	10.
Morocco	2,510	989%	231%	36%	11.
Egypt	255	275%	108%	17%	17.
Tunisia	993	185%	37%	10%	19.

Source: Eurostat [DS-645593].
Note: Included are the ten fast growing countries between 2015 and 2018 with exports of more than EUR 100 million in 2018.

Third and lastly, while market access and geographic proximity are important advantages for Tunisia, the overall business environment and supporting policies also matter. A case in point is productivity. Total factor productivity in Tunisia has been slipping, reducing overall economic growth by an average of 1.5 percent between 2011 and 2017. Similarly, the contribution of capital investment to growth has also halved in the same time period (IMF, 2018b). Apart from more general structural issues such as access to finance, rigid labour and capital markets, security and labour strikes are a key concern for the machinery and transportation equipment sector.

TEXTILES AND CLOTHING

Egypt

Egypt – Overview of the textiles and clothing sector

Historically, Egypt has been a major producer of textiles based on domestically produced cotton. Cotton has long been a staple of pride for the country, with at least ten different varieties including the extra long staple kind, which yealds highly priced, strong yarns with very fine counts. A general lack of investment in seeds innovation, however, has damaged the quality and reputation of Egyptian cotton overtime.[1248] The government used to own many companies and still continues to own approximately half of the textiles companies. As prices of cotton were kept artificially low in the past and the sector was strongly subsidized, the quality of the products used to be low (Ecorys, 2014a). This led to difficulties to keep up with the increasing quality requirements for textile and clothing on the world market, negatively affecting exports (Ecorys, 2014a). The situation started to change in the 1990s, when the Egyptian economy was liberalized and when traditional export markets of Egypt in Eastern Europe collapsed. Companies then shifted their exports to the Western European market, where higher quality standards compelled Egyptian producers to improve the quality of textiles.

Before focusing on the structure of the T&C sector in Egypt, it is worth mentioning that this sector was strongly affected by global trends (as were the T&C sectors in the rest of the region). The end of the Multi Fibre Agreement in 2004 had a detrimental effect on it. Moreover, the general business environment was negatively affected by the global financial crisis of 2008 as well as the Arab Spring in and after 2011.

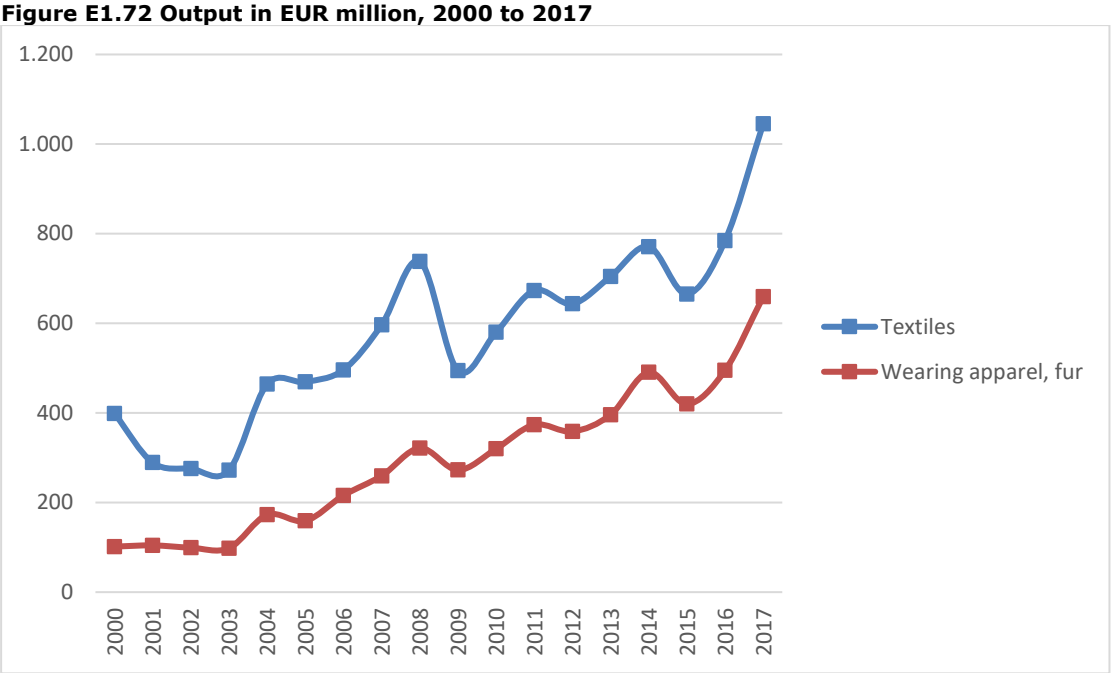
Egypt's textile and clothing industry is mostly focused on the cut-make-trim stages of the value chain and is split between state-owned and private companies. State-owned companies are mostly active in spinning and weaving, making yarn from fibres and making fabrics from yarn. The private sector is mostly active in the more sophisticated cut-make-trim stages of the value chain, producing wearing apparel and home textiles from fabrics.

Egypt - Key characteristics of the sector

The textiles and clothing sector is Egypt's second biggest industrial sector after the agro-industry. It accounts for approximately 3.5 percent of GDP, 34 percent of industrial output and 14 percent of Egypt's overall exports.[1249] In 2018, the textiles sector alone represented almost 8600 companies, while the number of workers in the entire sector is estimated to be close to one million[1250]. The output of the sector has significantly increased in the last decade, more than doubling in size[1251] (see Figure 4.84). Almost all exporting companies are large or medium-sized companies and are largely well organised compared to domestic oriented ones. The latter, on the other hand, are often small firms operating in the informal sector. State-owned companies tend to use both imported and domestic yarn and fabric, whereas private companies use almost exclusively imported yarn and fabrics. Subcontracting (the "big-brother-approach") occurs to a large extent in the sector, as it allows exporters to expand at low risk while maintaining flexibility[1252].

[1248] https://www.newyorker.com/news/news-desk/the-end-of-egyptian-cotton.
[1249] http://www.intracen.org/projects/qtex/Egypt-Improving-the-international-competitiveness-of-the-textile-and-clothing-sector-GTEX/.
[1250] https://www.investinegypt.gov.eg/english/pages/sector.aspx?SectorId=99.
[1251] Short-term fluctuations can also be explained by exchange rate movements, given that the output is measured in US-dollar and not Egyptian Pounds.
[1252] Interview with Mohamed Kassem - Textile Chamber.

Figure E1.72 Output in EUR million, 2000 to 2017



Source: UNIDO INDSTAT 2 database. The EGP-EUR exchange rate of 31 December 2017 was used.

Egypt's competitive advantage is mainly a cost advantage. This is because production costs are lower than in Tunisia and Morocco.[1253] Labor costs are among the lowest in the region, and as mentioned above, cotton has always been a readily available raw material. Furthermore, Egypt is active in various parts of the supply chain, from cotton over textiles to wearing apparel.

However, transportation costs are a key challenge for the industry. These are influenced by two factors. First, the relatively larger distance and absence of ferry connections reduces Egypt's competitiveness compared to Tunisia and Morocco. Not only can Morocco and Tunisia deliver much faster to Europe than Egypt, they can also rely on shipments by truck instead of containers. This has the advantage that wearing apparel can be hung during transport, saving time and resources that otherwise would have to be spent on reconditioning and repackaging. Second, transportation costs are also high as the industry does not have the sufficient scale to affect transportation costs, compared to more distant competitors such as Bangladesh or China. (Kahia, 2017).

There is no detailed data on EU investments in the textile and clothing sector. Overall FDI by European investors has been volatile, with EUR 2.5 billion invested in 2013, and only a tenth of that in 2014. However, in the following years the numbers have been steadily growing again, reaching EUR 1.6 billion in 2017 (Eurostat, 2019).

Investments from China have also started growing in recent years, both as a result of the decreasing competitiveness of domestic Chinese companies due to increasing wages as well as a result of the duty free access to the EU for Egyptian textiles[1254]. The Egyptian Qualified Industrial Zones (QIZs) have also been interesting for China, as the country currently experiences difficulties in its trade relations with the United States. The China-Egypt Mankai Textile Park, north-west of Cairo, is an example of a qualified QIZ giving Chinese companies a base from which to export clothes duty-free into the U.S. and EU[1255].

With the introduction of the new Investment Law (N. 72 of 2017), the government of Egypt provides a specific set of incentives to boost investment in the textile industry. Examples of inventives instruments include a 30 percent deductible (based on the investment) off taxable net profits, for textile investment projects and labor- intensive projects. The deductible amount increases to 50 percent if the investment is made in lagging regions of the country[1256].

[1253] https://www.investinegypt.gov.eg/english/pages/sector.aspx?SectorId=99.
[1254] https://www.just-style.com/news/chinese-textile-and-garment-maker-to-open-egypt-site_id136120.aspx and https://apparelresources.com/business-news/sourcing/egypt-textile-base-chinese-apparel-makers/.
[1255] https://asia.nikkei.com/Business/Business-trends/Egypt-courts-Chinese-clothing-makers-seeking-tariff-refuge.
[1256] https://www.gafi.gov.eg/English/eServices/Documents/LAw72-english.pdf.

Nevertheless, the investment law does not provide specifications on whether the incentives are awarded aumatically or at discretion of the General Authority for Investments (GAFI), or whether foreign investors are equally eligble. [1257]

Moreover, while GAFI provides services that help foreign investors find local suppliers, there is no general strategy that enables foreign investors to be linked to corresponding SMEs from whom they can source inputs locally. [1258] Furthermore, according to an OECD survey, only 10% of a company's workers can be foreigners. The majority of the private sector representatives interviewed mentioned that there are additional quotas for specialised foreign personnel and that foreign labour is de facto not allowed in the T&C sector outisde of the free zones. The process of obtaining licenses and registering grievances for investments involving industrial facilities is also unclear, with different organizations having overlapping mandates[1259]. The above mentioned investment climate constraints have had a likely impact on the sector, even after the introduction of the FTA, hindering additional FDI and spill-over efects to domestic T&C suppliers and exporter firms.

Egypt - Trade developments and FTA-related effects

The FTA between the EU and Egypt was signed in 2001 and entered into force in 2004. This agreement made it possible to export duty free to the European market, whereas Egyptian tariffs were only gradually lowered.

Other trade agreements that have played an important role in the Egyptian economy include an economic and trade agreement with China (1995), the Agadir agreement (signed in 2004 with Egypt, Morocco, Tunisia and Jordan), and an FTA with Turkey (2005). Additionally, a one-sided agreement between the USA and Egypt is in place: As of 2004, the USA designated numerous QIZs in Egypt which allowed for the duty-free exports of textiles and clothing to the USA. Products are eligible for duty free export, if at least 35 percent of value added takes place in Israel, Egypt or the United States, of which one third (11.7 percent) has to be added within Israel or the United States and another third in Egypt. QIZs were also established in Jordan under the same conditions as in Egypt. Together, the EU-Egypt FTA and the QIZs established by the USA allow for duty free and quota-free exports to both the USA and EU, conditional on rules of origin requirements.

Back in 2004, Egypt's main import origins for textiles and clothing included China, India, Turkey, Italy and Syria. Now, that the MFA is phased out, Asian countries with a cost advantage in labour intensive activities have rapidly grown their market share. In 2017, countries like Indonesia, Vietnam and South Korea were among the major suppliers to Egypt as well. While yarn is imported from India, fabrics are mainly imported from India and China.

Egypt's main export destinations used to be, and still are, the US, the United Kingdom, China, Italy, Germany and India. However, increasingly Turkey, Saudi Arabia and Spain are also among Egypt's export destinations. Compared to the other countries of the Southern Mediterranean, Egypt exports relatively more to non-EU destinations.

Table 4.51 presents the estimated impact of the CGE modelling for Egyptian imports from and exports to the EU in the sectors of textiles and wearing apparel. The estimated impact from the CGE modelling suggest that, *ceteris paribus,* both imports and exports increase as a result of the FTA. As exports are estimated to increase at a faster rate than imports, this leads to a trade surplus in the textiles and clothing sector.

[1257] https://www.gafi.gov.eg/English/eServices/Documents/LAw72-english.pdf.
[1258] http://www.oecd.org/mena/competitiveness/BCR%20Egypt_April29_with_cover.pdf.
[1259] http://www.oecd.org/mena/competitiveness/BCR%20Egypt_April29_with_cover.pdf.

Table E1.35 Result of CGE modelling

	Change in Exports		Change in imports	
GTAP sectors	Relative	Million EUR	Relative	Million EUR
Textiles	48%	280	89%	98
Wearing apparel	89%	319	498%	33

Source: CGE results (European Commission, 2019).

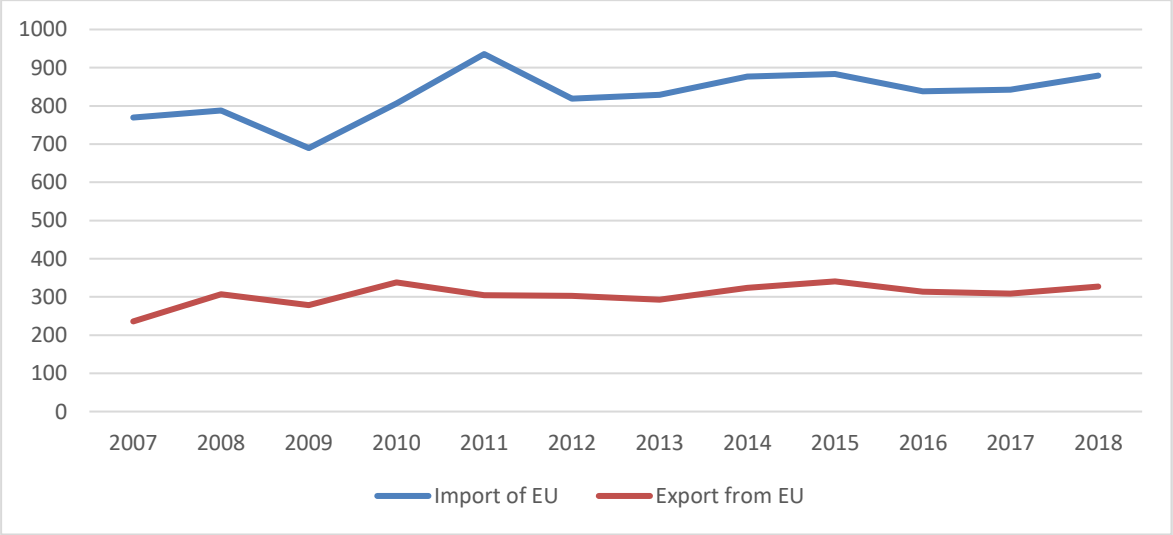
Table E1.36 Result of CGE Modelling

	Change in output	
GTAP sectors	Relative	Million EUR
Textiles	1.0%	179
Wearing apparel	1.5%	256

Source: CGE results (European Commission, 2019).

Contrary to the estimated impact from the CGE model, Egypt's textile and clothing exports and imports have only marginally increased from 2007 to 2018 (Figure E1.73). In absolute terms, textile exports from Egypt to the EU have have increased by 14% from 2007 to 2018, with a marked volatility shown in this time period. Imports have increased between 2007 and 2010 , and but have substantially remained constant thereafter, with a slight increase between 2013 and 2018. The 2011 Egyptian Revolution (also known as the January 25 Revolution) set off months of protests which led to political and economic instability until the 2014 presidential election of former Egyptian Defence Minister Abdel Fattah El-Sisi.[1260] In the aftermath of the election investor confidence slowly improved, which could partially explain the sluggish performance between 2013 and 2016, followed by a slow increase in exports and output after 2016 (see figure E1.73)[1261].

Figure E1.73 EU-Egypt trade in textiles and clothing in EUR million, 2007 to 2018



Source: Eurostat Easy Comext.

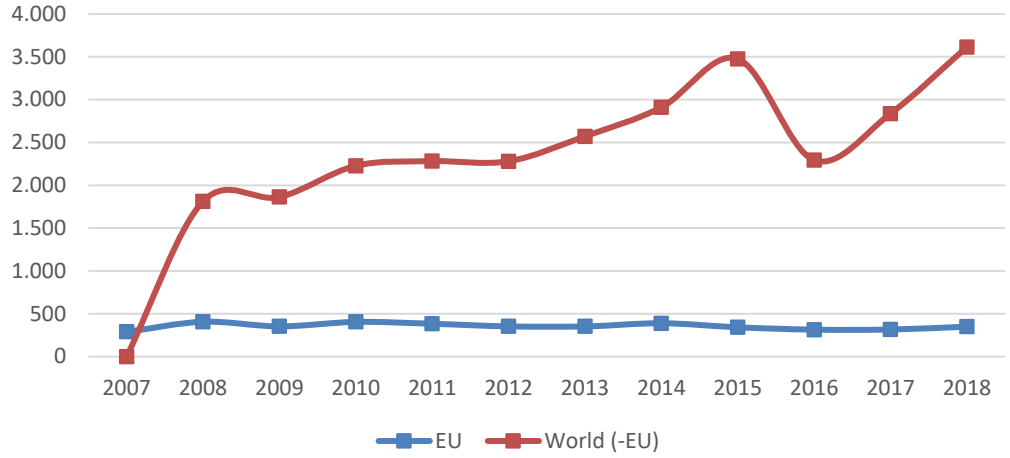
The composition of imports in the textiles and clothing sector has shifted over time (Annex Figure E2.32). In general, the importance of man-made filaments and fibres has declined, whereas imports of end-products of apparel and textiles have been growing. Notwithstanding domestic production, cotton was also an important imported intermediate input. However, as of 2011, the government of Egypt has banned the import of cotton, in order to protect domestic cotton production. Until 2013, import permits were only granted to companies that operated in the free trade zones.[1262] This policy led to lower production (due to the nature and quality of domestic and imported cotton, which are not entirely interchangeable) and lower employment. This might also have led to diminished exports in these years (Ecorys, 2014a).

[1260] https://www.aljazeera.com/news/middleeast/2014/05/sisi-wins-egypt-elections-landslide-201452913491026423 8.html.
[1261] https://www.economist.com/middle-east-and-africa/2015/05/16/the-lure-of-sisi.
[1262] https://2009-2017.state.gov/e/eb/rls/othr/ics/2013/204635.htm.

Egyptian exports, on the other hand, continue to be dominated by articles of apparel. Prior to 2011, Egypt also exported cotton, yet this came to a halt in 2011 when cotton imports were banned (thereby increasing demand for domestic cotton). Recently, the government has taken steps to support the cotton industry by making more land available for cultivation, taking control of the production and distribution of cotton seed and by increasing cotton prices (Wally & Tate, 2018)[1263].

The most drastic change in Egypt's T&C trade patterns is the shift from the EU as main trade partner towards other partners. Over the course of the past two decades, trade with non-EU partners has overtaken trade with the EU, both in terms of imports and exports (Figure E1.74 and E1.75). As discussed below, trade diversion is one of the explanations for the limited trade flows between Egypt and the EU. Moreover, as shown in figure 4.9 in the economic chapter of this study, preferential tariff margins in access to the EU market have decreased since the entry into force of the FTA. While this was true for all the SMCs, it might have impacted Egypt more heavily due to the above mentioned circumstances.

Figure E1.74 Egyptian imports of T&C from the EU and RoW in million Euro, 2007 to 2018

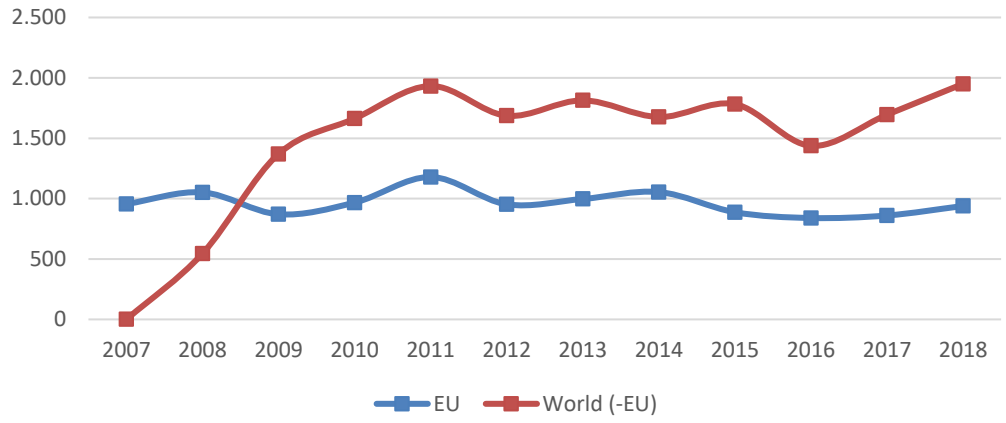


Source: WITS Database (2019).

Given Egypt's preferential access to the US market, a large portion of its trade seems to be diverted from the EU towards the US. Between 2008 and 2011, Egyptian T&C exports to the USA increased from USD 402 million to USD 1105 million, fluctuating around USD 1000 million since (UN Comtrade, 2019). This trade diversion is partially caused by remaining difficulties in EU market access. For example, during the stakeholder consultations, it was mentioned that the need to get used to multiple languages and cultures, the lack of connections with the EU, and sometimes difficulties in obtaining visas create challenges for exporting. Trade diversion to the US is also caused by the specific advantages of the US market – the fact that the US is more selective in granting trade preferences and the unique market access Egypt enjoys through the QIZs. Furthermore, the US market is less fragmented than the EU market and thus more accessible. The larger distance is not a major issue, as shipping times are comparable. While shipments from Egypt to the East coast of the US take 11 to 12 days, shipments to the UK can take between 7 and 15 days.[1264]

[1263] The industry was suffering from a drop in cultivated cotton areas until 2017, when the government took steps to protect the cotton industry.
[1264] Indeed, the consultations seem to confirm that Egypt mainly targets the American market; few companies have the ambition to supply to the EU.

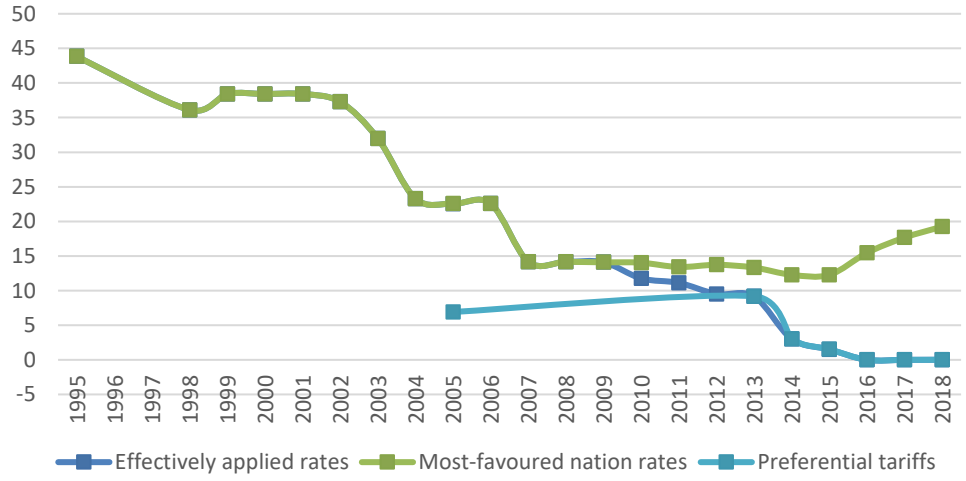
Figure E1.75 Egypt's T&C exports to the EU and RoW in million Euro, 2007 to 2018



Source: WITS Database (2019).

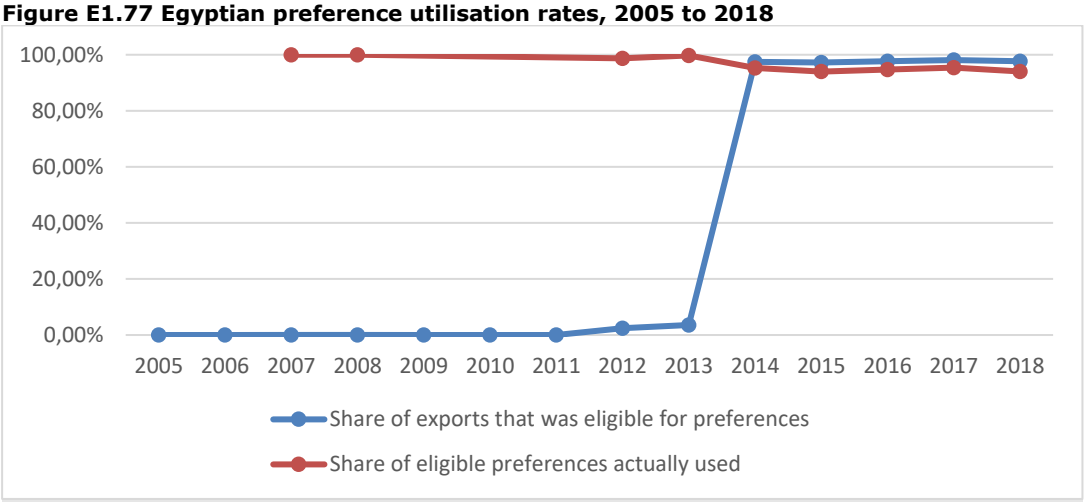
Tariffs on some imports remained in place, increasing the cost and reducing the competitiveness of the Egyptian textile and clothing industry (Figure E1.76). During consultations, stakeholders mentioned that fewer restrictions have historically been in place in place for raw material imports for Morocco and Tunisia and that Egyptian authorities have been reluctant to further liberalise to protect domestic industries.

Figure E1.76 Egyptian tariffs on imports from the EU in percent, 2007 to 2018



Note: the rates displayed here are based on weighted averages.
Source: UNCTAD TRAINS.

Figure E1.77 Egyptian preference utilisation rates, 2005 to 2018



Source: Eurostat Comext.

Trade has also diverted to and from Turkey. Turkey is able to ship its products over land using trucks, an advantage even for Egyptian producers who use Turkey as a transhipment hub. Indeed, Egyptian T&C imports from Turkey have grown by more than 300 percent in one decade, increasing from USD 180 million in 2008 to USD 578 million. Similarly, Egyptian T&C exports to Turkey have grown by more than 600 percent in one decade, increasing from USD 66 million in 2008 to USD 420 million. Stakeholders commented that, due to the FTA with Turkey, this bilateral trade is facilitated, but that the final products are often exported from Turkey to the EU. Indirectly, these could therefore be considered as indirect exports to the EU.

According to feedback from consultations, the current rules of origin scheme is considered too rigid in Egypt by some stakeholders, who also pointed out some anomalies. For example, printing counts as a transformative operation, whereas dying the product is not.[1265] Moreover, while Egypt produces both textiles and clothing, these sectors co-exist rather than being fully integrated. Exporting firms still import their yarn and fabrics to meet the demand of Western consumers. Although EU tariffs were annulled when the FTA entered into force, Egypt did not fully open up its textiles and clothing sector.

Egypt - Conclusions and lessons learned

While trade in T&C increased between Egypt and the EU in the past decade, this growth has been lower than the overall higher production and increased exports from Egypt to the rest of the world. Several factors may have played a role in this development. Most importantly, the phasing out of the Multi-Fibre agreement and the rise of competitors in countries such as Bangladesh, Sri Lanka, Pakistan or Turkey (often enjoying comparable preferential market access to the EU) had a major impact.[1266] The negative trade flows to the EU are also not reconcilable with the behavioural trends of Egyptian exporters. According to Eurostat data, despite the missed increase in exports to the EU, Egyptian firms that did export to the EU took near full advantage of preference rates, as shown in figure E1.77 above.

Apart from the abovementioned trends, the 2011 revolution had a profound impact on the general business environment and thus the sector: Exports declined and demonstrations and strikes led to a decrease in production in the short-term (Ghoneim, 2013). FDI also declined in the period following 2011 and any new investments were mainly driven by just three mega-deals in the telecom and banking sectors (Burke, 2013; Noutary & Lucon, 2013). In 2013, 44 percent of firms active in the garment industry indicated that political instability was their biggest obstacle in doing business in Egypt. In 2016 this number had dropped to a still-high 32 percent (World Bank Enterprise Survey, 2013, 2016).

As a result of the political developments within Egypt, the government's main priorities in the last few years were security, stability and broad economic reforms. These focus points have shifted away the attention on industrial renewal. Indeed, textile and clothing experts during our consultations indicated the urgent need for government interventions in the areas of vocational training, technical education and facilitating the availability of industrial land.

Moreover, very limited innovation has taken place in this sector. While Morocco has been able to respond to increased demands from Western Europe, Egypt has been lacking behind in this respect. During consultations, the remark was made that any innovation in this country is likely to be led by foreign investors. Especially the spinning and weaving stages are considered quite traditional. However, a few exceptions exist. During the consultations it became clear that some companies are able to deliver high quality goods to European firms and consumers. For example, one Egyptian company is now capable to produce lace for Victoria's Secret, while other companies are producing technical textiles such as fabrics for car seats or bullet-proof wear.

These challenges, even if taken together, do not mean that there is no potential for increased trade with the EU. During the consultations, some stakeholders expressed the viewpoint that while Egypt has not capitalized on its competitive advantages, there are strong opportunities for future growth and developments. The Government has recently embarked in joint initiatives with international development donors to improve the competitiveness of its textile sector. By taking part in Swiss funded Global Textiles and Clothing Programme (GTEX), for instance, Egypt aims to access new technologies, and improve the quality of its products to ultimately match EU customers'

[1265] However, as there is conflicting evidence on this assertion, it might also reflect a lack of experience in dealing with rules of origin requirements.
[1266] This was specifically pointed out by stakeholders, with the recurrent perception that the market accesses these countries enjoy is less burdensome than for Egypt, for example with respect to rules of origin.

demands[1267]. Such intitatives, according to the Egyptian Textiles, Apparel & Home Textiles Export Council, are ultimately aimed at diversifying Egypt's textile export destinations, tradinitally oriented towards the US, and especially target the EU market.[1268] The Egyptian government is also optimistic about the future and has predicted that value added activities in the sector will expand in the coming years[1269], especially by expanding the cotton sector.

Jordan

Jordan – Overview of the textiles and clothing sector

The textiles and clothing sector in Jordan is a growing sector. Contrary to some other Southern Mediterranean partner countries in this study, it is not a traditional sector, as exports started from scratch only in the 1990s. Nonetheless, the sector has been able to expand its exports to over USD 1.5 billion in 2017. Exports to the EU only forms a small portion of this with a value of USD 54 million in 2017 (UN Comtrade, 2019).

Jordan - Key characteristics of the sector

The Jordanian textiles and clothing sector mainly focuses on the cut-make-trim stage of the value chain. For this reason, the main imports are intermediate inputs and raw materials such as fabrics, man-made fibres and filament, cotton and to some extent apparel. Its exports products are almost exclusively wearing apparel. Many large factories work with the free on board (FOB) model, through which the factories also take on the sourcing and financing of raw materials. This is usually three to five times more expensive than the value of comparable CMT orders. In most factories, the FOB model is not applied in the traditional sense, since almost all US and EU buyers bring in nominated suppliers for materials and trims, in combination with fixed prices.[1270]

Currently, roughly 90 factories account for 95 percent of apparel exports and 95 percent of the sectoral workforce. Of these 90 factories, approximately 50 are exporters, 25 are sub-contractors and 20 are satellite companies. In addition, there is an estimated number of 4,000 SMEs. In total, the garment sector employs around 75,000 people, of whom less than 20,000 are Jordanian. One of the disappointments of the textiles and clothing industry in Jordan has been its inability to have a visible impact on domestic unemployment. Since 2014 the unemployment rate has steadily been rising from 11.9 percent up to 18.7 percent in 2018 and 19.2 percent in 2019. This recent increase in unemployment particularly affects youth, women and high-skilled workers.[1271]

Unlike Egypt, Jordan does not have legislation which limits the number of foreign workers. The majority of workers employed in the sector are migrants and the share of migrant workers has been rising over the last years, approaching 80 percent in 2012 (Domat, 2012) and 75 percent in 2018. Most workers being migrants come from South Asia (namely Bangladesh, Sri Lanka and Nepal), and the large majority of these migrants are women[1272]. Since the start of the conflict in Syria in 2011, Jordan has also shouldered the impact of a massive influx of Syrian refugees. Today, Syrian refugees account for over 10 percent of Jordan's population, placing immense pressure on the country's over-stretched resources at one of the most difficult economic periods in its history[1273]. Syrian refugees have also been employed in the textile sector, and the most recent changes in the EU FTA rules (2016) include provisions to encourage inclusion of Syrian employees (as explained below). Nevertheless, as migrants are especially vulnerable to labour conditions violations, their social well being and respect for human rights have been flagged by international oranizations as important issues to monitor in recent years[1274].

The trade agreement between the EU and Jordan and the changed rules of origin have triggered the interest of the private sector in exporting to the EU. Namely, the removal of the double transformation condition within the rules of origins was welcomed among exporting firms. Indeed,

[1267] http://www.intracen.org/news/Switzerland-and-Egypt-step-up-partnership-to-boost-textile-and-clothing-exports/.
[1268] http://www.intracen.org/news/Switzerland-and-Egypt-step-up-partnership-to-boost-textile-and-clothing-exports/.
[1269] https://www.investinegypt.gov.eg/english/pages/sector.aspx?SectorId=99.
[1270] https://www.cbi.eu/sites/default/files/vca_jordan_apparel_final_report_-_cbi4.pdf.
[1271] https://www.worldbank.org/en/country/jordan/overview.
[1272] Based on ILO figures, https://www.middleeasteye.net/news/jordans-garment-sector-grows-activists-push-better-migrant-workers-rights.
[1273] https://carnegieendowment.org/2015/09/21/jordan-s-refugee-crisis-pub-61338.
[1274] https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---declaration/documents/publication/wcms_554812.pdf.

under the new relaxed rules, manufacture from fabric is sufficient to confer origin to Jordanian apparel until December 2026. However, the complexity of hiring a specific share of Syrian refugees required under the EU-Jordan trade agreement has proven challenging in practice, especially for smaller firms[1275]. Large companies are able to meet this requirement with this, while SMEs have much more difficulty in complying with this new regulation. The main reason for this is that while large companies have split their production phases in many simple tasks that require little education, SMEs tend to employ qualified tailors that are responsible for the full production phase.

Competitiveness challenges

Jordanian textile firms currently faces two main sets of challenges. SME factories currently not exporting need to take significant steps in order to optimise and formalise their business processes. At the same time, EU buyers' awareness of sourcing from Jordan is still relatively low.

In addition, key obstacles linked to additional exports to the EU market include a lack of understanding of European requirements regarding standards, lack of access to financial resources to invest in production line optimisation and certification[1276]. Companies also mentioned the difficulty of access to skilled labour as one of the key obstacles to the development of the sector. According to the Jordan Garments, Accessories and Textile Exporters Association (JGATE), Jordanian textile firms also face diffciulties in understanding the taste of EU consumers and creating corresponding designs. Moreover, the connections by both sea and air fright to Europe are expensive, especially when compared to regional T&C competitors such as Turkey, which benefits from a more competitive logistical profile, both in terms of transport time and related costs of logistics. Moreover, accoridng to a recent report commissioned by the Dutch Centre for the Promotion of Imports from developing countries (CBI), many Jordanian manufacturers do not usually have the staff and technological ability to process large order sizes, which translates into slightly smaller capacity than larger factories in terms of quality and transformation capabilities, making them less competitive than factories in other countries in these aspects[1277].

Accorindg to JGATE, in terms of competitiveness, Jordan is expensive, but efficient. Wages are four times as high as in Bangladesh. On FOB basis Jordan cannot compete. However, on landed duty paid basis[1278], Jordan can compete with Bangladesh and outher large South Asian exporters[1279].

Supporting policies

Several government bodies play a role in supporting the T&C sector in Jordan. These include the Directorate of Industrial Development at the MoTIS within the Ministry of Trade, Industry and Supply (MOTIS), the Jordan Investment Commission (JIC), the MInsitry of Planning (MOPIC) and JEDCO[1280]. In November 2019, the Prime Minister of Jordan announced the government priorities for the period 2019–2020. These plans include a focus on enhancing the garment sector and support for it, since it is labour intensive and will help to reduce unemployment in Jordan[1281].

Donors such as the European Bank for Reconstruction and Development (EBRD) are granting support through the means of soft loans to stimulate economic activity as well as political stability in Jordan. The Dutch CBI (Centre for the Promotion of Imports from developing countries) has actively helped Jordanian SMEs in exporting to the EU market. In 2018, the CBI took 21 SMEs in trade fairs in Amsterdam and Paris to support the development of business to business relationships and to boost trade.

During consultations with company owners, it became clear that most government policies are perceived as supportive. The open door policy of the Jordanian government is appreciated, yet some measures may affect the sector negatively. One example given by stakeholders is the large amount of audits and inspections that is done. Although large companies are able to deal with them through special departments, small companies do not have the resources to deal with all these inspections separately.

[1275] The current set of rules of origin encourage the employment of Syrian workers, by stipulating that a minimum of 15% of the workforce should consist of Syrians in order to receive duty free access to the EU market. See: https://ec.europa.eu/trade/policy/countries-and-regions/countries/jordan/.
[1276] See: https://www.cbi.eu/sites/default/files/2019_vca_jordan_apparel.pdf.
[1277] See: https://www.cbi.eu/sites/default/files/2019_vca_jordan_apparel.pdf.
[1278] Landed Duty Paid, or LDP, is the final price that a retailer or brand pays for goods, particularly apparel, that are being imported cross-border.
[1279] Interview with Jordan Garments, Accessories and Textile Exporters Association (JGATE).
[1280] JEDCO is the technical arm of MoTIS focusing on SMEs development from start-ups to export.
[1281] See: https://www.cbi.eu/sites/default/files/2019_vca_jordan_apparel.pdf.

The government has also been introducing a series of investment incentives to attract FDI, also targeting T&C multinationals[1282]. Nevetheless, feedback from stakeholders, such as the Jordan chamber of Industry and JGATE, indicates that these incentives are not tailored enough to the T&C sector and that FDI from EU companies is limited[1283].

Jordan - Trade developments and FTA-related effects

Despite the obstacles to trade and the limited role in the creation of domestic employment, the textiles and clothing sector has been able to expand rapidly in the past two decades. Imports are predominantly sourced from China, Taiwan, Turkey, the United Arab Emirates and Italy. Export primarily go to the USA, followed by Canada, Israel, Saudi Arabia and the Netherlands.

These trade flows were enabled by various trade agreements. The Association Agreement between Jordan and the EU entered into force in 2002. Prior to that, Jordan had entered the WTO in 2000 and signed an FTA with USA (entry into force in 2001)[1284]. Additionally, Jordan became part of the GAFTA (Greater Arab Free Trade Area) in 1998.[1285] Since 2002, Jordan has entered into agreements with other partners as well, such as the Agadir agreement (Jordan, Tunisia, Morocco and Egypt, signed in 2004, entered into force in 2007), Singapore (signed in 2004) and Canada[1286] (entered into force in 2012)[1287].

The increased trade with the USA can be explained by the rise of QIZs (Qualified Industrial Zones), following the special Qualified Industrial Zone Agreement with the United States in 1996 (Domat, 2012). After the peace treaty with Israel was signed in 1994, Jordan was able to import from Israel[1288]. The QIZs made use of this opportunity to import from Israel and subsequently export to the USA. The USA provided duty free preferences for product with at least 35 percent of value added in Israel, Jordan or the United States. Only approximately one third (11.7 percent) of this value added had to be added by Jordan. Moreover, the JUSFTA (Jordan-USA Free Trade Agreement) is especially advantageous for trade in polyester products, as the USA charges tariffs of 25-32% on polyester textiles for most other countries.

It was mentioned during the consultations that Jordan could try to distinguish itself from Morocco, Tunisia and Egypt. It could do so by either producing large supplies of basic products or by specializing in delivering sophisticated and complex products. However, before it can specialize in these products, it would have to enhance its experience in supplying the European market in the first place.

Table E1.37 presents the estimated impacts of the CGE sectors textiles and wearing apparel for Jordanian imports from and exports to the EU. The estimated impact from the CGE modelling suggest that, *ceteris paribus*, both trade flows increase as a result of the FTA, while imports are estimated to grow more than exports (Table E1.37). Output is estimated to grow for textiles, but not for wearing apparel (Table E1.38).

Table E1.37 Result of CGE modelling – Imports and exports

	Change in Exports		Change in imports	
CGE Sector	Relative	Million EUR	Relative	Million EUR
Textiles	72%	4	74%	21
Wearing apparel	82%	5	164%	24

Source: CGE results (European Commission, 2019).

Table E1.38 Result of CGE modelling - Output

	Change in output	
CGE Sector	Relative	Million EUR
Textiles	0.5%	2

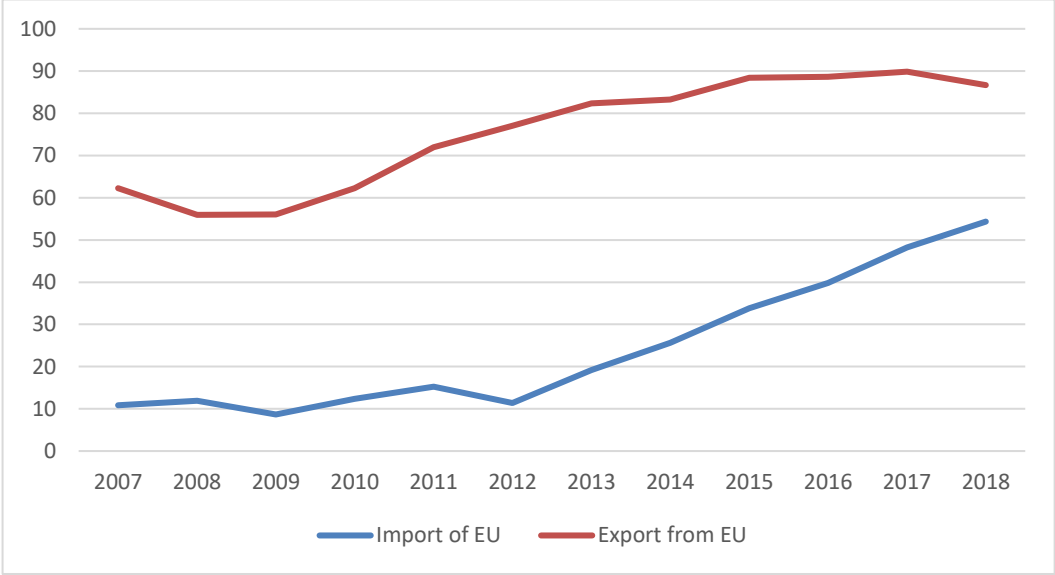
[1282] http://documents.worldbank.org/curated/en/342971530269465103/pdf/WP-P150415-incentives-Jordan-PUBLIC-ACS.pdf.
[1283] https://www.jordantimes.com/news/local/govt-urged-include-garment-leather-industries-under-incentives-umbrella.
[1284] https://www.cbp.gov/trade/free-trade-agreements/Jordan.
[1285] https://mit.gov.jo/EchoBusV3.0/SystemAssets/PDFs/EN/Departments/ForeignTradePolicy/Greater%20Arab%20Free%20Trade%20Area.pdf.
[1286] https://www.international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/jordan-jordanie/fta-ale/info.aspx?lang=eng.
[1287] http://amcham.jo/wp-content/uploads/2018/12/IB-Jordans-Trade-Agreements.pdf.
[1288] https://www.businessoffashion.com/articles/global-currents/made-in-jordan-garment-manufacturing-industry.

Wearing apparel	-0.3%	-3

Source: CGE results (European Commission, 2019).

Imports of textiles and clothing into Jordan did indeed grow in the period 2007 to 2018, with high exports growth to the EU recorded after 2012. (Figure E1.39). Furthermore, the composition of imports is a bit puzzling. Despite its specialisation in the cut-make-trim stage of the value chain, Jordanian imports mainly consist of (finished) articles of clothing (Annex Figure E2.35), while fabrics, wadding and fibres are a less important imports. Jordanian exports, however, do fit the picture of a labour-abundant country that focuses on the lower value-added stages of the value chain, as Jordan's main exports include articles of apparel and clothing and other textile articles (Annex Figure E2.36) with hardly any other products exported.

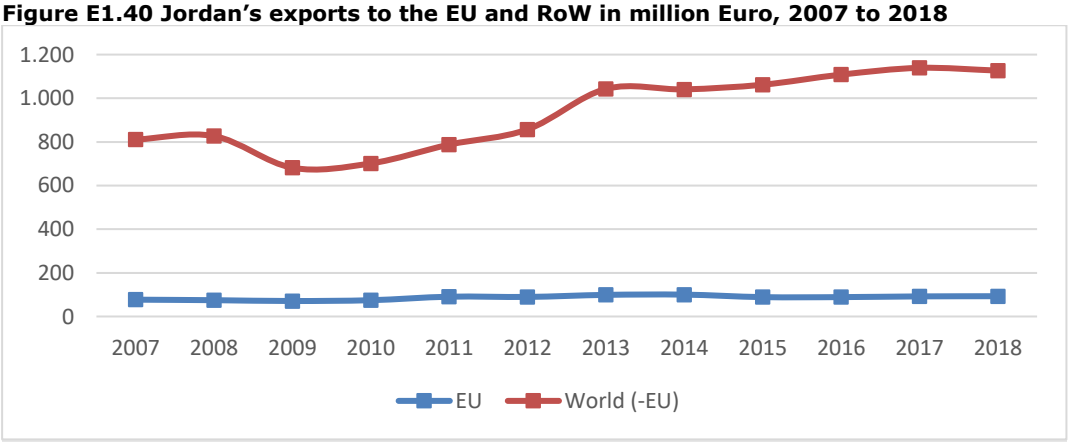
Figure E1.39 EU-Jordan trade in textiles and clothing in million euro, 2007 to 2018



Source: Eurostat Comext.

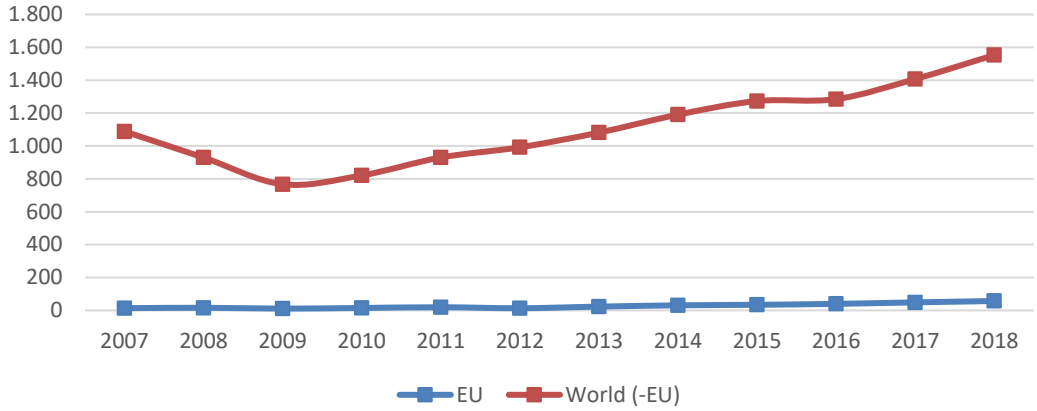
Despite this impressive growth in T&C exports to the EU, they pale in comparison with the growth of imports and exports from Jordan to third countries, in particular the US (see also Figure E1.40 and E1.41).

Figure E1.40 Jordan's exports to the EU and RoW in million Euro, 2007 to 2018



Source: World Bank WITS.

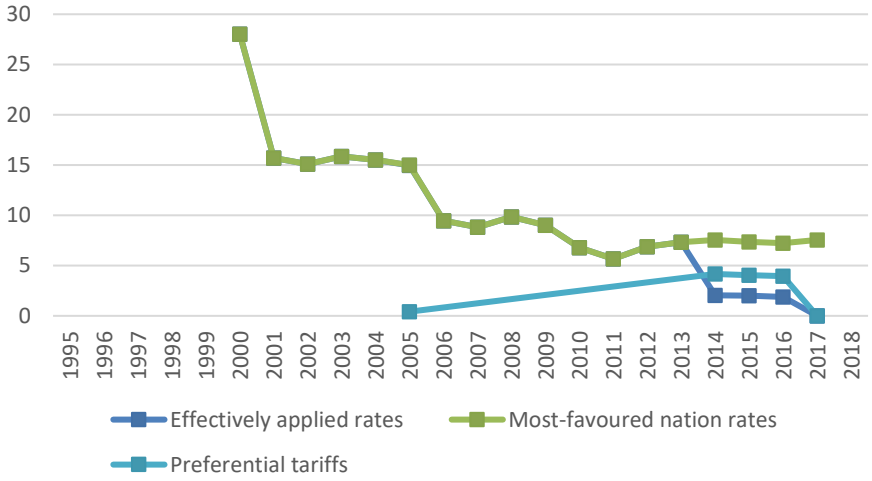
Figure E1.41 Jordan's imports from the EU and RoW in million Euro, 2007 to 2018



Source: World Bank WITS.

Jordan also bolstered the competitiveness of its industry by reducing its import tariffs on intermediate inputs (Figure E1.42).

Figure E1.42 Jordanian tariffs on imports from the EU in percent, 2007 to 2018



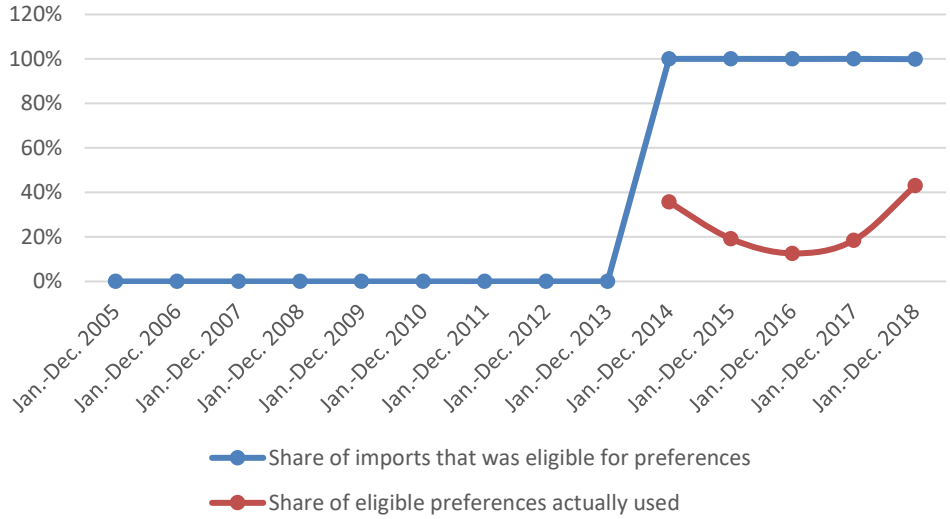
Note: the rates displayed here are based on weighted averages. Source: TRAINS database (2019).

Furthermore, it seems likely that the exponential growth in trade to the USA through the QIZs has also allowed Jordanian companies to expand their trade relations with the EU, by bolstering their capabilities and thus competitiveness. A main concern, however, is whether Jordan actually has a sustainable comparative advantage in this sector. Moreover, as a high share of workers in this sector comes from outside the country, the apparel industry in Jordan could be seen as an inefficient by-product of the JUSFTA (Domat, 2012).

Some other issues in expanding trade with the EU also require attention. In 2018, only 11 companies were able to meet the rules of origin requirements according to the Ministry of Planning and International cooperation, of which only three were actually involved in trade[1289]. This also shows a very low preference utilization, which has been consistently below 50 percent for Jordanian exports to the EU since 2014 (see figure E1.43). Moreover, as shown in section 3.3, there has also been a negative change in preferential tariff margins for Jordanian firms willing to access to the EU market, since the entry into force of Euro-Med FTAs. This has latrgely been caused by increased competition stemming from preferential access granted by the EU to additional countries, which impacted negatively the T&C sector across all SMCs.

[1289] https://oxfordbusinessgroup.com/analysis/best-foot-forward-established-segment-pushes-ahead-new-markets.

Figure E1.43 Preference utilisation rates, 2005 to 2018



Source: Eurostat Comext.

Jordan - Conclusions and lessons learned

Trade in textiles and clothing between Jordan and the EU has expanded beyond the original estimated impact from the CGE model. Nevertheless absolute trade flows are still relatively low. One of the main questions that arises from the data is what enables Jordan to export to the EU. Active support policies and the dynamism of a sector that was relatively new for Jordan likely played an important role in this expansion. Furthermore, preferential access not only to the EU but also the US market was also important. Nevertheless, Jordanian T&C companies have yet to reach their full potential, and continue to face a number of challenges, as explained below.

According to selected interviewed stakeholders, however, Jordanian companies lack support in terms of marketing capabilities, market intelligence, export promotion and the absence of a local certification laboratory. Additionally, the Jordanian government structure makes benefiting from the FTA more complicated. While export promotion currently still falls under the Jordan Investment Commission, this will be split in two different organisations in the future: JEDCO will focus on start-ups and Export Jordan on established companies[1290].

Morevoer, several stakeholders indicated that Jordanian companies face difficulties in meeting the preferences of EU consumers. Clothing styles differ per country in the EU, and keeping up to date with the most recent design trends poses a large problem. Additionally, doing business with EU companies is hampered by the large variety of cultures and languages. The US market is therefore perceived as a relatively easier market to target.

The impact of the FTA is different for SMEs from that for large companies. SMEs have more difficulty in capitalising on the relaxed rules of origin, as they tend to educate their labour force in all phases of the production cycle. Furthermore, the SMEs traditionally serve the domestic market and grow only over time, while large companies, established by foreign investors, predominantly serve foreign markets. A few SME exceptions exist, however, such as Qadri[1291] and Jobedu[1292]. Qadri produces Islamic wear and exports to the EU. Jobedu designs and produces Disney wear with Arabic text and sells to other Arab countries[1293].

Overall, while trade volumes have increased, companies are still facing a number of challenges. These relate both to their ability to effectively export and meet the requirements to benefit from the FTA, as well as to their competitiveness and ability to meet the demands of EU buyers. Jordanian companies have to compete with large South Asian exporters such as Bangladesh, but have also thus far benefitted from the large share of South Asian workers, which have generally provided for cheaper labour. Nevertheless the risk of labor rights issues in the T&C industry has been flagged by various organizations. The lack of T&C FDI in the country has also been mentioned by stakeholders as an ongoing reality, which has not been alleviated by the recent introduction of

[1290] Interview with the EU Delegation in Jordan.
[1291] http://www.qadri.jo/.
[1292] https://jobedu.com/.
[1293] Inputs received from the interview with the Jordan Garments, Accessories and Textile Exporters Association (JGATE).

investment incentives by the Jordanian government. Future policies will hence have to address these ongoing issues in order to improve competitiveness of Jordanian firms and optimise their export potential to the EU.

Lebanon

Lebanon – Overview textiles and clothing sector

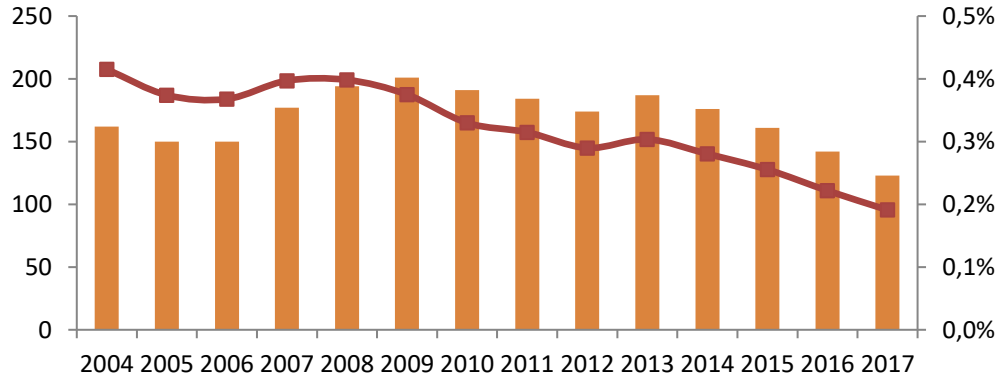
Before focusing on the structure of the T&C sector in Lebanon, it is worth mentioning that the above-mentioned global trends are also to a large extent applicable to the Lebanon T&C sector. The Lebanese T&C sector was affected by end of the Multi Fibre Agreement in 2004. The general economic climate experienced severe difficulties because of the financial crisis around 2009 and the Arab Spring in 2011. The refugee crisis resulting from the ongoing Syrian conflict has also had a substantial impact on Lebanon, which has hosted more Syrian refugees per capita than any other country in the world[1294]. In addition, the sector had to learn how to deal with the rules of origin of the Association Agreement with the EU.

Lebanon - Key characteristics of the sector

The Lebanese clothing sector is a small but export-oriented industry. Lebanon has no vertically integrated supply chains and has to import all of its inputs. Stakeholder consultations elucidated that the clothing sector is currently producing for high-end segments, aiming at the domestic market, the Arab market, as well as some specialized European niche markets.

The local fashion industry has been a driver for growth of domestic T&C firms. Beirut has often been described as MENA's "most fashionable city", accounting numerous fashion businesses. Several Lebanese enterprenuers have emerged and built world-class fashion brands[1295]. Among these, Lebanon's native Elie Saab, founded of a globally recognized fashion house, setting an example and source of inspiration for the entire industry. Technology has also played a growing role in the fashion value chain, linking textile producers to designers and merchandizers to consumers[1296]. Nevertheless, despite these developments, the Lebanese fashion industry has not been able to catalyse further commercial benefits for Lebanese T&C sector, which remains of marginal importance.

Figure E1.44 Value-added in constant 2010 prices, billion Lebanese Pound (columns, left-hand-side axis) and share in GDP (line, right-hand side axis), 2014 to 2017



Source: Central Administration of Statistics, 2017 Lebanese National Accounts.
Note: The sector includes both textiles, wearing apparel and leather ware and thus does not exactly coincide with the definition employed in the rest of the chapter.

Real estate and financial services have dominated gross value added in the Lebanese economy, especially in recent years. Other driver sectors include construction, tourism and metal products and machinery equipment. In stark contrast, T&C been a niche sector of the Lebanese economy, with its importance diminishing over the last decade[1297]. The share of value-added in constant

[1294] https://www.crisisgroup.org/middle-east-north-africa/eastern-mediterranean/lebanon/211-easing-syrian-refugees-plight-lebanon.
[1295] https://www.forbes.com/sites/stephanrabimov/2019/05/06/haute-beirut-lebanon-reinvents-itself-as-a-fashion-destination/#13f5d30777d4.
[1296] http://endeavor.uberflip.com/i/518538-endeavor-lebanon-fashion-study/5?.
[1297] https://unctad.org/en/PublicationsLibrary/diaepcb2017d11_en.pdf.

2010 prices of the textiles, clothing and leather sector[1298] over GDP is very small and has halved from 0.42 percent in 2004 to only 0.19 percent in 2017[1299].

The sector also has had an unstable history: Starting with a little over 1200 firms in 1999, only around 560 firms were operational in 2004. This trend was accompanied by the loss of over half of the sector's employees, leaving about 7000 workers in 2004 [1300]. In 2006, these numbers remained unchanged, with a little under 7000 employees working for almost 570 firms, but with an estimated capacity of almost 32.000 workers[1301].

The developments related to the ongoing Syrian conflict have created instability across all sectors of the Lebanese economy, but especially for small firms in the T&C sector. With a risky political climate and a currency pegged to the dollar, Lebanon has kept high interest rates to keep deposits flowing into domestic banks. The policies that have kept the Lebanese pound stable through turmoil at the same time failed to protect or boost local production. High interest rates discourage borrowing, which small T&C producers desperately need to invest in new machinery. At the same time, ever since the economic downturn in 2011, the government imposed fiscal austerity, raising taxes across the board, a move which has harmed already struggling SMEs. The already dire business environment was further damaged by the outbreak of popular uprisings in late 2019 and early 2020, where protesters demanded an end to corruption and new policies to promote job creation[1302]. Such context, coupled with a lack of supportive policies for T&C companies, has hindered the export potential of the sector.

Lebanon - Trade developments and FTA-related effects

In 2017, Lebanon exported textiles and clothing worth more than USD 66 million. This is relatively limited if compared to its total exports of almost USD 4 billion. Wearing apparel accounted for more than two-thirds of these exports. Notwithstanding this performance, some exports to the EU in narrow six-digit categories are sizeable, concentrated overwhelmingly in the apparel and clothing accessories sub-sector (see Annex Table E2.3). Within the narrow product categories, the top ten exports account for more than 70 percent of Lebanon's exports in the T&C sector.

The EU is an important trade partner for Lebanon, as approximately one-third of all T&C exports are destined for the European Union. Other main export destinations include Saudi Arabia, the United Arab Emirates, Qatar and Kuwait. Apparel demand in Lebanon is mainly satisfied through imports, given limited domestic production. Factors that negatively impact domestic production include high production costs due to the business environment, and foreign competition due to low import duties on imported textiles and clothing. China has long been the main country of origin for Lebanon's apparel imports, as are Italy, Hong Kong and Turkey[1303].

The Partial Equilibrium (PE) modelling (see Chapter 3) provides an indication of the impact of the Association Agreement. While the definition of the sector in the PE modelling slightly differs from the definition employed in this chapter, with some limitations the modelling results are nonetheless broadly comparable with the actual development as seen in trade data. The PE model suggests a positive, but modest impact of the Association Agreement on exports and imports, with the largest impact on the wearing apparel sector, for which trade flows are estimated to increase by EUR 33 million for imports and and by EUR 12 million for exports (Table E1.39).

Table E1.39 PE modelling results, 2011 compared to 2018

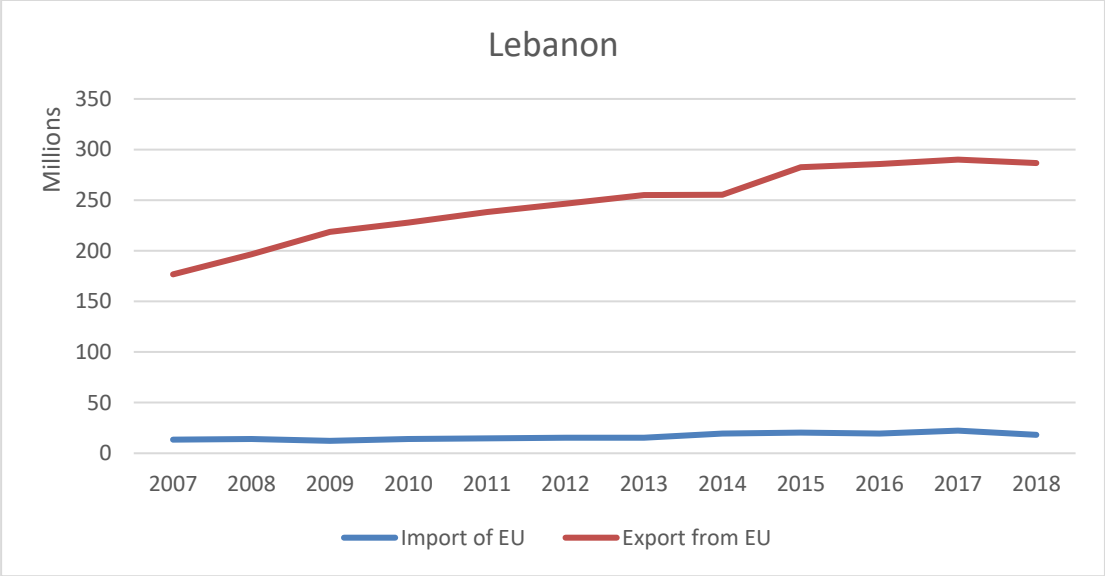
	Change in Exports		Change in imports	
	Relative	Million Euro	Relative	Million Euro
Textiles	29%	1	17%	8
Wearing apparel	126%	12	37%	33

Source: CGE results (European Commission, 2019).

[1298] Note that the definition employed in the rest of this chapter does not include leather.
[1299] While T&C value added over GDP has slightly grown between 2004 and 2009, it has stagnated thereafter, and has significantly fallen since 2014.
[1300] http://www.dailystar.com.lb//Business/Lebanon/2004/Apr-10/550-textile-industry-focuses-on-niche-markets-to-get-by.ashx.
[1301] https://www.coursehero.com/file/p7mj5g84/33-Structure-Lebanon-has-mainly-6-major-industrial-sectors-construction/.
[1302] https://www.nytimes.com/2020/03/07/world/middleeast/lebanon-debt-financial-crisis.html.
[1303] Lebanon has signed a large number of bilateral FTAs (including China) and is part of the GAFTA. However, Lebanon has not concluded an FTA with the USA. Neither has an Association Agreement with Turkey been ratified. Moreover, Lebanon only has an observer status to the WTO.

Actual trade developed much differently. Lebanese imports from the EU increased from about EUR 176 million in 2007 to about EUR 286 million in 2018. In contrast, exports stagnated, fluctuating between a mere EUR 15 and 20 million per year (Figure E1.45). Imports have been overwhelmingly limited to wearing apparel, with raw materials imported to a very limited extent, reflecting also the small size of the industry (Annex Figure E2.38). A reason for the late stagnation in growth of imports is the fact that sales within Lebanon are mostly driven by Arab tourists and expatriates. Due to unrest in the region, however, the number of visitors as well as the domestic sales have halted.[1304]

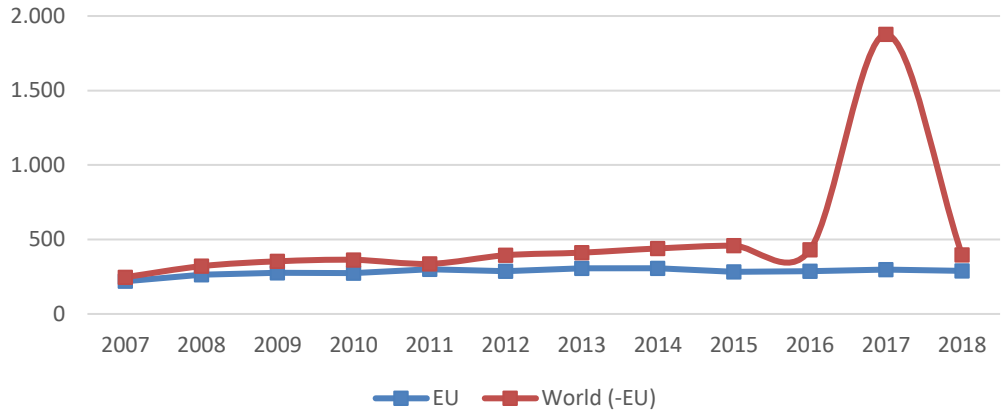
Figure E1.45 EU-Lebanon trade in textiles and clothing in EUR million, imports and exports, 2007 to 2018



Source: Eurostat Comext.

Exports, in turn, are also overwhelmingly comprised of wearing apparel, with other previously somewhat significant exports of man-made staple fibres having declined to virtually zero in the last decade (See Annex Figure E2.39). Exports to the rest of the world have declined dramatically, from nearly EUR 100 million in 2011 to 27 million in 2018.

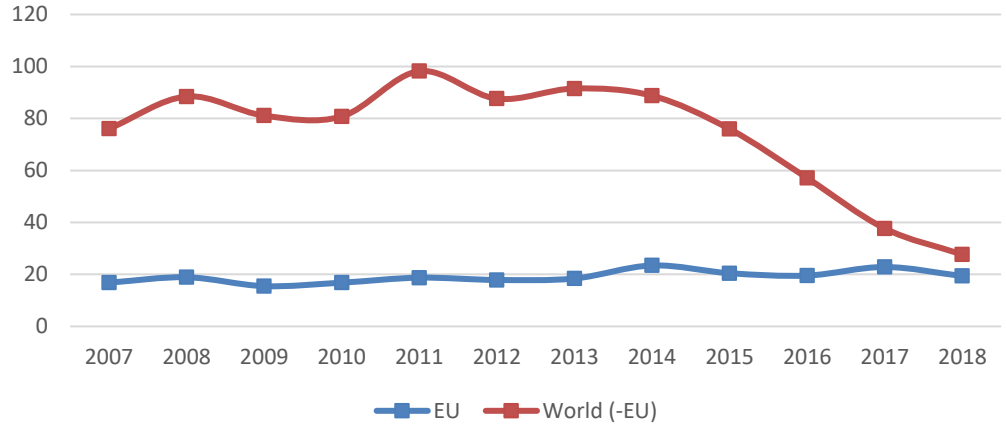
Figure E1.46 Lebanon's imports from the EU and RoW in EUR million, 2007 to 2018



Source: World Bank WITS.

[1304] https://www.export.gov/article?id=Lebanon-Apparel.

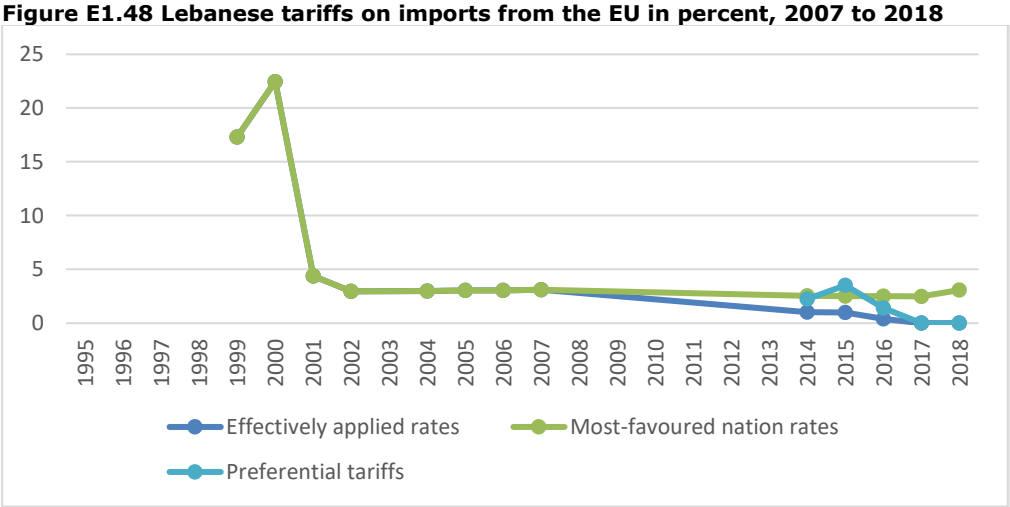
Figure E1.47 Lebanon's exports to the EU and RoW in EUR million, 2007 to 2018



Source: World Bank WITS.

It should be noted that Lebanon reduced its MFN rates on T&C imports signficiantly already before the AA entered into force, and remaining tariffs were therefore relatively low.

Figure E1.48 Lebanese tariffs on imports from the EU in percent, 2007 to 2018



Note: the rates displayed here are based on weighted averages. Source: TRAINS database (2019).

Virtually all of Lebanon's textile and clothing exports are eligible for preferences under the Association Agreement, but preference use is limited, having peaked at 80 percent in 2016 and having fallen to less than 70 percent in 2018 (Figure E1.49). A potential explanation for this declining performance is two-fold. On the one hand, there is the two-step rule, the requirement that two out of three production steps have to take place in Lebanon. This is potentially burdensome for producers, as given the small size of the textile industry, local production capabilities are limited.

In addition, rules of origin are also an issue, as the Lebanese textile industry sources a significant share of raw material imports from countries not qualifying for cumulation, e.g. cotton from China, India and Pakistan (accounting for 68.3 percent of all cotton imports) or man-made staple fibres from China, India and Pakistan (57.2 percent of all fibre imports). Lebanese T&C exporters have also not been using to the full extent the preferences available to them, as highlighted in figure 4.100.

Figure E1.49 Preference utilisation of Lebanese textiles and clothing exports to the EU

Source: Eurostat Easy Comext.

Lebanon - Conclusions and lessons learned

Lebanese T&C exports to the EU have stagnated in the last two decades, remaining around EUR 20 million. As shown in the previous section, exports to the rest of the world plummeted during the same time. The partial equilibrium modelling results also estimate the effects of the Association Agreement Lebanon's textile and clothing exports as relatively small.

The downward trend in exports is in line with the feedback received from stakeholders during consultations. There are only a few companies that are successful, but they have very high production costs, meaning that they constantly look to outsource production to other countries. Haute couture dresses are only one of the segments where Lebanon is competitive. There is a preference in the EU market for EU and US T&C brands. These brands have good marketing, branding and design. For Lebanese producers, it is difficult to compete against such strong brands and support is needed to upgrade design and quality, in order to be able to market products at better prices.Interviewed counterparts indicated that, although T&C is considered important by the government, the sector remains relatively small and there are currently no clear support policies in place.

Furthermore, Lebanon's preferential treatment has significantly eroded, as the EU has eliminated quotas for least developed countries and has reduced duties to zero under the GSP and the EBA amendment. This was also reflected in section 3.3, which showed a clear decrease in preferential margins for Lebanese T&C producers wanting to access the EU markets. The above mentioned changes in quota restrictions have benefited competitors such as Bangladesh, countries in South East Asia or emerging textile producers such as Ethiopia. This is a major issue for Lebanon, as the local textile industry lacks the scale and cost competitiveness to compete with countries such as Bangladesh.

As highlighted above these competitive constraints, coupled with a stagnating economy, an unstable political climate and a difficult business environment have translated in numerous challenges for Lebanese T&C producers, especially SMEs. Several stakeholders mentioned Lebanon is dealing with an economic crisis, monetary crisis, banking crisis, recessions and negative growth for the last year. The financial and monetary constraints limit possibilities for importing the needed inputs for the sector. Furthermore, the situation has led to a lot of "parallel trade flows"[1305].

A number of stakeholders also complained that the current regime of Rules of Origins imposed by the EU is hindering Lebanese export growth and that the EU has benefitted from the FTA more than Lebanon. According to stakeholders, a derogation from rules of origin set forth by the EU could help. Furthermore, Lebanon seems to have reduced its tariffs much quicker compared to some other Mediterranean countries, allowing the EU to enter with preferential treatment earlier on.

[1305] Stakeholder workshop in Beirut, 9 March 2020.

In summary, the increased trade flow expectations have not been met in reality. The ongoing economic crisis in Lebanon, coupled with difficulties faced by local T&C firms to compete in the market and take advantage of the FTA has not led to additional exports. As confirmed by stakeholders, additional supportive policies are needed in order for the local T&C industry to increase it competitiveness and be able to optimally take advantage of the FTA.

Morocco

Morocco – Overview of the textiles and clothing sector

The textiles and clothing industry in Morocco has traditionally been an important sector. The T&C sector especially started to develop once import substitution policies were abandoned in the 1980s and labour intensive and export-oriented sectors expanded. As of 2005, Morocco's T&C sector has become increasingly competitive and has integrated into global value chains (El Mokri, 2016).[1306] The Moroccan T&C sector continues to be a large and export-oriented industry until this day.

Global trends, as discussed in the previous section and stressed by the majority of stakeholders consulted in the country so far, have strongly impacted the sector in Morocco, including the phasing out of the Multi Fibre Agreement in 2004 and the increase in global competition. While the Association Agreement provided market access, rules of origin continue to be an issue for Moroccan exporters. On the upside, Morocco has benefitted (although mostly as a destination from outsourcing, as stressed by some of the stakeholders interviewed) from the fast fashion trend in the EU, especially due to its logistics infrastructure and its geographical proximity to the European market. For example, whereas some other SMCs have to pack their product in boxes to transport them in sea containers to the EU, Morocco can transport its products to the EU by truck hung on clothing racks, thereby significantly saving time and resources that otherwise would have to be spent on reconditioning and repackaging. However, the speed to market is not only determined by distance, but also by the frequency and size of orders. Despite Morocco's proximity and connections to the EU market, China and other exporters, due to the size of their industry and their economies of scale in exporting, are often able to compensate for their distance disadvantage (Kahia, 2017).

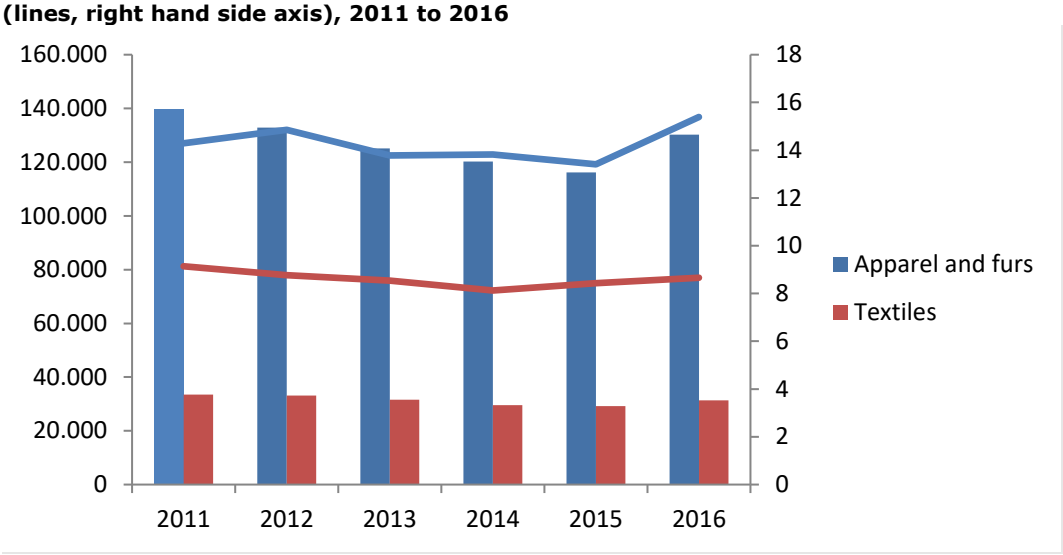
Morocco - Key characteristics of the sector

The Moroccan textile and clothing sector provides a significant amount of jobs, contributing to 27 percent of industrial employment[1307]. In 2010, around 33.000 workers were employed in the textile sector and 127.000 in the clothing sector. The clothing industry had around 1200 companies, while the textile sector had 500 firms. In 2018, the approximate number of companies in the clothing and apparel sector is 1600, hiring around 135.000 workers (Figure E1.50). The decline in employees can be explained by increased imports of textiles from Turkey (see also below) and a reallocation of labour towards agricultural and the machinery sector (Dadush & Myachenkova, 2018).

[1306] https://www.policycenter.ma/publications/morocco%E2%80%99s-2014-2020-industrial-strategy-and-its-potential-implications-structural.

[1307] http://www.intracen.org/projects/gtex/Morocco-Improving-the-international-competitiveness-of-the-textile-and-clothing-sector-GTEX/.

Figure E1.50 Employment (columns, left hand side axis) and industry turnover in billion Dirham (lines, right hand side axis), 2011 to 2016



Source: Annuaire Statistique du Maroc 2018, https://www.hcp.ma/downloads.

The T&C sector in Morocco is currently centred in four locations: Fes, Casablanca, Rabat and Tangier. These locations are specialized in different industry segments. Fes is home to family-owned companies that focus on traditional items of apparel, while Rabat and Casablanca are producing high-quality items in more modern facilities. Tangier is focused on providing the European market with fast fashion, aided by its proximity to the EU mainland (Ecorys, 2013a).

Morocco's textiles and clothing sector is highly dependent on imports. While intermediate products such as yarn and fabric are imported, apparel is exported. Morocco's textile industry mostly focuses on the lower value-added offerings of the value chain, which is the cut-make-trim stage. Around 50 to 70 percent of all activities in the T&C sector in Morocco fell within the CMT stage (Ecorys, 2013a), but the country is increasingly capable of moving into value chain stages with larger value added.

Most of the 1600 companies in Morocco in this industry engage in export, with the EU as most important trade partner. Morocco mainly creates denim and textile apparel for foreign brands but is also positioning itself as a leader in fashion design, which is stimulated by both private companies and the government. The inflow of foreign direct investment to Morocco has been relatively constant since 2013, with some slight drops in 2014 and 2016. Overall, the FDI from the European Union hovers around EUR 850 million per year (Eurostat, 2019)[1308], led by Spanish investors. From the consultations it became clear that enablers for these investments include the favourable conditions for European investors as well as the relatively high skill level in Morocco.

Challenges

Stakeholder consultations showed increasing concerns by various stakeholders. Government representatives confirmed that the textile industry is the first manufacturing sector in Morocco with around 38 billion dirhams of exports in 2018[1309]. Stakeholders mentioned that the Moroccan textile industry's main target markets are Spain and France, but that Morocco's shares in those markets have been shrinking continuously. According to industry stakeholders, this has mainly been caused by the intensification of competition on the international market, especially with the preferential access given to other Asian and African countries by the EU.

According to an economics university professor Moroccan face non-tariff barriers which make exporting more complicating[1310].

In addition, while Morocco has been able to become an active player in the fast-fashion industry it is still mainly active in the cut-make-trim part of the value chain, which limits the possibility for value added creation.

[1308] These numbers, however, only reflect the investment in Morocco as a whole, and not specifically in the textiles and clothing sector.
[1309] Directorate of Industries, Textile, and Leather, at the Ministry of Industry, Investment, Commerce, and the Digital Economy.
[1310] Feedback from professor at the University of Rabat.

Supporting policies
Several institutions have been active to promote the competitiveness of the sector overtime, also to facilitate FDI. Among these, the Moroccan Association of the Textile and Apparel Industries (AMITH) has long been working to facilitate the transfer of skills in knowledge. In 2008 it partnered with the government to establish the Casa Moda Academy, a sector-specific training school that offers professional licences. By focusing on the training of human resources, the facility aims to improve the design and quality of textile output. Moreover, AMITH also partnered with International Trade Centre and the Ministry of Industry, Trade, Green and Digital Economy (MITGDE) in the recent GTEX MENATEX programme. GTEX specifically helps Moroccan SMEs to increase their international competitiveness by providing coaching on input supply, product development and export marketing. Moreover, the program helps SMEs to connect to new markets and potential new buyers[1311].

Other relevant policies to the textile and clothing sector in Morocco are the Textile Emergence Plan and the Industrial Acceleration Plan 2014-2020 (PAI). The Textile Emergence Plan is focused on building capacity for investment and operating capital and emphasises upgrading and exploring new markets. The follow up of this plan, the Industrial Acceleration Plan 2014-2020, in turn, focuses on employment creation and industrial growth. The goal of this plan is to create 100,000 new jobs in the sector by 2020 [1312] (Ministère de l'Industrie, du Commerce, de l'Economie Verte et Numérique). Under the umbrella of the PAI, textiles representatives signed an agreement with the authorities in 2015 to revamp the industry with a focus on product design, the development of local brands and enhanced competitiveness. According to AMITH, "the PAI encouraged companies to help suppliers move up the value chain and improve their products in exchange for government support". The plan also stipulated closer cooperation with the Office of Vocational Training and Employment Promotion, which oversees the state's professional training programmes.

The Finance Ministry of Morrocco also introduced a series of investment incentives to facilitate FDI in T&C. These include a five year a corporate tax holiday introduced in 2017 to stimulate investment, targeting industrial in textile and clothing, among 23 other sectors[1313]. More generally, various Moroccan institutions have worked to improve the country's standing across international investment climate rankings. Morocco ranked 53rd out of 190 economies by the World Bank in its Doing Business 2020 report, gaining seven spots compared to 2019, and up by 40 spots from 2012. This improvement has been made thanks to better access to electricity (generalising online applications for new connections and expanding the use of prebuilt transformers). Dealing with construction permits has also been eased by improving the dedicated online platform[1314].

According to figures provided by AMITH, the benefits from these measures are already evident. By 2018 investment in the sector reached Dh4bn ($416.7m) up from the Dh300m ($31.3m) in annual investment before the introduction of the above mentioned policies.[1315] Broader FDI trends are also in line with sectoral results provided by AMITH, with FDI flows increasing from USD 2.16 billion in 2016 to USD 3.64 billion in 2018.[1316]

According to feedback from EuroCham Morocco, the country is as a result also well perceived when it comes to attracting foreign investments. In fact, Morocco is perceived as a hub that facilitates investors' access to the African markets thanks to its FTAs with several countries of the region, which allows for better fluidity in multilateral exchanges[1317].

Morocco - Trade developments and FTA-related effects

Various trade agreements have led to the removal of tariffs and eased trade in the last 25 years. In 1995, Morocco became a member of the WTO. Prior to the entry into force of the Association Agreement between the EU and Morocco in 2000, all EU tariffs on textiles and clothing had already effectively been removed. In 2004, an FTA between Morocco and Turkey entered into force, which allowed Moroccan producers to duty-free import intermediate inputs. In 2006 an FTA between

[1311] http://www.intracen.org/projects/gtex/Morocco-Improving-the-international-competitiveness-of-the-textile-and-clothing-sector-GTEX/.
[1312] The Industrial Acceleration Plan promised the creation of 500.000 jobs in the textiles, automobile and offshoring sectors. Of these, 20% were predicted to be in the textile and clothing industry. See also http://www.mcinet.gov.ma/en/content/industrial-acceleration-plan-2014-2020-0.
[1313] https://www.reuters.com/article/morocco-tax/morocco-offers-corporate-tax-break-to-spur-industrial-investments-idUSL8N1UA0AX.
[1314] See: https://www.doingbusiness.org/content/dam/doingBusiness/country/m/morocco/MAR.pdf.
[1315] See :https://oxfordbusinessgroup.com/analysis/stretching-fabric-re-energised-textiles-industry-aims-expand-its-reach.
[1316] https://unctad.org/en/Pages/DIAE/World%20Investment%20Report/Country-Fact-Sheets.aspx.
[1317] Based on consultations with EuroCham Morocco.

Morocco and the USA entered into force. Exports to the USA, among other for brands such as Nike and Disney, have increased since then.

In 2000, Morocco imported textiles and clothing from France, the UK, Spain, Italy and Germany. In 2017, Morocco also imported from China and Turkey, as well as India, South Korea and Bangladesh. Although imports from Turkey can be used as inputs for exports to the EU, Morocco cannot make use of preferential agreements when importing inputs from Asian countries. It is however likely that products with Asian inputs are sold to non-EU destinations. Indeed, while Morocco mainly exported to France, the UK, Germany, Italy and Spain in 2000, by 2017, the USA has become a relevant export destination as well. In addition, Portugal, Poland, and China count among the main export destinations.

Table E1.40 presents the estimated impact of the CGE model for textiles and wearing apparel for Moroccan imports from and exports to the EU. The estimated impact from the CGE model suggest that, *ceteris paribus*, the FTA increased both imports from and exports to the EU in absolute terms compared to a situation where the FTA would not be in place.

Table E1.40 Result of CGE modelling

	Change in Exports		Change in imports	
CGE Sector	Relative	Million EUR	Relative	Million EUR
Textiles	75%	294	75%	501
Wearing apparel	88%	1260	126%	57

Source: CGE results (European Commission, 2019).

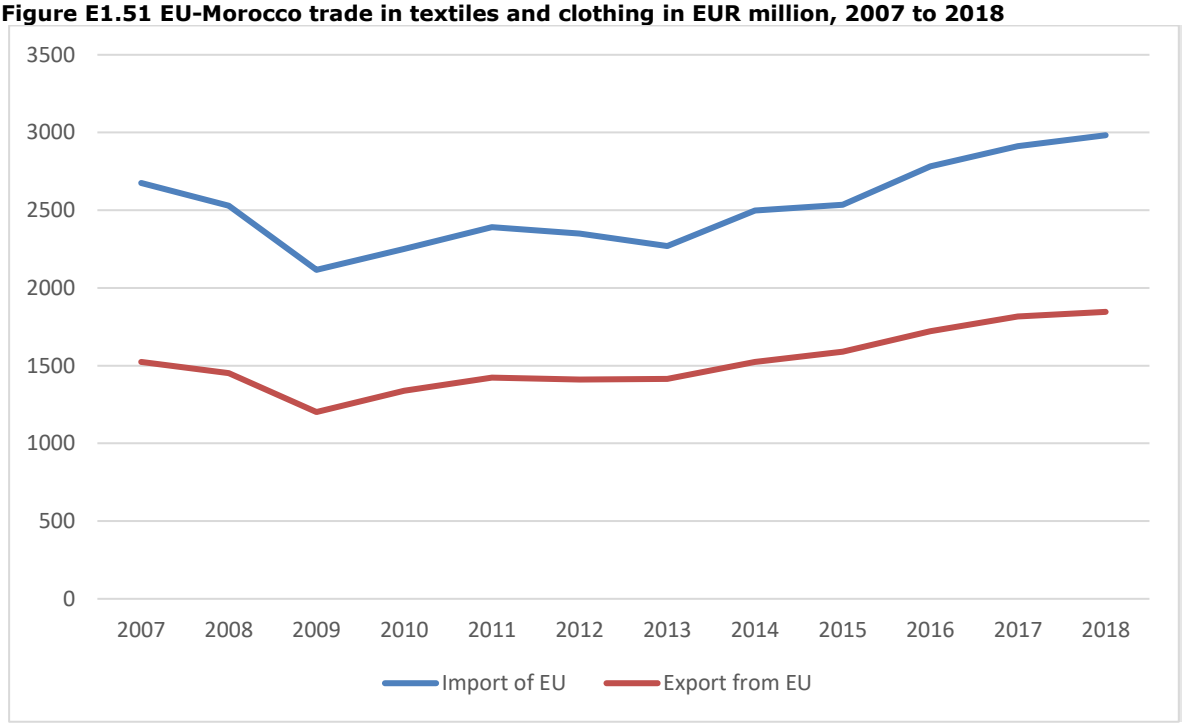
Table E1.41 Result of CGE modelling

	Change in Output	
CGE Sector	Relative	Million EUR
Textiles	10.7%	394
Wearing apparel	22.8%	1051

Source: CGE results (European Commission, 2019).

Analysis of observed trade flows over time shows that, despite a drop in 2007 and 2008, trade with the EU grew in abslolute terms from 2009 until 2018. Morocco's textile and clothing exports to the EU in 2018 were 12% higher than levels recorded in 2007. Moroccan T&C imports show a similar trend, with imports decreasing between 2007 and 2009, (Figure E1.51). The data therefore shows that, despite the emergence of China, Turkey and other countries as key competitors, Morocan trade with the EU has still grown.

Figure E1.51 EU-Morocco trade in textiles and clothing in EUR million, 2007 to 2018

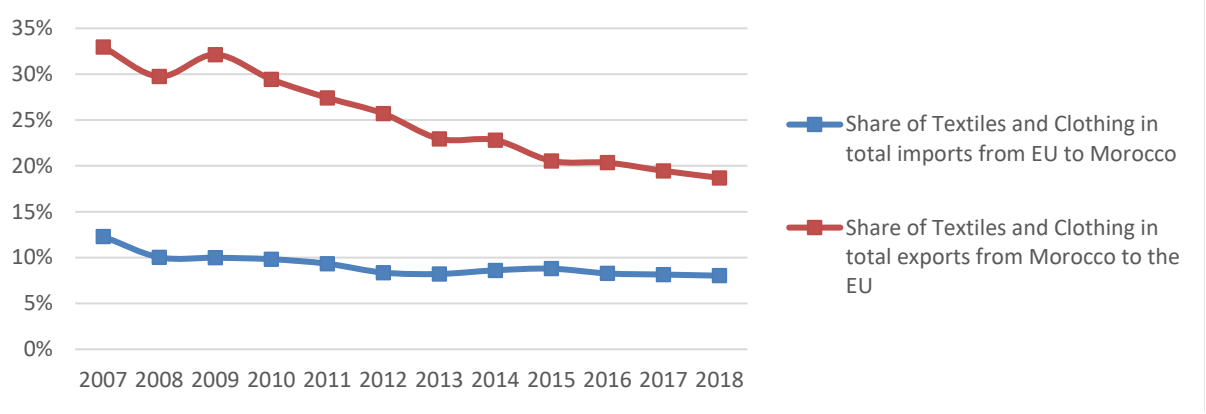


Source: Eurostat Easy Comext.

While Morocco's imports in the sector consist of a mix of products (Annex Figure E2.31), Morocco's exports have always been dominated by wearing apparel (Annex Figure E2.32). The composition of Morocco's imported products has changed over time. While imports of cotton used to be the largest import product within this sector, man-made fibres and filaments have grown in importance (Annex Figure E2.31). An explanation for this trend is the growing importance of polyester and nylon. As these man-made fibres are cheaper than cotton and wool, they are used as inputs for products that satisfy the fast fashion demand.

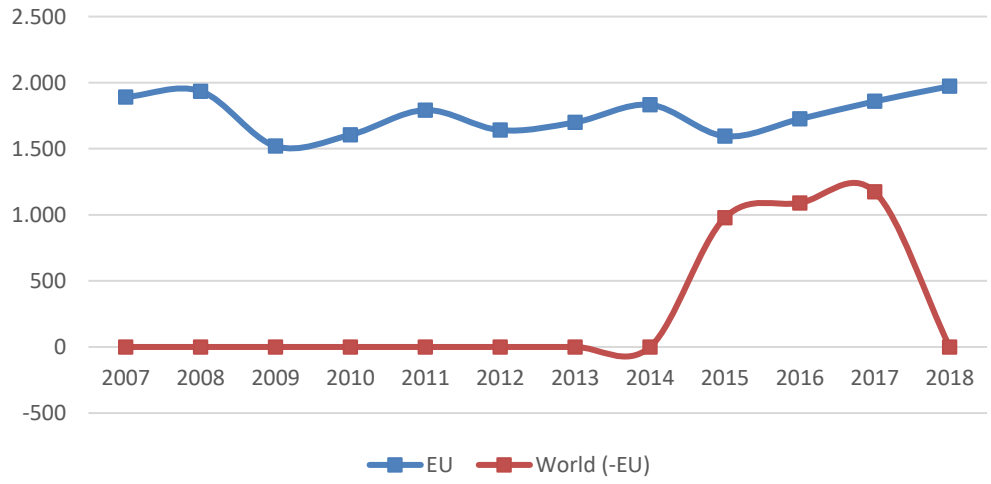
While the absolute number of imports and exports to the EU in the textiles and clothing sector in Morocco have grown over the last ten years, the share of textiles and clothing in the total import and export basket has declined. Historically T&C represented one quarter of Morocco's exports to the EU.[1318] This share however has declined to below 20 percent in 2018, as shown in figure E1.52. T&C imports from and exports to other markets becoming relatively more importantmay explain this (see Figure E1.53 and E1.54). For example, imports from Turkey have grown in importance. Since the FTA between Morocco and Turkey entered into force, Turkish exports to Morocco have significantly increased. For this reason, Morocco has apparently ended the tariff exemptions on some Turkish exported products in 2018.[1319]

Figure E1.52 Share of Textiles & Clothing in exports and imports, 2007 to 2018



Source: World Bank WITS.

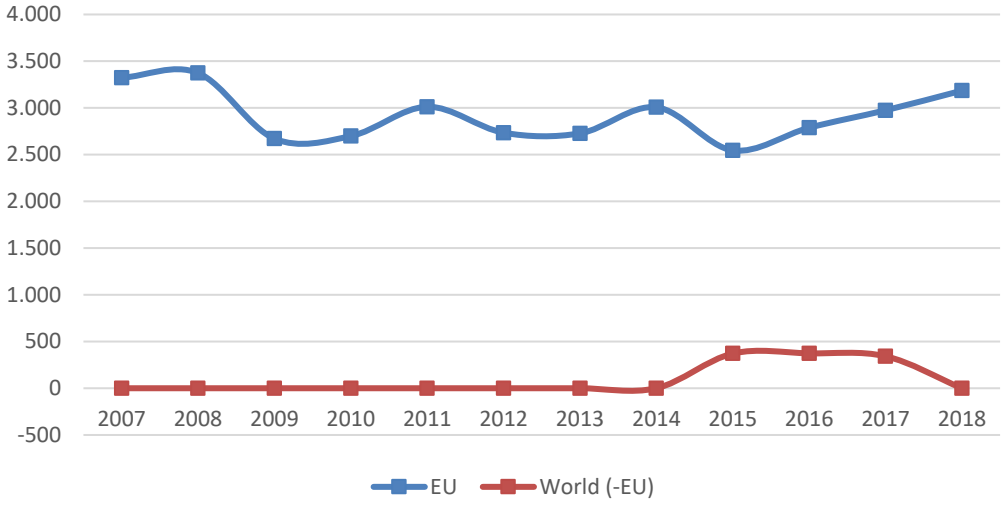
Figure E1.53 Moroccan imports from the EU and RoW in EUR million, 2007-2018



Source: World Bank WITS. Note that no data was available prior to 2015 and for 2018.

[1318] https://www.cbi.eu/market-information/apparel/morocco/.
[1319] https://www.fashionatingworld.com/new1-2/moroccan-to-end-exemption-on-turkish-textiles-products.

Figure E1.54 Moroccan exports to the EU and RoW in EUR million, 2007-2018

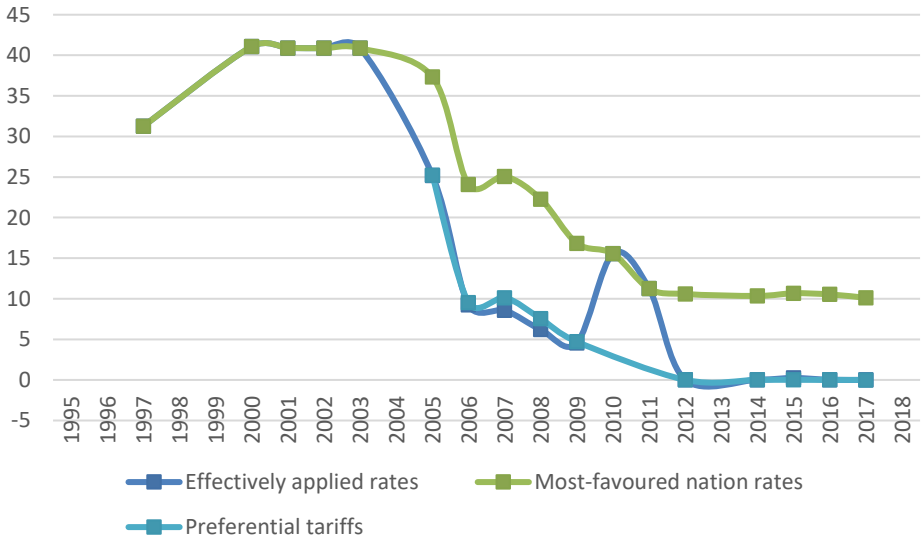


Source: World Bank WITS. Note that no data was available prior to 2015 and for 2018.

le E1.54 illustrates the EU is by far the main market for Morocco's clothing exports; the European market absorbs more than 95% of Moroccan clothing exports.

Preference utilisation rates have typically been high[1320], implying that exporters have been able to overcome rules of origin issues. Furthermore, as shown in figure 4.106, effectively applied rates have been reduced to 0 as of 2017. (Figure E1.55). Nevertheless, as also shown in section 3.3, preferential margins for Moroccan exporters to access the EU have decreased overtime. This confirms the trends described by stakeholders during consultations, where it was indicated that as the EU granted preferential access to a series of non-SMCs T&C exporters in recent years, the benefits for Morocco have been decreasing.

Figure E1.55 Moroccan tariffs on imports from the EU in percent, 2007 to 2018



Note: the rates displayed here are based on weighted averages.
Source: UNCTAD TRAINS.

[1320] Temporary drops, particularly in 2011, might in fact be explained by issues with the data.

Figure E1.56 Preference utilisation rates, 2005 to 2018

Source: Eurostat Comext.

Morocco - Conclusions and lessons learned

The increase in trade with the EU would incate a success of the the trade chapters of the Association Agreement, as well as the previously mentioned supportive policies introduced in recent years to increase T&C competitiveness as well as levels of T&C FDI. Nevertheless, trade growth did not reach the estimated impact from the CGE model. Several factors may have played a role in this trend. Most importantly, the phasing out of the Multi-Fibre agreement and the rise of competitors in countries such as Bangladesh or Turkey (often enjoying comparable preferential market access to the EU) has had a major impact (Alam et al., 2018). Also stakeholders in Morocco pointed to the advantages offered to third countries as one of the factors that limited their export growth to the EU. [1321]

Rules of origin in particular remain a concern for exporters. The double transformation rule set forth under the FTA has been reported difficult to satisfy for Moroccan exporters, given the limited capabilities of the domestic industry. In addition, stakeholders representing the industry expressed their frustration with the rules of origin, as the rules of the Pan-Euro-Mediterranean agreements are perceived as harsher than those imposed on competitors from other countries such as Turkey or Bangladesh.[1322]

Compared to Tunisia or Egypt, Morocco opened up its textile and clothing sector more rapidly. Yet even for Morocco, import tariffs on imports of EU intermediate inputs remained relatively high until 2012. This may have affected the competitiveness of the Moroccan industry, which is still reliant on imports of intermediate inputs. According to the Moroccan High Commission for Planning, opening the Moroccan economy is of crucial importance, due to its need for growth in the present context. The phasing out oif tariffs is a crucial step, which has been taken in this direction. Nevertheless, of key importance will also be finding better supply markets and encouraging foreign investments, in order to increase the quality of Moroccan products that, unfortunately, find difficulty in penetrating the well regulated European market. According to stakeholders, the FTA's effects on the economy were highly overestimated[1323]. During consultations it was also suggested that Morocco should ultimately find new markets to infiltrate, to be able to grow and to be less affected by complicated market access requirements in the EU.

The competitiveness of the Moroccan industry has also been affected by home-grown issues such as difficulties in expanding local R&D capabilities or the increasing shortage of skilled workers (Cammet, 2007). However, on the other hand, as pointed out at the beginning of this case study, and as also partially shown by the trade growth, Moroccan firms have been increasingly able to supply the complicated and highly tailored fast fashion items for large multinationals such as Zara and H&M, indicating that the capabilities of the industry have improved (Tokatli, 2008). Compared to other SMCs countries within this sector, Moroccan exporters have met consumers demands in terms of quality and speed, being also able to supply directly to fast fashion giants[1324].

[1321] Based on consultations with the Ministry of Industry, Investment, Trade and Digital Economy.
1322 Based on consultations with the Moroccan Association of Textile and Clothing Industries (AMITH).
[1323] Based on consultations with the High Commission for Planning of Morocco.
[1324] https://www.bbc.com/news/business-49268965.

Nevertheless, such large fashion brands have also increasingly been sourcing from Asian suppliers, including from countries who enjoy similar trade preferences.

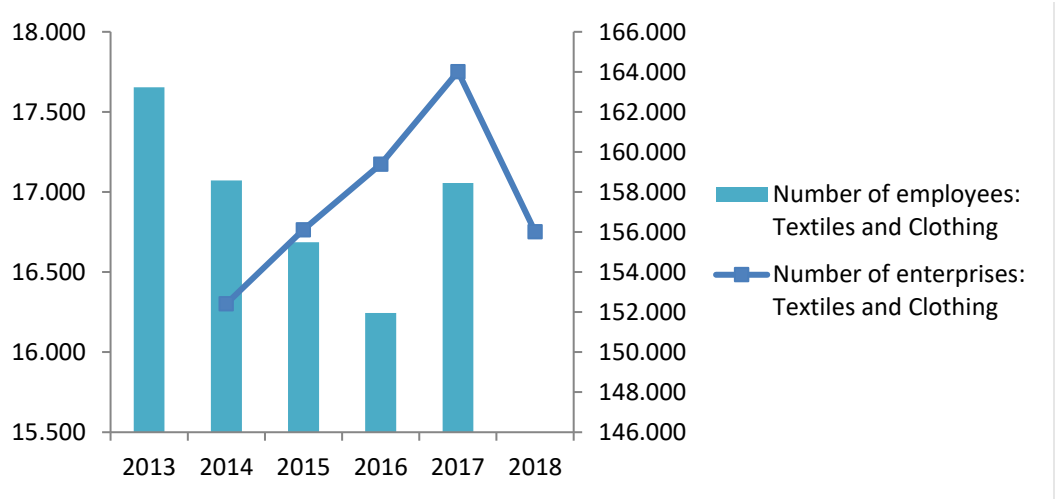
Morocco has been largely immune to the political instability which has affected the region over the last decade. Major popular protests such as in Cairo and Tunis in 2011, have not taken place in Casablanca, Rabat or other major Morrocan cities. Morocco has also been less affected by large migration trends which, in turn, have severely impacted Lebanon and Jordan as a result of the Syrian conflict. This relative stability has, in turn, facilitated trade growth with the EU over the past decade.

Tunisia

Tunisia – Overview of the textiles and clothing sector

Prior to the Association Agreement with the EU, a well-developed textiles and clothing sector already existed in Tunisia. The textile and clothing sector is a large and export-oriented industry with about 17,000 companies[1325]. Since 1997 there has been a steady increase in the number of firms, with over 5000 new entrants in 2017 alone. However, firm entry has also been relatively stagnant for the last few years (Institut National de la Statistique, 2019), and employment has been increasing proportionally to the number of firms. At the beginning of 2013, more than 163,000 people were employed in the T&C sector. These numbers dropped in 2014-2016, reaching an all-time low with less than 152,000 workers in 2016[1326] (Figure E1.57). A reason for this drop may be related to the growing importance of Turkish imports, as will be discussed below. According to Tunisian T&C unions, since the increase of Turkish imports in the past seven years, 300 enterprises closed and 40,000 workers jobs were lost.[1327]

Figure E1.57 Employment (right-hand side axis) and number of enterprises (left-hand side axis), 2013 to 2018



Source: Statistiques Tunisienne, http://www.ins.tn/en/themes/entreprises#sub-322.

Global trends, as discussed in the previous country sections, have strongly impacted the sector in Tunisia. This includes the phasing out of the Multi Fibre Agreement in 2004 and an increase in global competition. Furthermore, investment climate in Tunisia was impacted by the financial crisis around 2009 and the Jasmine Revolution in 2011. The latter had a particularly strong impact across all sectors of the economy. In the wake of the revolution, investment sharply declined in almost all sectors[1328]. FDI flows decreased by almost 30 per cent in 2011 compared to 2010, with close to 200 foreign losing closed their doors, leading to the loss of 10,930 jobs. The decline of FDI was particularly severe in the tourism sector where losses were estimated at 83.3 per cent, while manufacturing and energy exhibited losses amounting to 42.4 per cent and 19 per cent, respectively[1329]. The government introduced a series of measures to limit losses in affected firms. Neverthelss the effects of the revolution in the T&C sector were felt until 2015. This is also reflected in the trade trends presented below.

[1325] http://www.ins.tn/en/themes/entreprises#sub-322.
[1326] http://www.ins.tn/en/themes/entreprises#sub-322.
[1327] https://thearabweekly.com/tunisia-trims-controversial-trade-deficit-turkey-taxing-imports.
[1328] Agency for the Promotion of Industry and Innovation (APII) (2012). Agency for the Promotion of Industry and Innovation, available at <http://www.tunisieindustrie.nat.tn/en/home.asp>.
[1329] Idem.

While the Association Agreement provided market access, rules of origin continue to be an issue for Tunisian exporters. On the upside, Tunisia has benefitted from the fast fashion trend in the EU, especially due to its logistics infrastructure and its geographical proximity to the European market. However, the speed to market is not only determined by distance, but also by the frequency and size of orders. Despite Tunisia's proximity and connections to the EU market, China and other exporters, due to the size of their industry and their exports are often able to compensate for their distance disadvantage (Kahia, 2017).

The majority of consulted stakeholders agreed on the necessity to reform the whole of the sector in order to benefit from the advantage of proximity to Europe. Stakeholders indicated that Tunisian T&C firms need to invest in innovation and go beyond the cut-make-trim activities by expanding to new areas of the value chain including design, restocking and logistics.

The technical textile sector has shown promising trends in recent years, with the entry of firms in niche production of climatic, fire proof, biodegradable, and breathing fabrics. Tunisian firms need to adapt continuously to constantly changing trends and demands in the EU market, and develop the right restocking and fast fashion capabilities. This implies a quick adaptation capacity to evolving production and dispatch to EU importers[1330].

These trends have been noted by the Tunisian stakeholders consulted for the purpose of this ex-post evaluation, although admittedly some aspects of EU policies (such as those related to rules of origin or tariff differentiation) were perceived as the most important factor adversely affecting textiles industry in the country.

Tunisia - Key characteristics of the sector

Despite strong global growth of the industry, Tunisia has only benefited from this trend to a small extent. Value added generation in the T&C sector is limited in Tunisia. The T&C as a whole sector ranks low in terms of domestic value added; only the electrical machinery sector scores lower in domestic value added in exports (Bass, 2016). Reasons for this include Tunisia's incapacity to produce high quality raw materials and its consequent struggle to provide inputs such as fabrics to the industry, as opposed to competitors such as Bangladesh (Khaia, 2012).

The majority of Tunisian firms continue to focus on the lower value-added activities of the value chain. In 2008, almost 69 percent of the labour force in the sector and 66 percent of companies (with more than 10 employees) focused on garment making. Currently, roughly 80 percent of the production still consists of cut-make-trim (CMT) activities, for which manual labour is required (Grümiller et al., 2018). The remaining 20 percent of the firms focus on Original Equipment Manufacturing (OEM). Thus, while the majority of firms is supplied with fabrics, only a minority is actively sourcing their inputs. But a handful of firms is able to participate in the design of textiles and clothing as well (Original Design Manufacturing – ODM) (Grümiller et al., 2018). Tunisia is however able to provide a number of niche products, such as sportswear (especially bathing and swimwear) and lingerie.

According to Smith (2015), the T&C sector is stuck between the pressures from buyers and workers, which makes upgrading in this sector very difficult. The fast fashion trends require buyers to ask for low prices, flexibility and a high speed to market. Companies also experience pressure from workers that ask for higher wages. Moreover, the Jasmine Revolution and labour unrest in Tunisia have impacted investment and therewith decreased production and exports (World Bank, 2016). Furthermore, the general business environment has not always been favourable. The ease of doing business report from the World Bank (2019) indicates that although Tunisia has an above regional average when it comes to doing business, issues such as in paying taxes, getting credit and registering property remain[1331]. This can explain why some Tunisian companies many not have been able to upgrade their capacity to satisfy increasing volume and speed demands of EU importers.

The Tunisian textile and clothing sector is mainly involved in the outsourcing process of European brands. The majority of Tunisian textiles and clothing firms works on the basis of foreign orders (Kahia, 2017) and around 50 percent of the Tunisian industry is wholly or partially foreign-owned,

[1330] http://www.iai.it/sites/default/files/medreset_wp_29.pdf.
[1331] https://www.doingbusiness.org/content/dam/doingBusiness/country/t/tunisia/TUN.pdf.

mainly by European investors.[1332] Drivers for these investments include the favourable conditions for European investors as well as a relatively high skill level (Bass, 2016). Tunisia has in the last few years seen a slight increase in foreign direct investment from the European Union. In 2017, European investments amounted to close to EUR 300 million, an increase of almost 25 percent over the prior two years (Eurostat, 2019).

Tunisia - Trade developments and FTA-related effects

Tunisia's trade pattern in the industry has changed in the past two decades. In 1998, Tunisia mainly imported from France, Italy, Germany, Belgium and Turkey. In 2017, France and Italy still played a major role, but imports are now led by China and Turkey. The import of raw materials from China (and other third countries) has potentially consequences for the use of preferences, due to the rules of origin of the Association Agreement.

France, Germany, Italy, the Netherlands and Belgium accounted for the majority of exports in 1998 as well as today. Although Tunisia has no preferential trade agreements with China, Japan or the United States, these countries are also counted among the top export destinations of Tunisia's textiles and clothing exports. Tunisia has also signed a number of trade agreements with other countries: Tunisia is a member of the Greater Arab Free Trade Area as of 1998, the Agadir Agreement as of 2004 (a trade agreement with Egypt, Jordan and Morocco) and takes part in the Arab Maghreb Union (Mauritania, Morocco, Algeria, Tunisia, and Libya).

Additionally, Tunisia has signed bilateral agreements with Algeria, Libya and Turkey. Despite the existence of these other agreements, for the textile and clothing sector the trade relation with the EU is the one that truly matters. The EU continues to be the most important trade partner, as 70 percent of Tunisia's trade takes place with the EU. In 2018, exports to the EU amounted to almost €2.5 billion (WITS, 2019), which is about two thirds of Tunisia's total exports in the sector.

However, seen from the EU perspective Tunisia has lost market share. It was the fifth largest exporter to the EU as well as importer from the EU in 2007. And yet in 2018, Tunisia's position dropped to the ninth most important exporter to the EU and tenth most important importer from the EU in the sector (WITS, 2019).

Table E1.42 presents the estimated impact of the CGE sectors textiles and wearing apparel for Tunisian imports from and exports to the EU. The estimates from the CGE model suggest that, *ceteris paribus*, the FTA increases both imports from and exports to the EU in absolute terms. This is accompanied with an increase in domestic output (Table E1.43).

Table E1.42 Result of CGE modelling

	Change in Exports		Change in imports	
GTAP Sector	Relative	Million EUR	Relative	Million EUR
Textiles	65%	318	113%	619
Wearing apparel	111%	1127	161%	121

Source: CGE results (European Commission, 2019).

Table E1.43 Result of CGE modelling

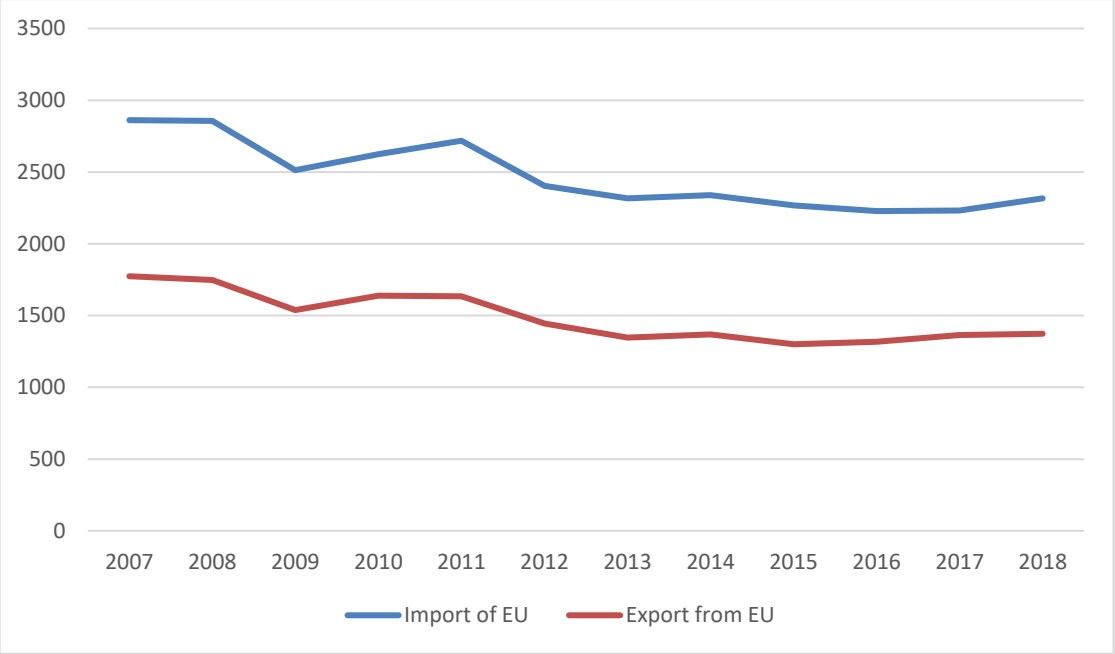
	Change in Output	
GTAP Sector	Relative	Million EUR
Textiles	17.9%	275
Wearing apparel	64.7%	833

Source: CGE results (European Commission, 2019).

Contrary to the estimated impact from the CGE modelling, Tunisia's textile and clothing exports and imports have actually decreased since 2007 (Figure E1.58). A sharp increase in textiles and clothing exports to the EU took place prior to 2004 (Grümiller et al., 2018), yet since 2007 exports and imports have fallen. The largest decrease in trade was between 2007 and 2015. In more recent years, both exports and imports have remained at rather constant levels.

[1332] The 2100 largest T&C companies cover 80 percent of the sector's exports and 90 percent of the employment. In 2013, about 1000 of these largest companies were locally owned (Bass, 2016), hiring 70 percent of the workers in the textiles industry (Grümiller et al., 2018).

Figure E1.58 EU-Tunisia trade in textiles and clothing in EUR million, 2007 to 2018

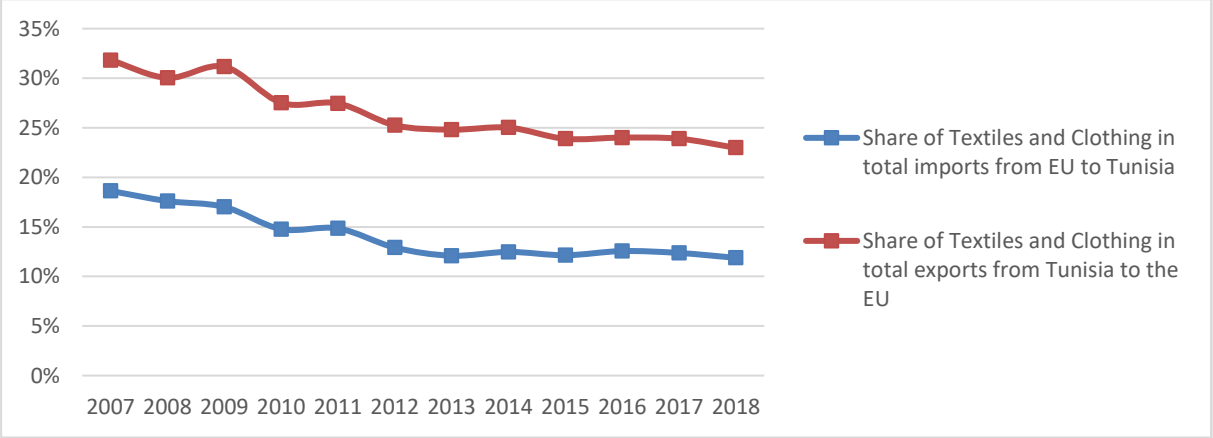


Source: Eurostat Comext.

Despite these quantitative changes, the composition of imported and exported products has barely changed (Annex Figure E2.44 and E2.45). Tunisia mainly imports intermediate products, such as cotton, yarn and fabrics from the EU. This trade flow is also driven by the rules of origin of the Association Agreement, with preferential EU market access requiring that the share of value added is either generated within Tunisia, the other countries of the Southern Mediterranean (cumulative) or within the EU.

Tunisia's main export products are articles of apparel and clothing, such as men's and women's suits and pants. These trade flows align with the trends on the EU market mentioned above. The EU exports intermediate products to North African countries, where the labour-intensive cut-make-trim stages of the value chain take place, and the EU then imports finished products from these countries.

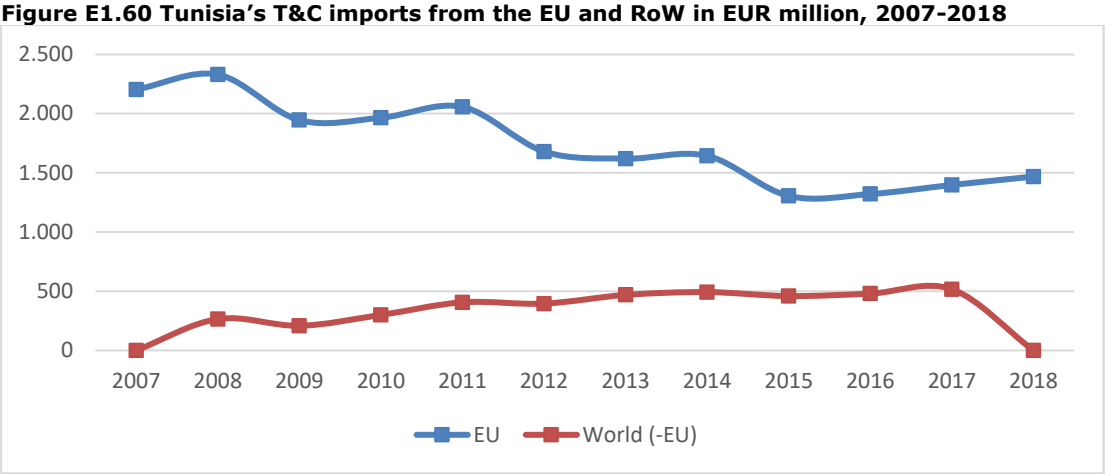
Figure E1.59 Share of Textiles & Clothing in exports and imports, 2007 to 2018



Source: WITS Database (2019).

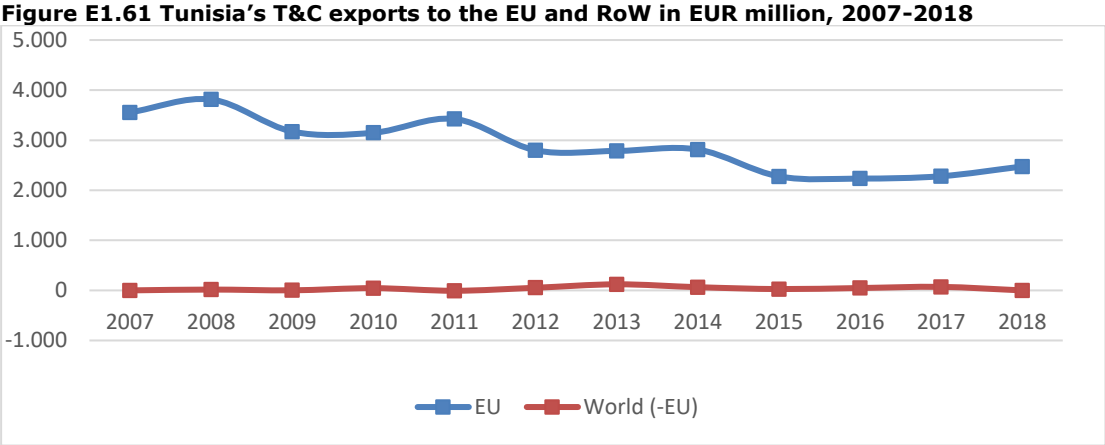
As absolute imports and exports in this sector declined over time, the share of the sector in total trade between the EU and Tunisia has decreased (Figure E1.59). Trade diversion, however, is an issue only for Tunisia's imports (Figure E1.60 and E1.61). Tunisia does now not only import from Italy, Germany and Spain, but increasingly also from Turkey and China. Trade between Tunisia and Turkey has increased over the past two decades. The trend is driven by the double transformation rules of origin, which stipulate that Tunisia can only export to the EU if intermediate inputs are sourced from certain countries, including EU countries and Turkey (tied to the EU in a customs union). Indeed, Tunisian imports from Turkey have grown from USD 137 million in 2007 to USD 264 million USD in 2017. Although Tunisia is able to export to the EU while using intermediate inputs from Turkey, this does not hold for Chinese imports.

Figure E1.60 Tunisia's T&C imports from the EU and RoW in EUR million, 2007-2018



Source: WITS Database (2019).

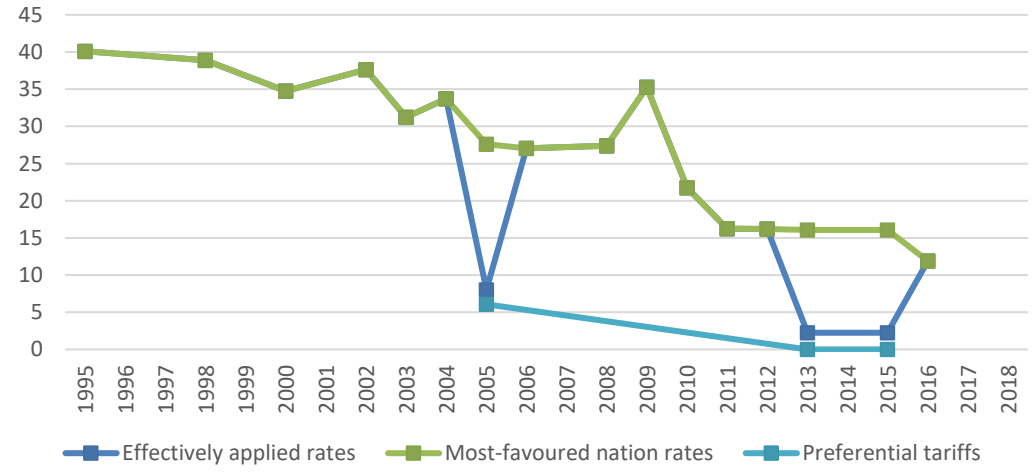
Figure E1.61 Tunisia's T&C exports to the EU and RoW in EUR million, 2007-2018



Source: WITS Database (2019).

Preference utilisation rates are high, indicating that ultimately companies that are able to export are also able to overcome this challenge, even if this comes at a cost (Figure E1.62). Preferential margins to access the EU for Tunisian T&C exporters have decreased since the entry into force of the FTA (see section 3.3). This can partially explain the decrease in exports, as Tunisian T&C products' competitiveness has slowly eroded against the exports of large T&C countries such as Bangladesh and Turkey.

Figure E1.62 Tunisian tariffs on textile and clothing imports from the EU in percent, 1995-2016



Source: UNCTAD TRAINS.
Note: The rates displayed here are weighted average rate.

Figure E1.63 Preference utilisation rate of Tunisian exports to the EU, 2005 to 2018

Source: Eurostat Comext.

Tunisia - Conclusion on impact of the FTA

The key question is why the trade chapters of the Association Agreement did not lead to increased exports from Tunisia. Several factors have played a role in this development. Most importantly, the phasing out of the Multi-Fibre agreement and the rise of competitors in countries such as Bangladesh or Turkey (often enjoying comparable preferential market access to the EU) had a major impact. The increased imports of intermediate products from Turkey explains the decreased imports from the EU. Nevertheless, the same data does not help explain why exports to the EU have not increased as expected, given that Turkish intermediate inputs would qualify for the cumulation rules under the FTA. Moreover, a deteriorating business environment, due to the Jasmine Revolution and labour unrest, also had a negative impact on the sector and its competitiveness. FDI in the sector has been limited (Kahia, 2017). Investment was not only held back due to the Jasmine revolution and related issues such as labour unrest, but also due to increased competition from Asian textile and clothing exporters for FDI. While the Government of Tunisia has been trying to attract FDI with specific investment codes since the early 1990s, such measures have not delivered the expected results. The 1993 Investment Code offered generous tax and financial incentives, but also contained numerous restrictions that discouraged investment. For instance, it allowed for importation free of duties and taxes of equipment needed to carry out investments, provided there were no locally manufactured equivalents. These provisions, have proven complex, contradictory, costly to administer and not very effective[1333]. With the new Investment Law, introduced in 2017, the government of Tunisia introduced a series of new incentives to attract FDI, but kept many of the former instruments (including the above mentioned one). The effects of the 2017 Investment Law have yet to be fully evaluated, however many of the awarding procedures are still subject to government's discretion and no specific policy objectives to promote T&C FDI seem to be in place[1334].

Tunisian tariffs on imports from the EU were only gradually removed. The effectively applied tariffs were close to 35 percent in 2000 and remained at a high level up until 2013. This may have limited Tunisian imports of intermediate inputs from the EU and thus reduced the competitiveness of the Tunisian textile industry (Figure E1.62). Finally, rules of origin continue to be a concern. In 2016, the EU made the following statement: "The EU will explore with Tunisia advanced implementation of the PEM rules, as well as temporary flexibility for certain products to be implemented as soon as possible" (Eureatex, 2016, p. 9). However, during the consultations, many stakeholders expressed that the rules of origin, and their lack of flexibility, could negatively impact trade with the EU. An issue of particular concern is the double transformation rule, which is often difficult to satisfy for Tunisian producers, given the limited capabilities of the domestic industry, in particular in comparison to larger and more developed industries in countries such as Bangladesh.

[1333] https://www.wto.org/english/tratop_e/tpr_e/s341_sum_e.pdf.
[1334] http://www.investintunisia.tn/En/aincentive-legislation_11_24.

ANNEX E PART 2: ADDITIONAL INFORMATION RELATED TO THE SECTOR CASE STUDIES

- ***Agri-food Products***

Figure E2.1 Egyptian agricultural exports to the EU in EUR million, 2008-2018 (HS02-05, 07,08,15-24)

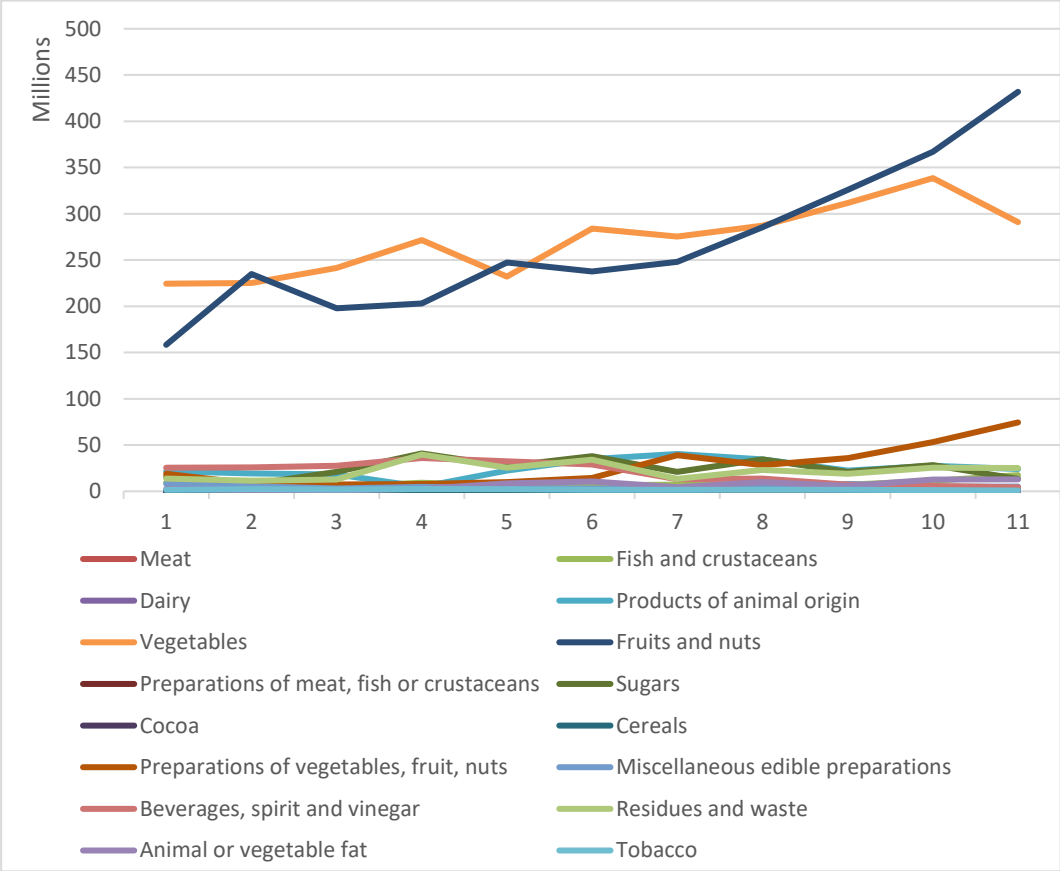


Figure E2.2 Lebanon agricultural exports to the EU in EUR million, 2008-2018 (HS02-05, 07,08,15-24)

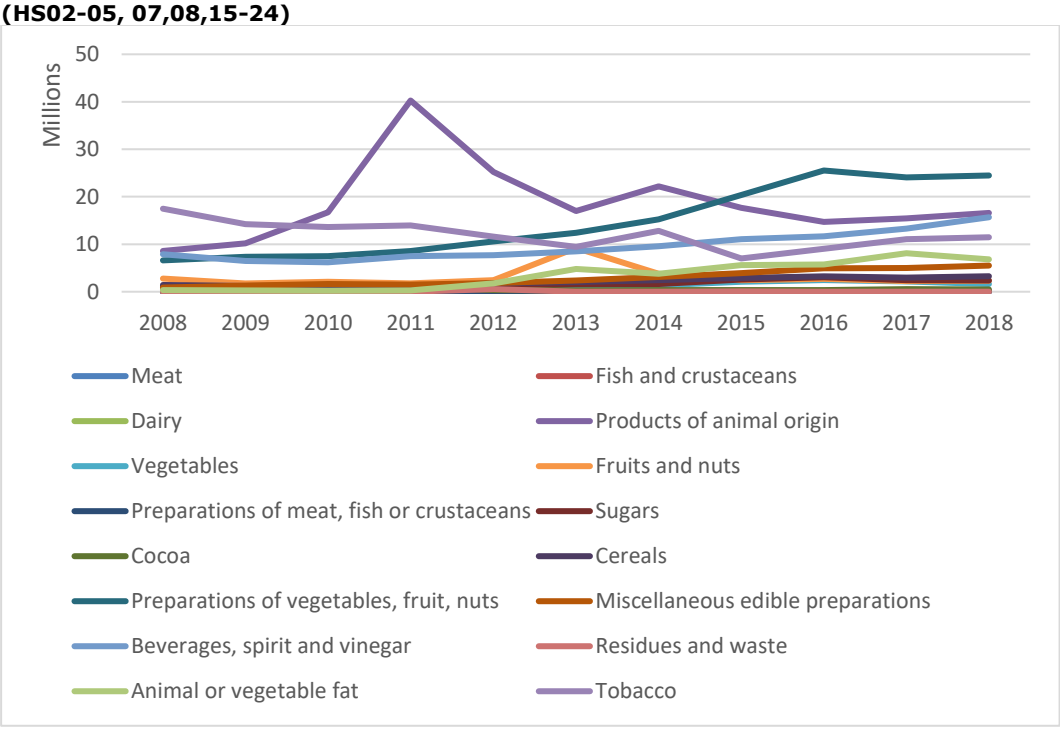


Figure E2.3 Morocco agricultural exports to the EU in EUR million, 2008-2018, (HS02-05, 07,08,15-24)

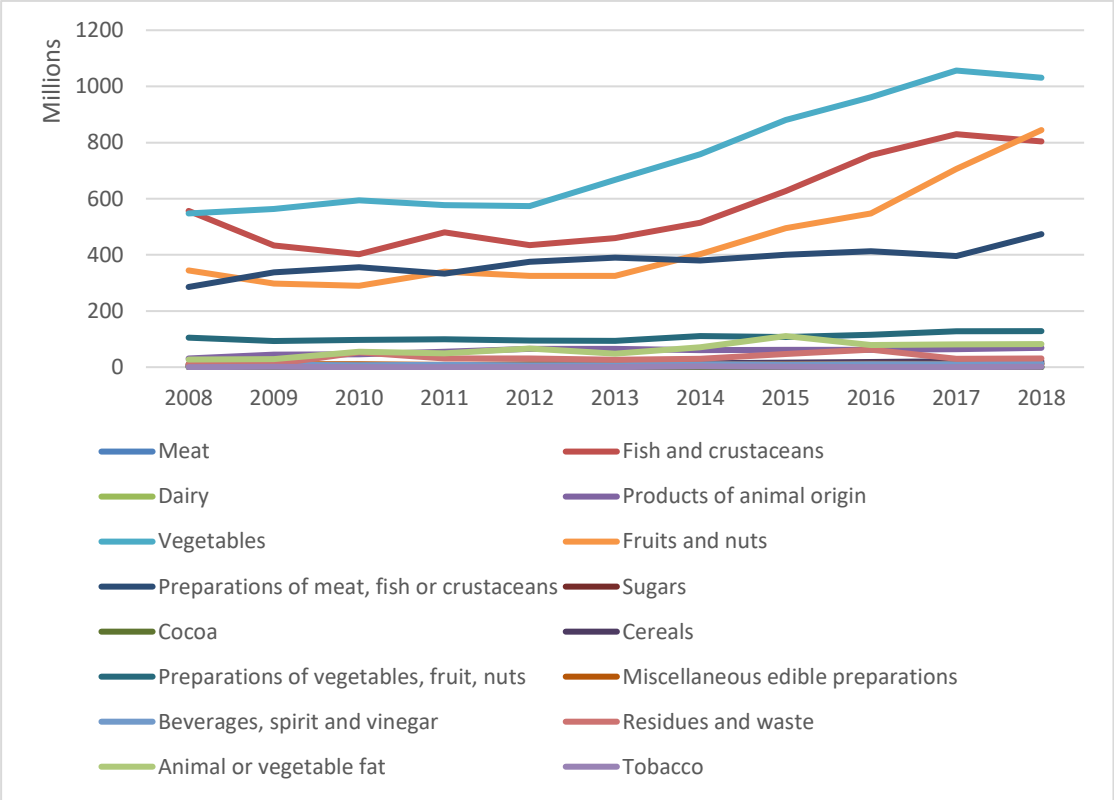
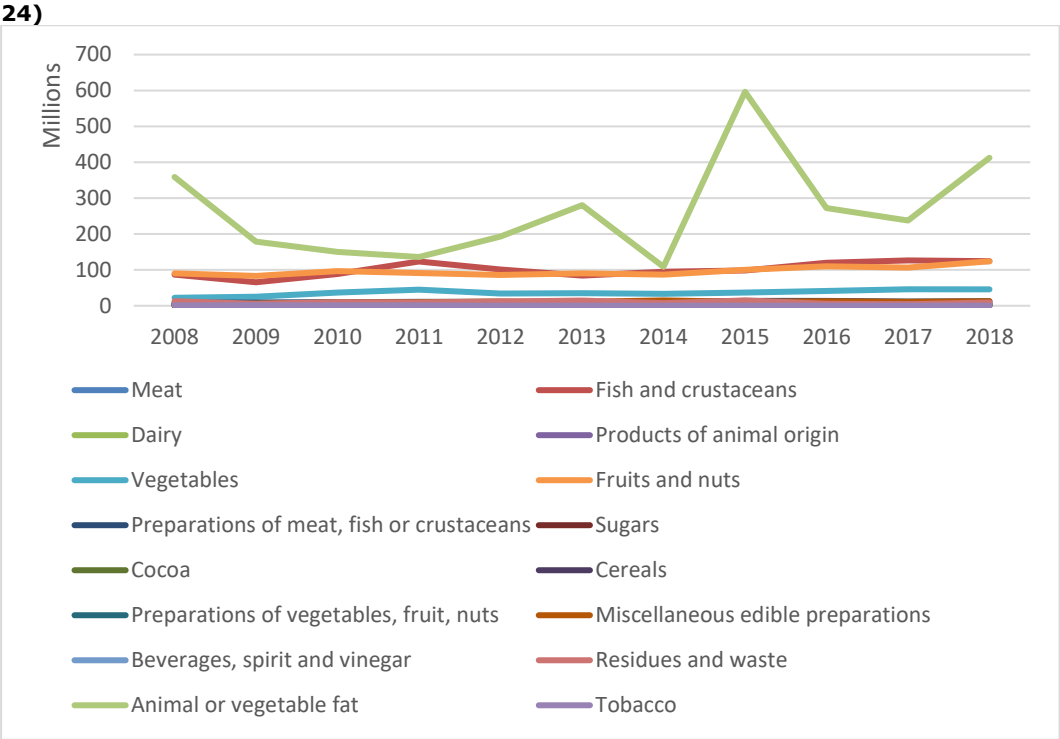
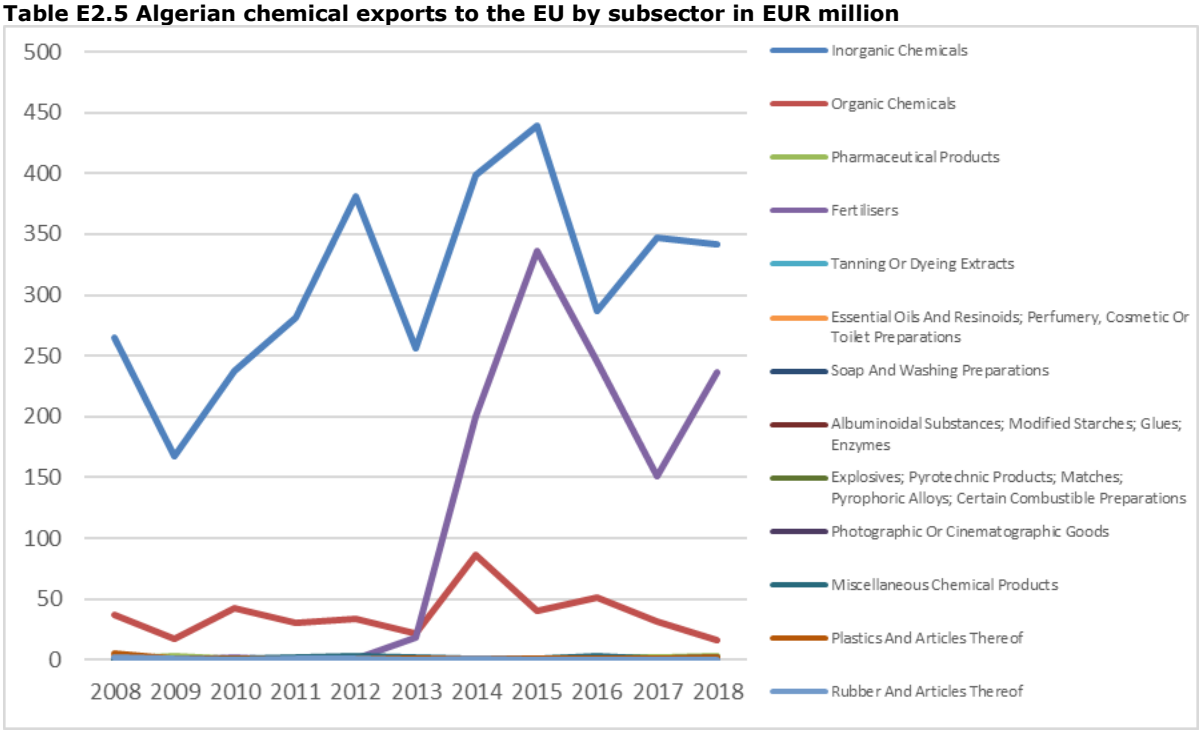


Figure E2.4 Tunisia agricultural exports to the EU in EUR million, 2008-2018, (HS02-05, 07,08,15-24)



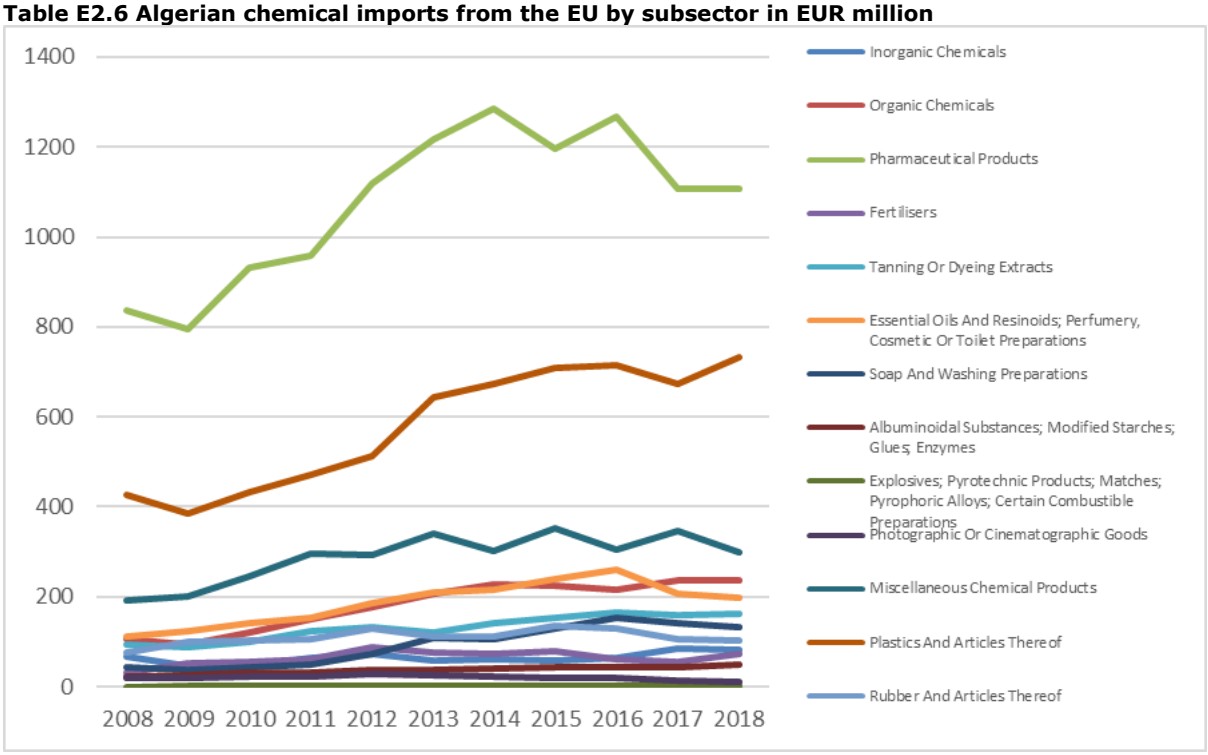
- ***Chemicals***

Table E2.5 Algerian chemical exports to the EU by subsector in EUR million



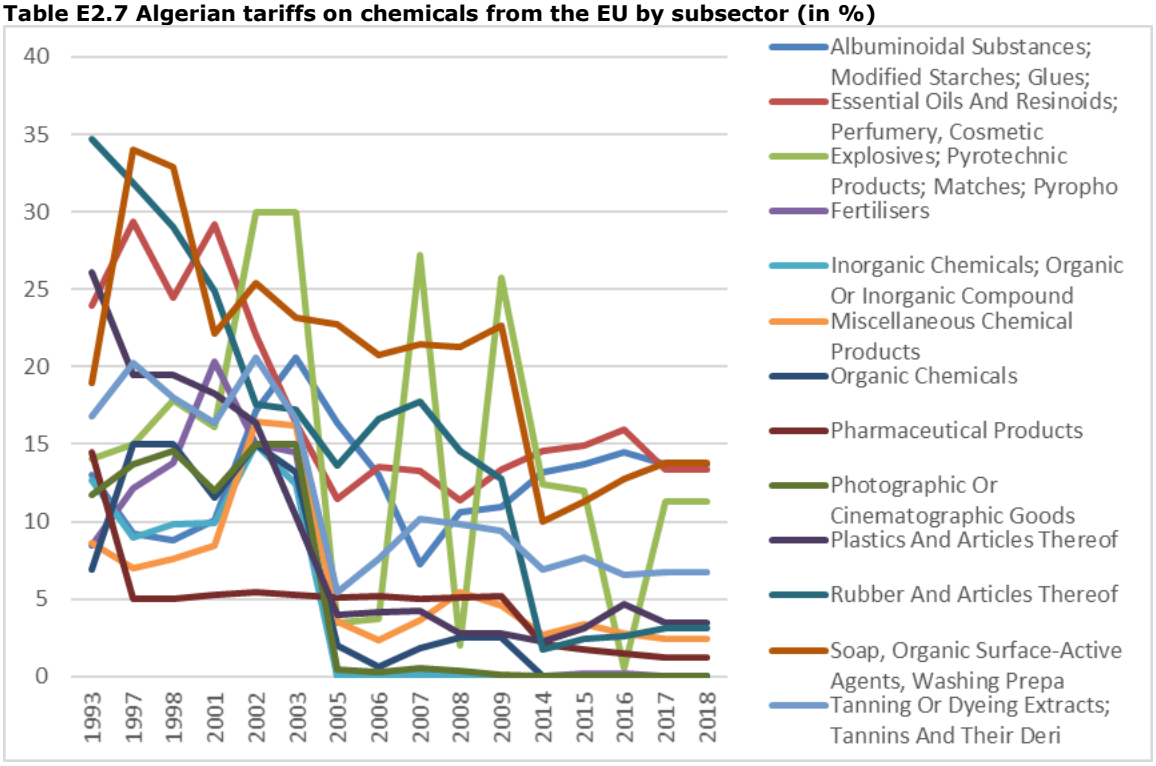
Source: Eurostat Easy Comext.

Table E2.6 Algerian chemical imports from the EU by subsector in EUR million



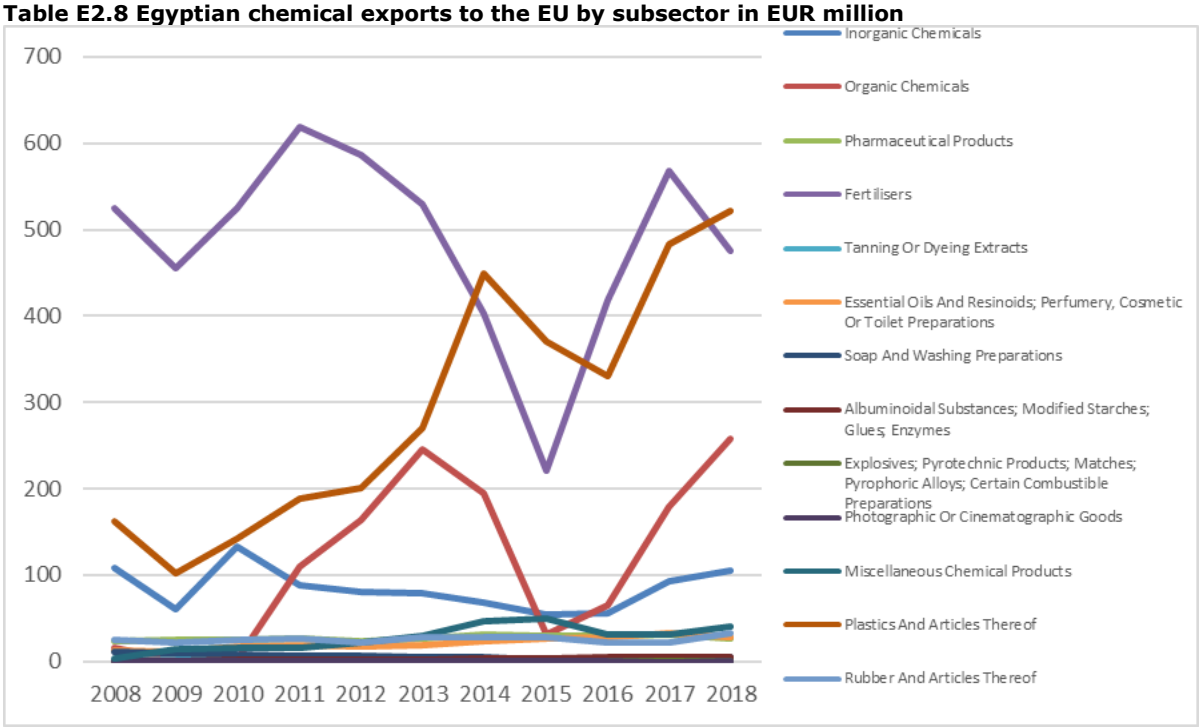
Source: Eurostat Easy Comext.

Table E2.7 Algerian tariffs on chemicals from the EU by subsector (in %)



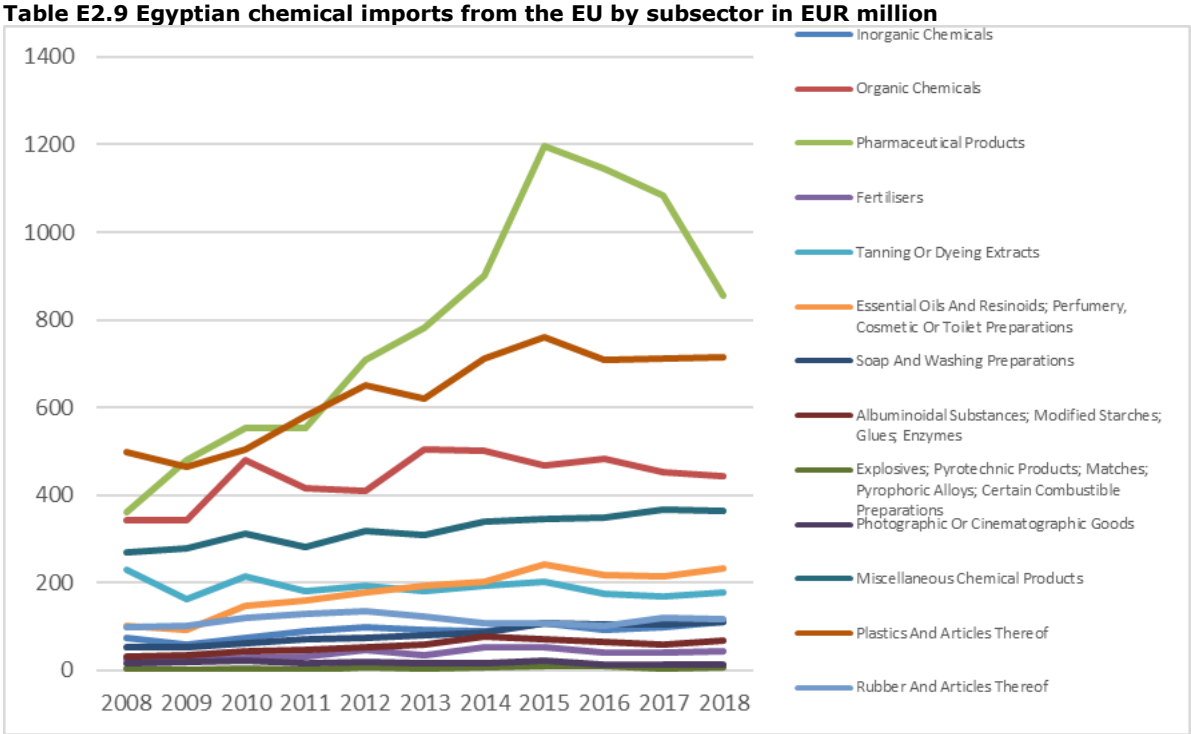
Source: WITS Database (2019).

Table E2.8 Egyptian chemical exports to the EU by subsector in EUR million



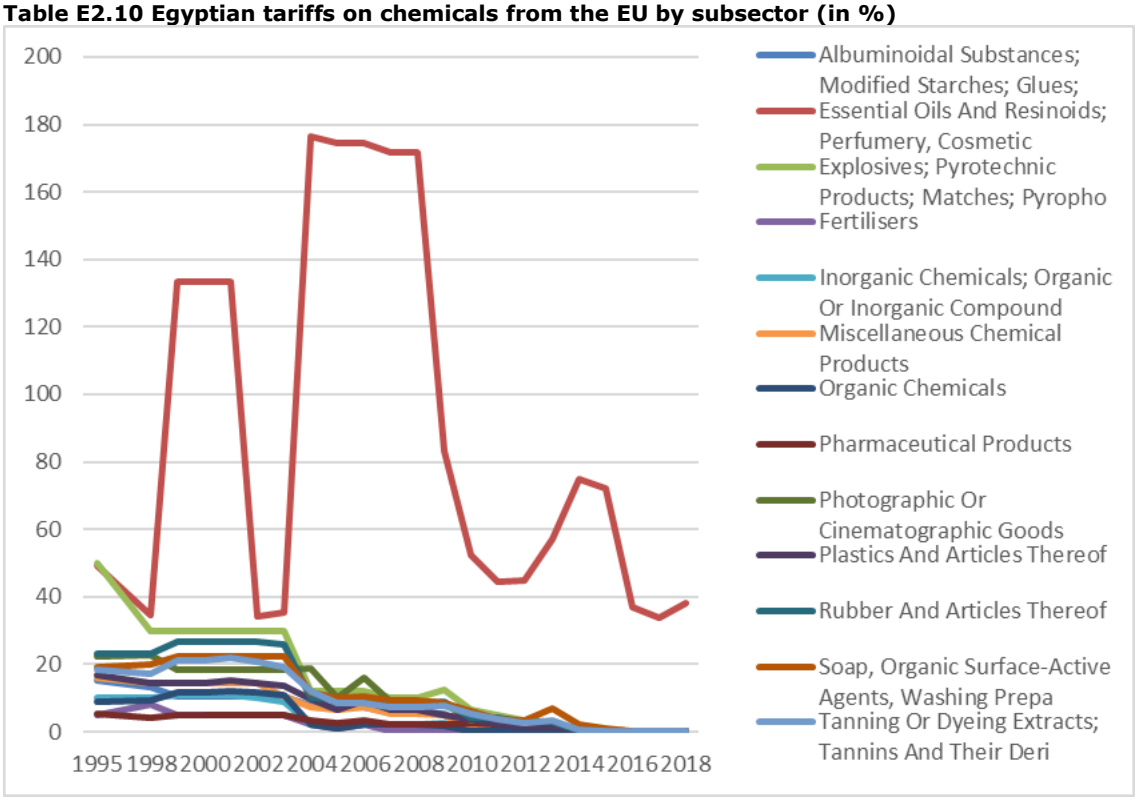
Source: Eurostat Easy Comext.

Table E2.9 Egyptian chemical imports from the EU by subsector in EUR million



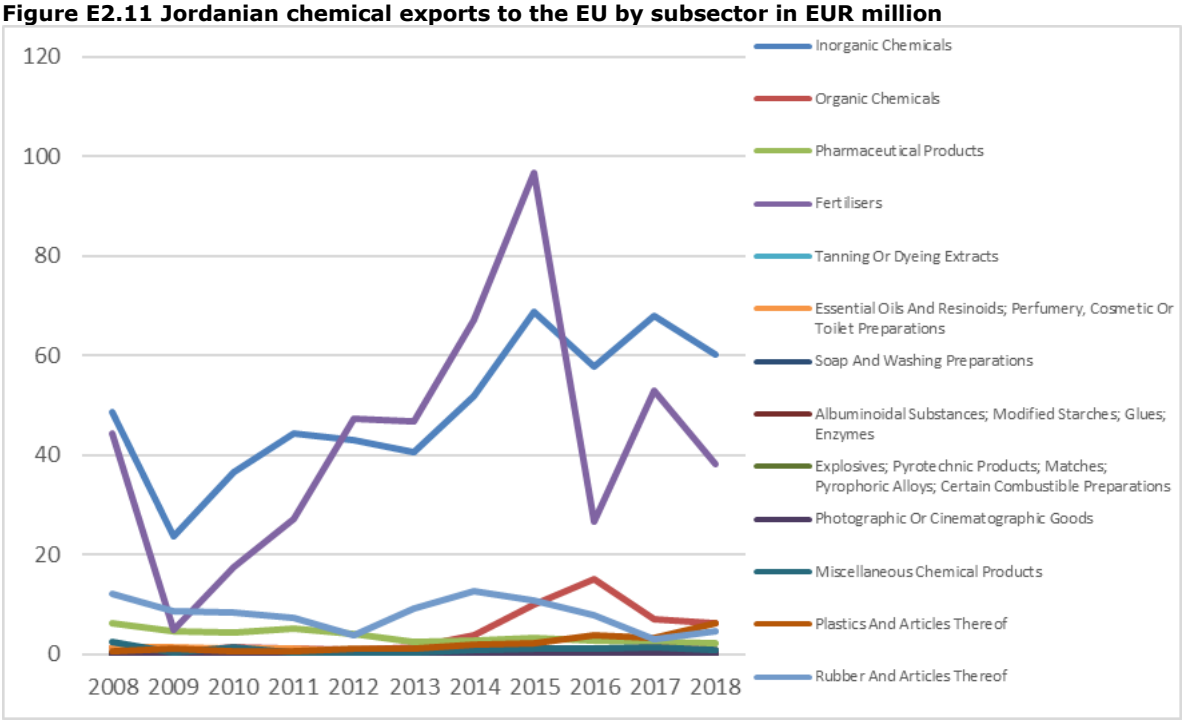
Source: Eurostat Easy Comext.

Table E2.10 Egyptian tariffs on chemicals from the EU by subsector (in %)



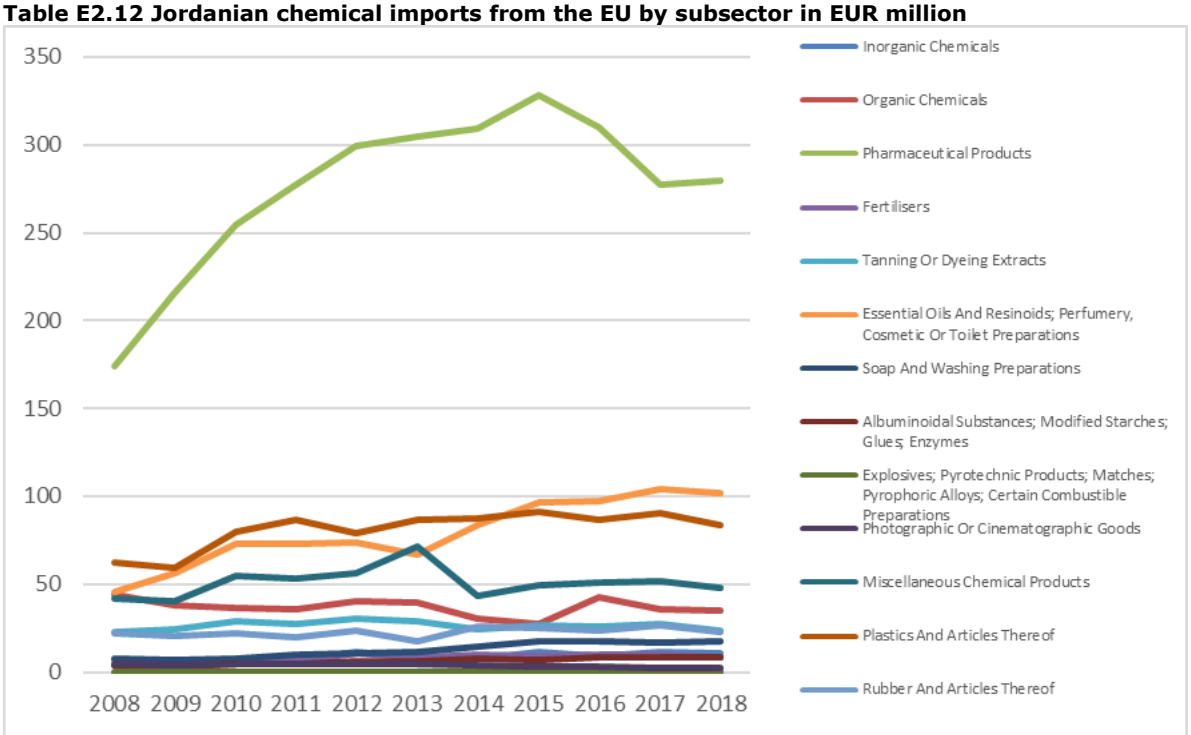
Source: WITS Database (2019).

Figure E2.11 Jordanian chemical exports to the EU by subsector in EUR million



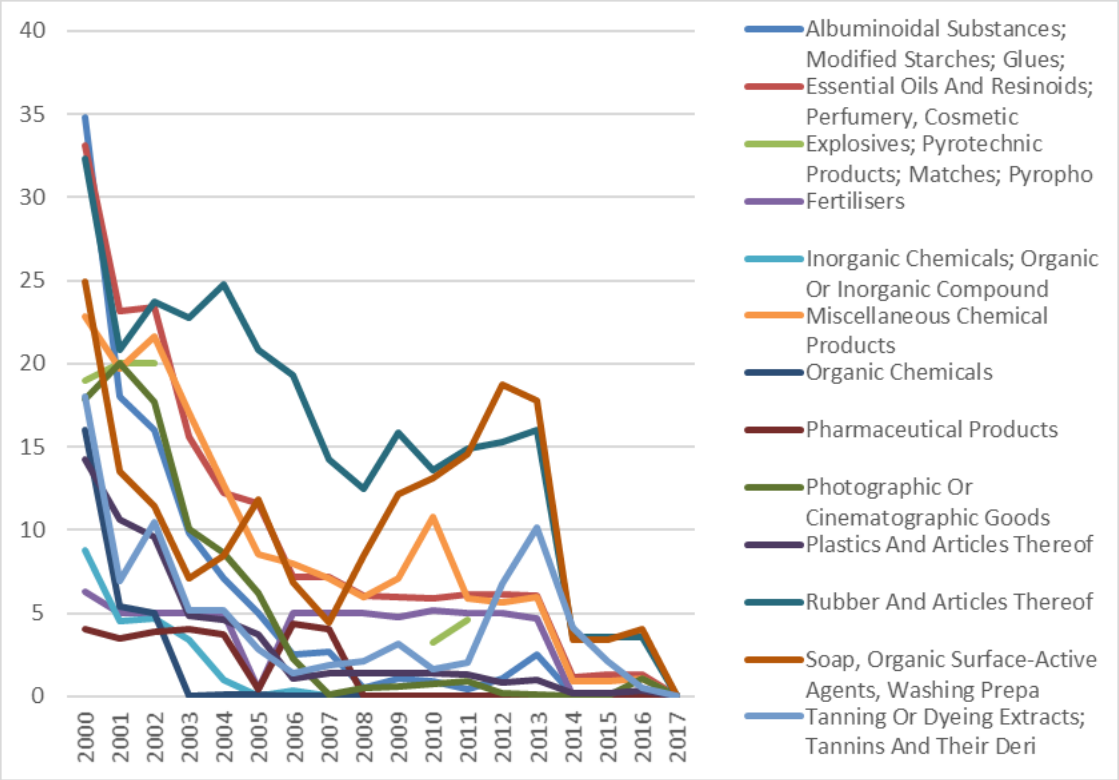
Source: Eurostat Easy Comext.

Table E2.12 Jordanian chemical imports from the EU by subsector in EUR million



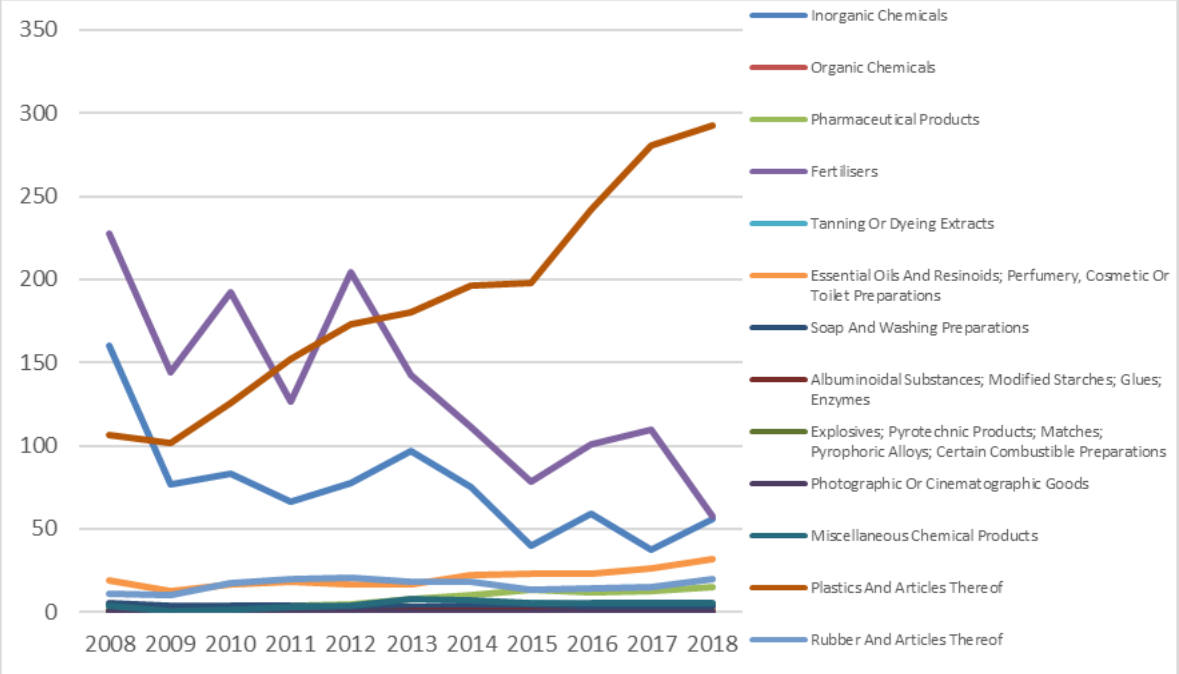
Source: Eurostat Easy Comext.

Table E2.13 Jordanian tariffs on chemicals from the EU by subsector (in %)



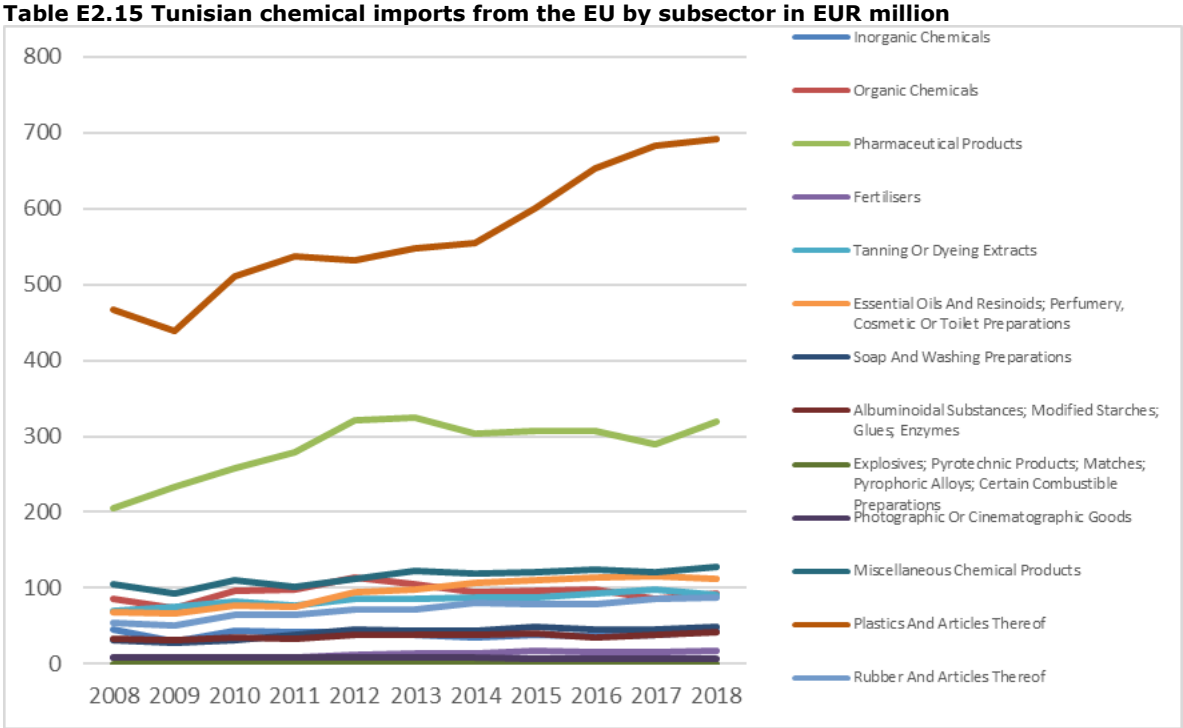
Source: WITS Database (2019).

Table E2.14 Tunisian chemical exports to the EU by subsector in EUR million



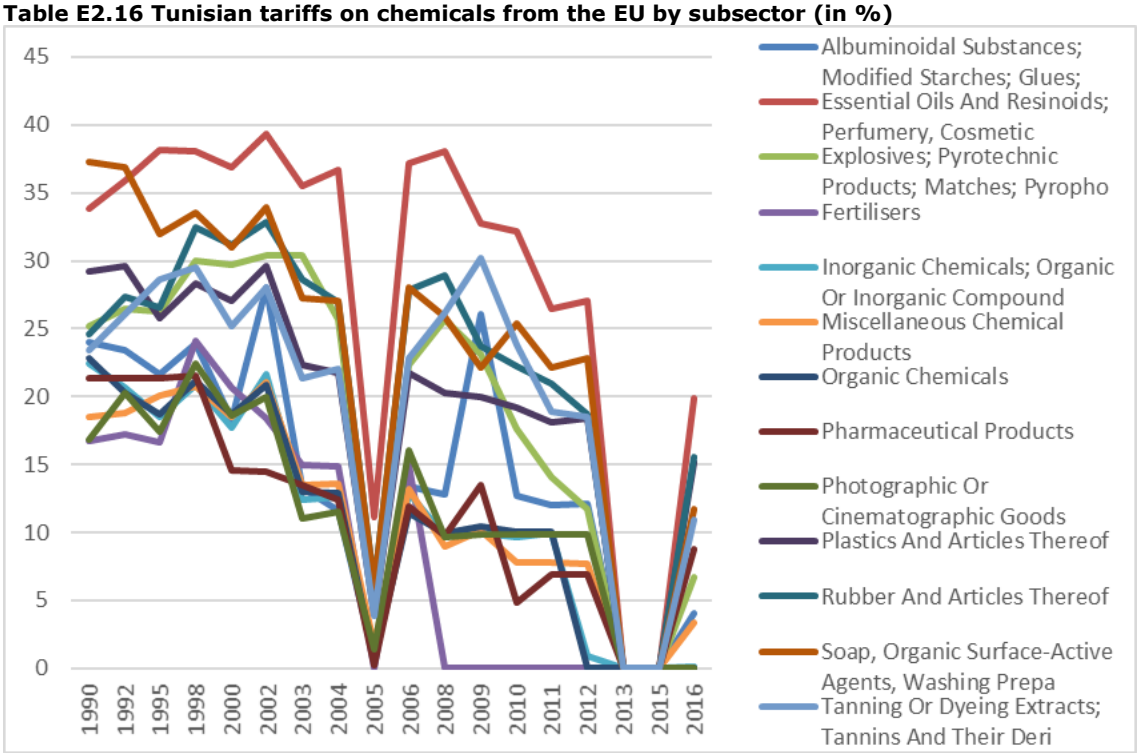
Source: Eurostat Easy Comext.

Table E2.15 Tunisian chemical imports from the EU by subsector in EUR million



Source: Eurostat Easy Comext.

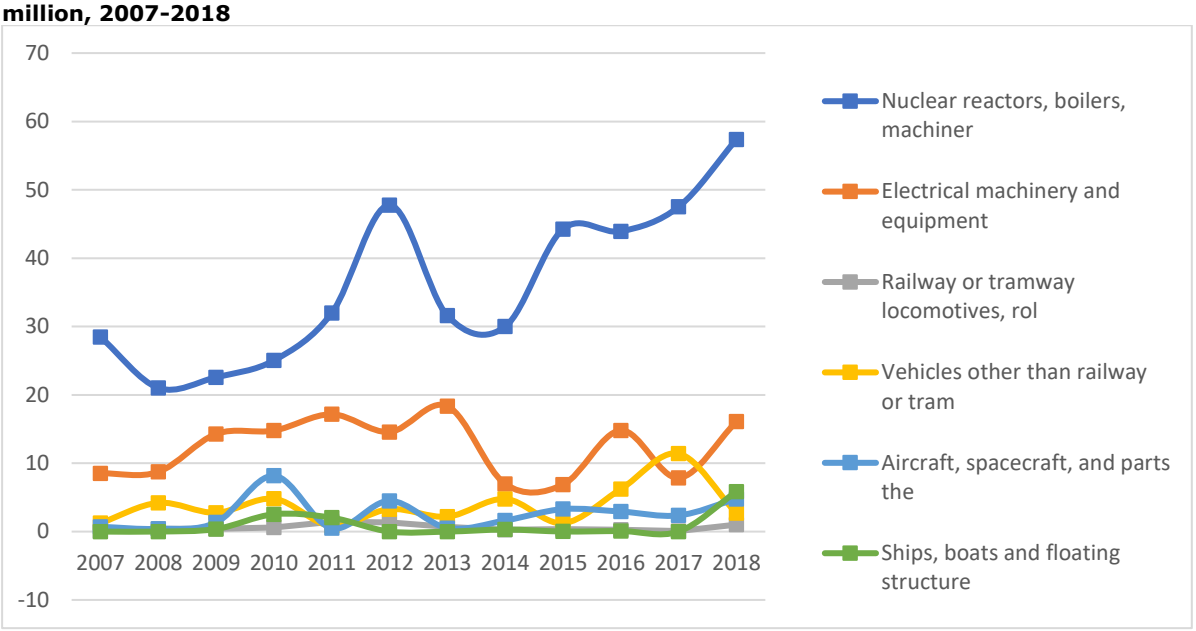
Table E2.16 Tunisian tariffs on chemicals from the EU by subsector (in %)



Source: WITS Database (2019).

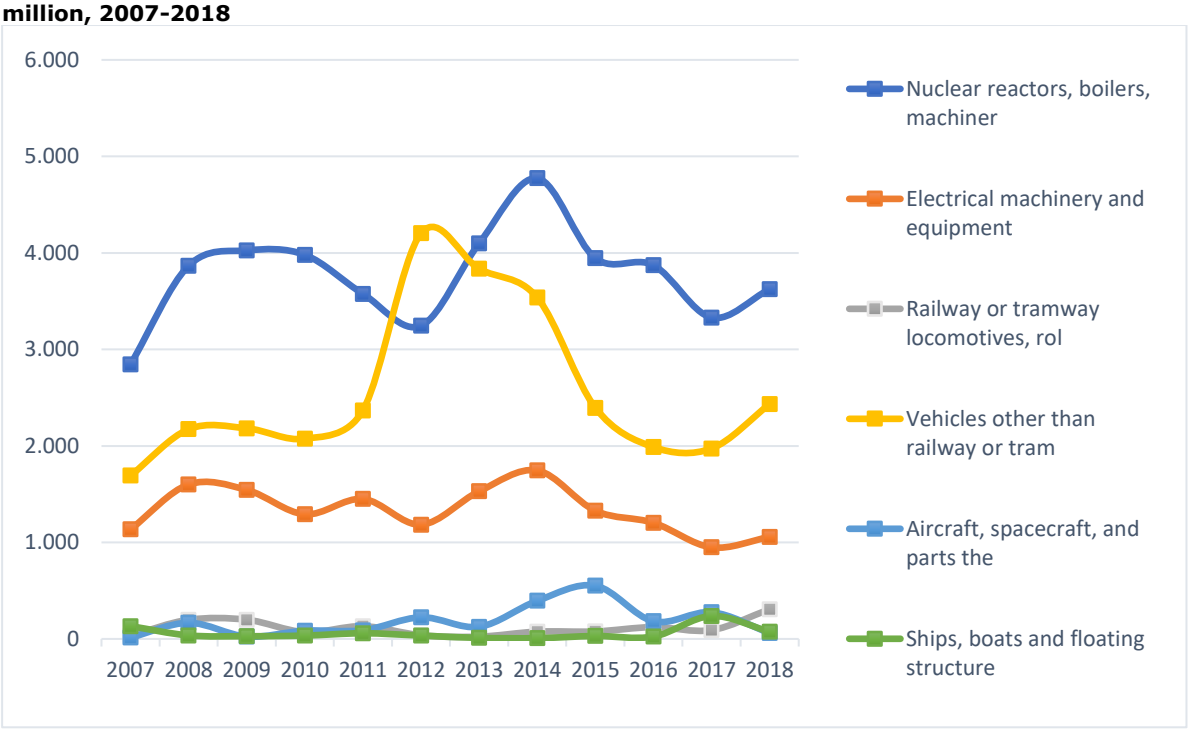
- ***Machinery and Transport***

Figure E2.17 Algerian machinery and transport equipment imports from the EU by subsector in EUR million, 2007-2018



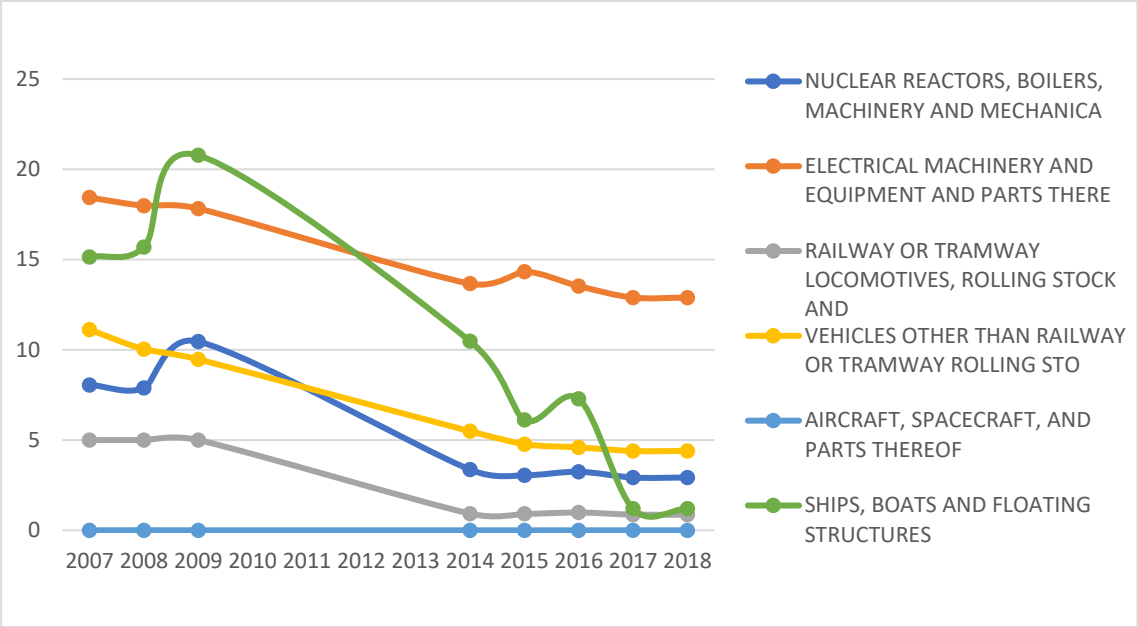
Source: WITS Database (2019).

Figure E2.18 Algerian machinery and transport equipment exports to the EU by subsector in EUR million, 2007-2018



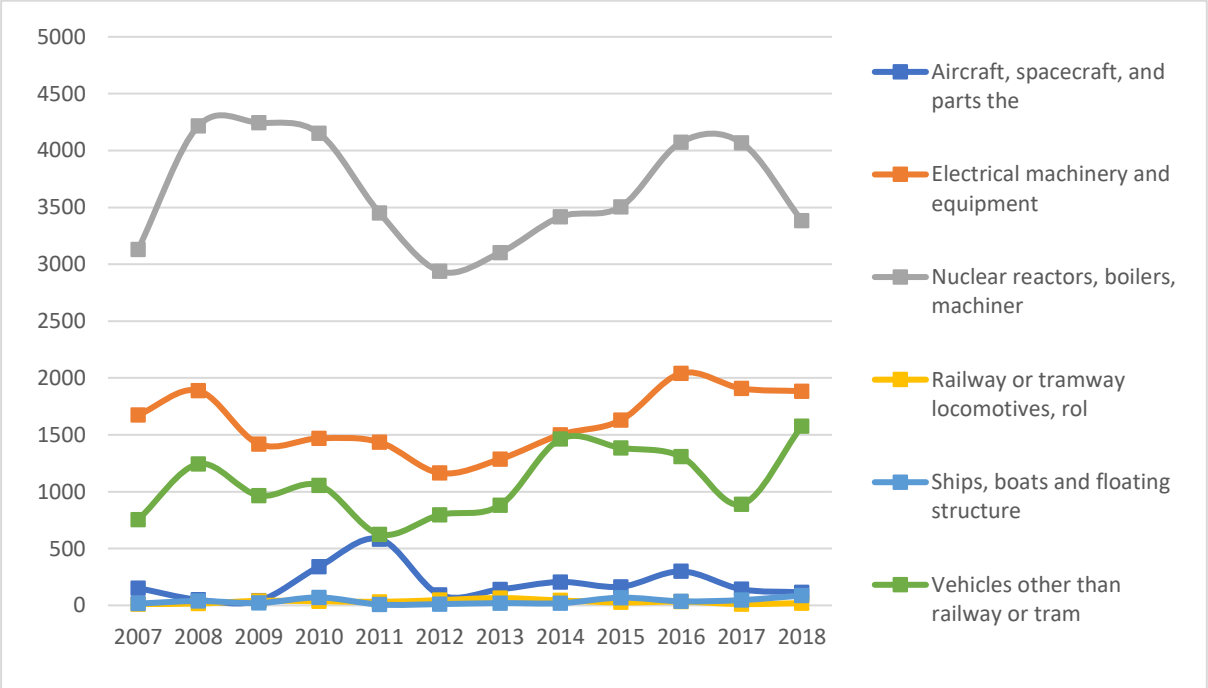
Source: WITS Database (2019).

Figure E2.19 Algerian tariffs of machinery and transport equipment from the EU by subsector (in %), 2007-2018



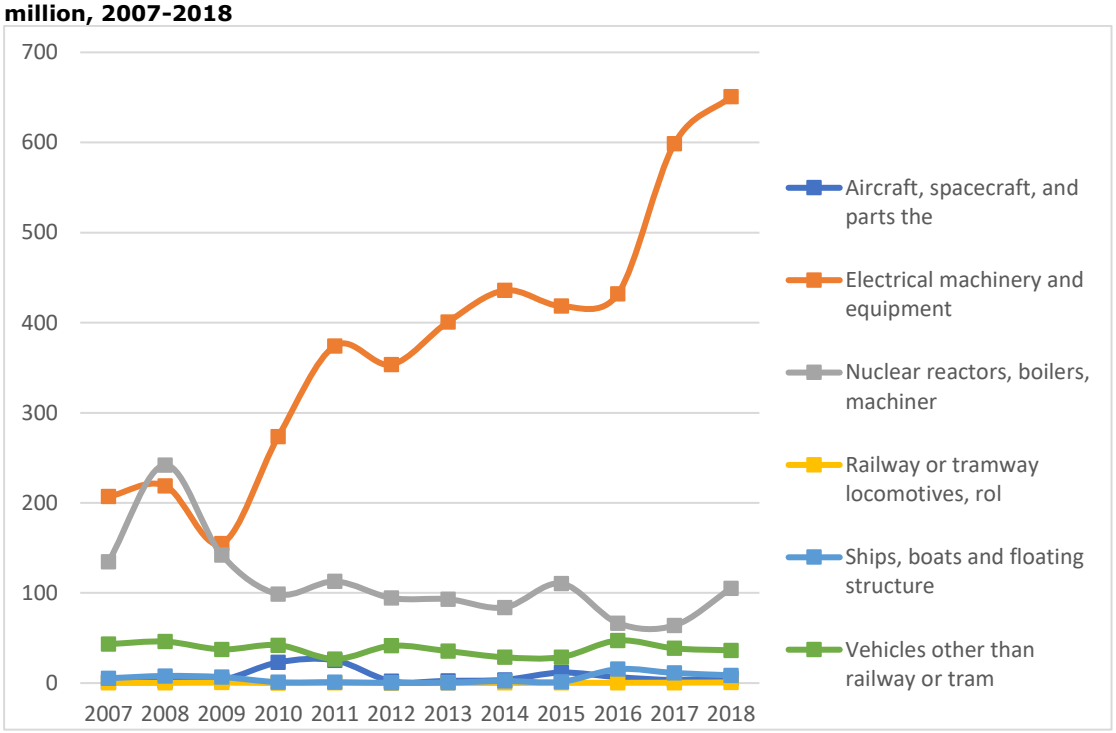
Source: WITS Database (2019).

Figure E2.20 Egyptian machinery and transport equipment imports from the EU by subsector in EUR million, 2007-2018



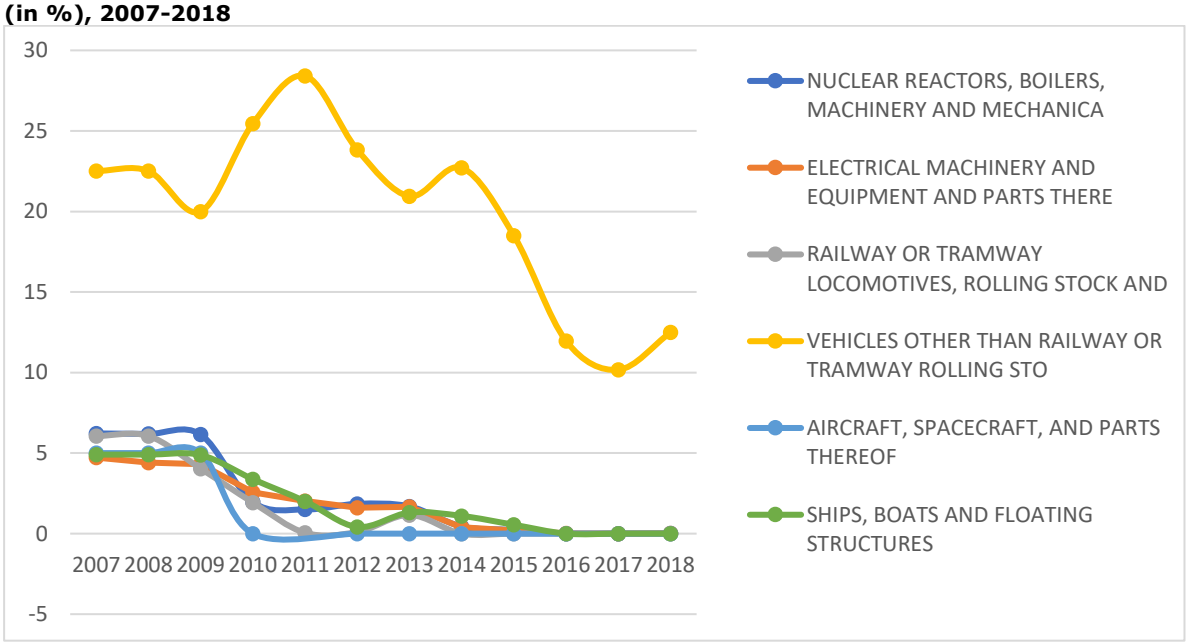
Source: WITS Database (2019).

Figure E2.21 Egyptian machinery and transport equipment exports to the EU by subsector in EUR million, 2007-2018



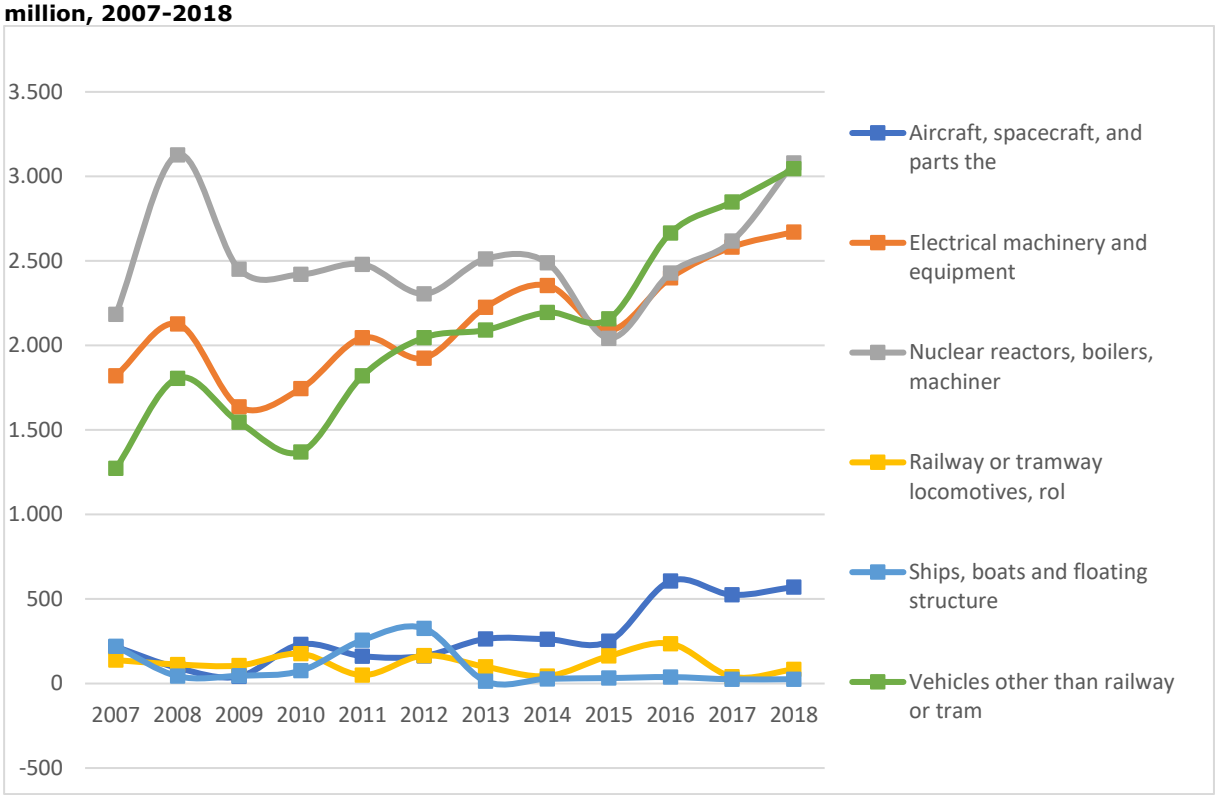
Source: WITS Database (2019).

Figure E2.22 Egyptian tariffs of machinery and transport equipment from the EU by subsector (in %), 2007-2018



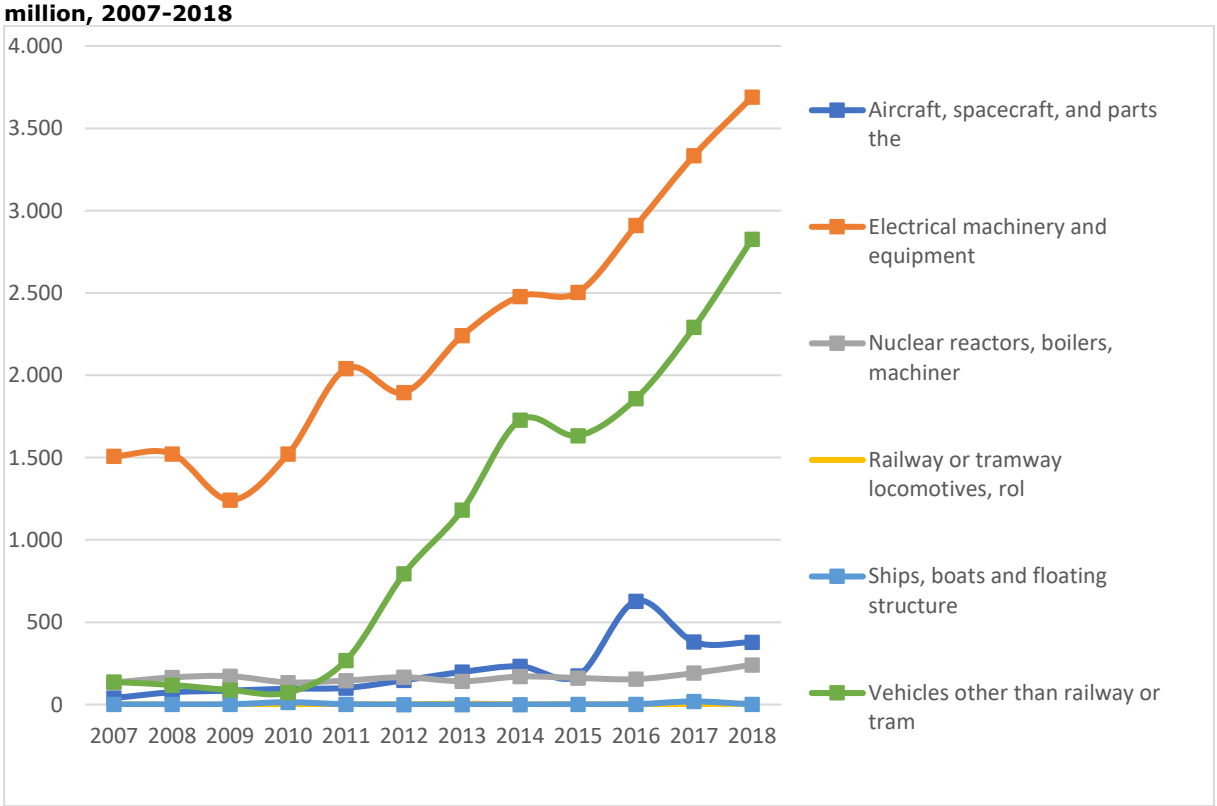
Source: WITS Database (2019).

Figure E2.23 Moroccan machinery and transport equipment imports from the EU by subsector in EUR million, 2007-2018



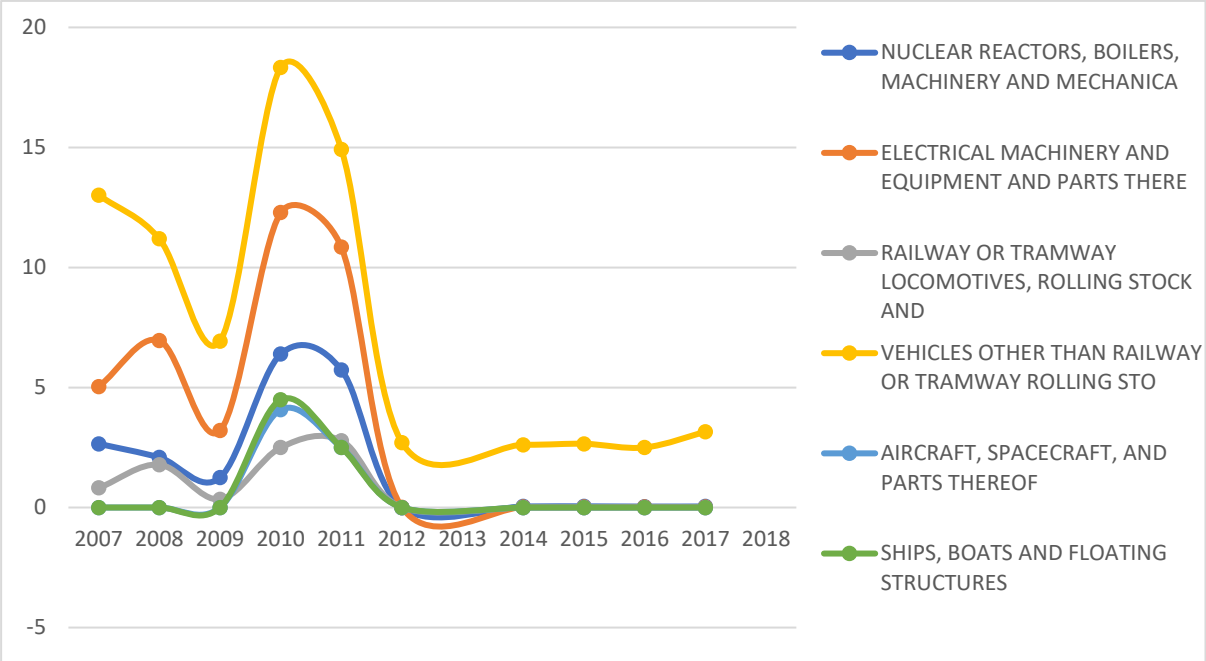
Source: WITS Database (2019).

Figure E2.24 Moroccan machinery and transport equipment exports to the EU by subsector in EUR million, 2007-2018



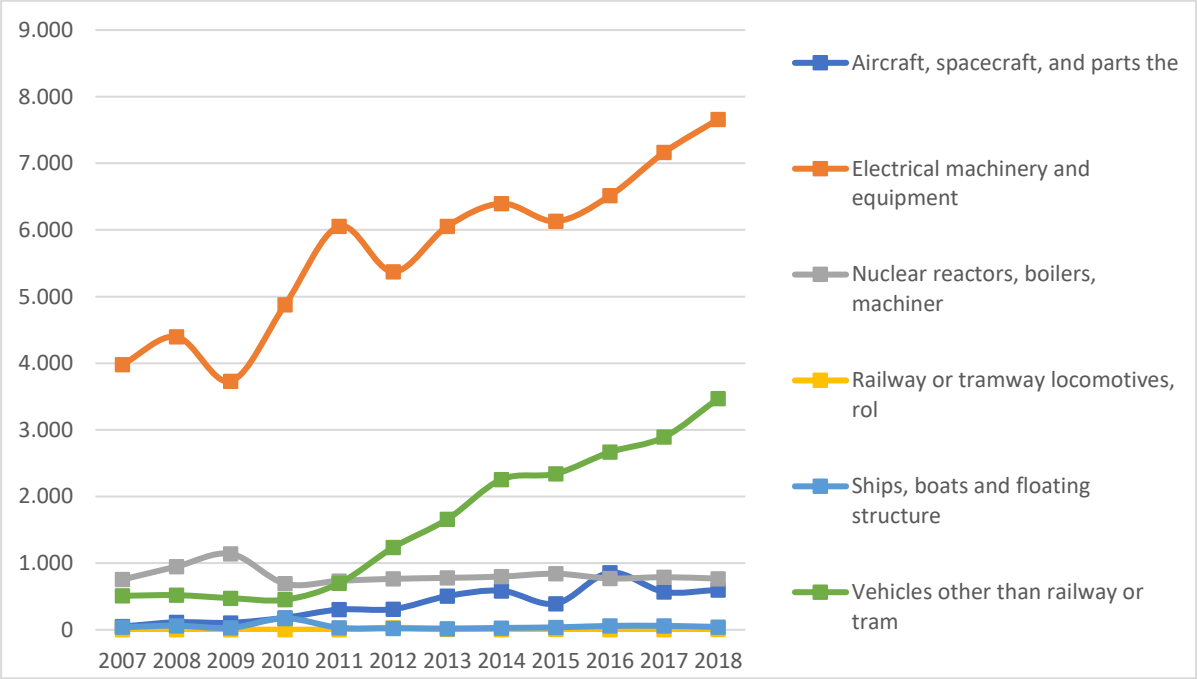
Source: WITS Database (2019).

Figure E2.25 Moroccan tariffs of machinery and transport equipment from the EU by subsector (in %), 2007-2018



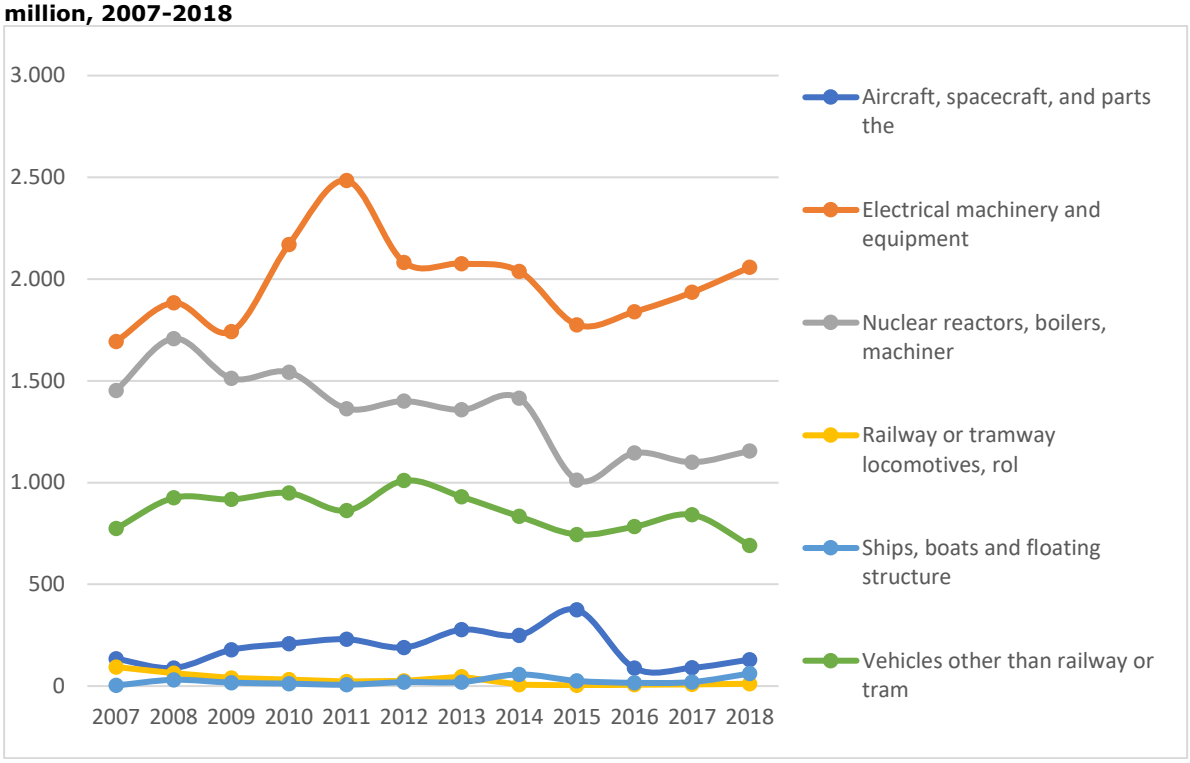
Source: WITS Database (2019).

Figure E2.26 Tunisian machinery and transport equipment imports from the EU by subsector in EUR million, 2007-2018



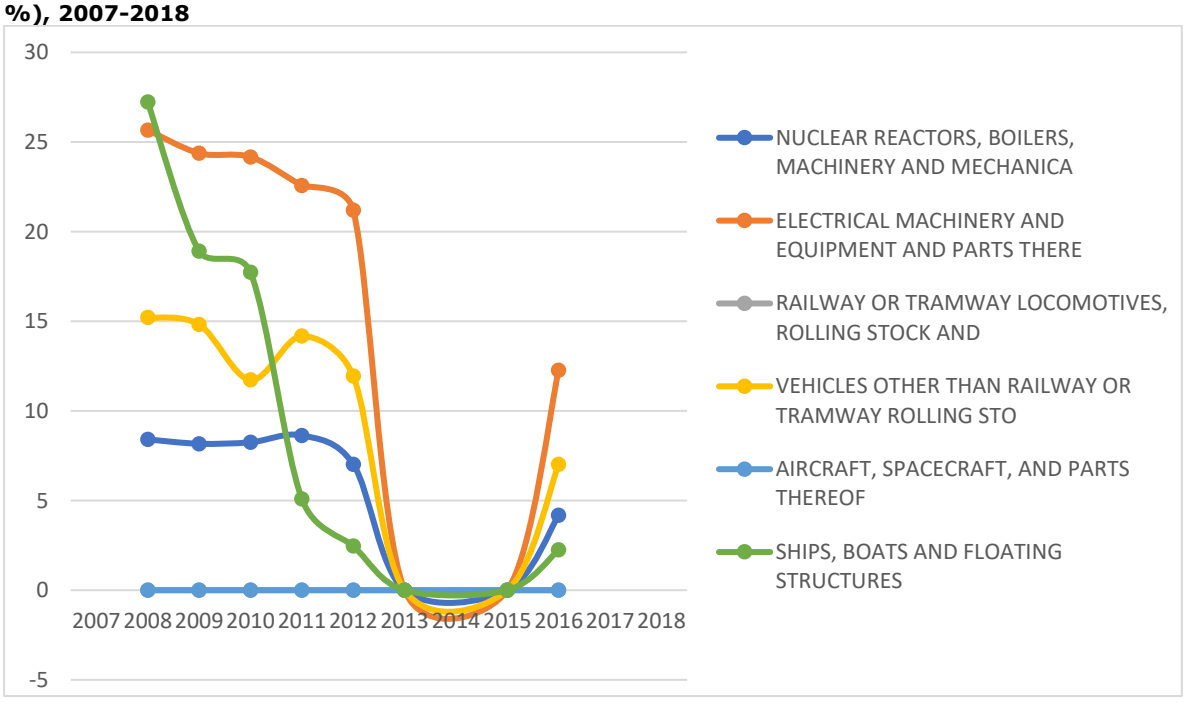
Source: WITS Database (2019).

Figure E2.27 Tunisian machinery and transport equipment exports to the EU by subsector in EUR million, 2007-2018



Source: WITS Database (2019).

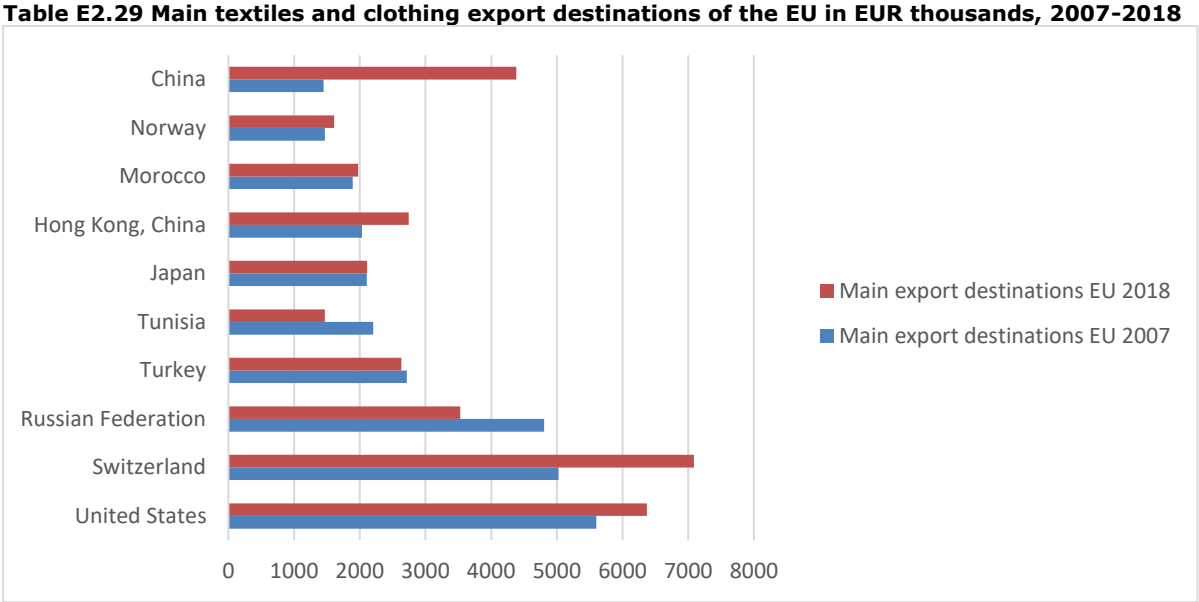
Figure E2.28 Tunisian tariffs of machinery and transport equipment from the EU by subsector (in %), 2007-2018



Source: WITS Database (2019).

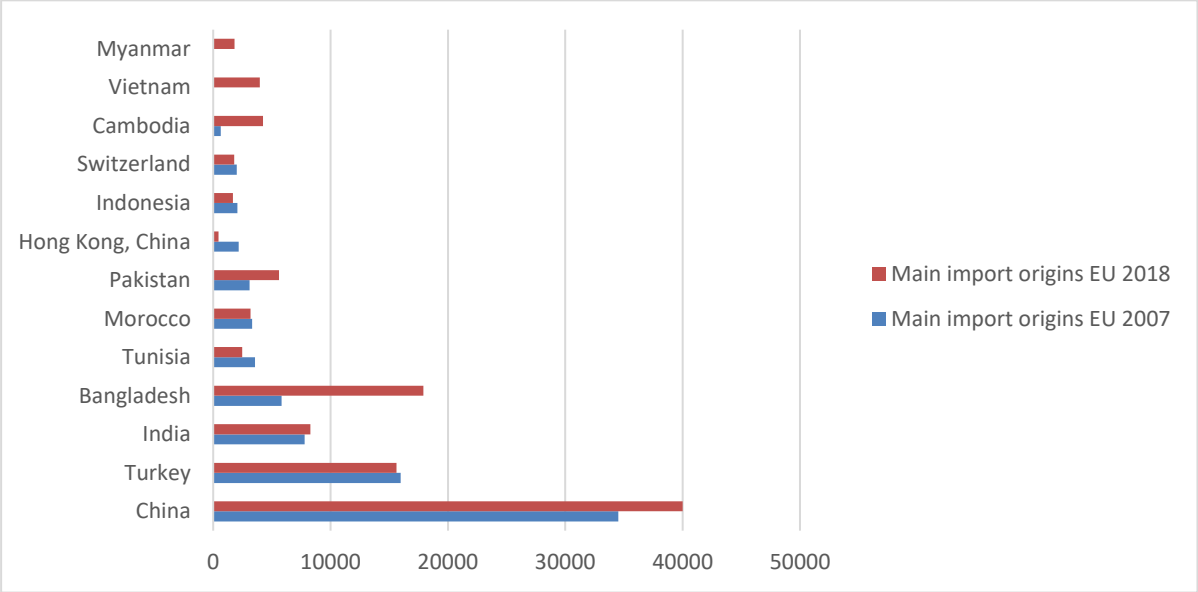
- ***Textiles and Clothing***

Table E2.29 Main textiles and clothing export destinations of the EU in EUR thousands, 2007-2018



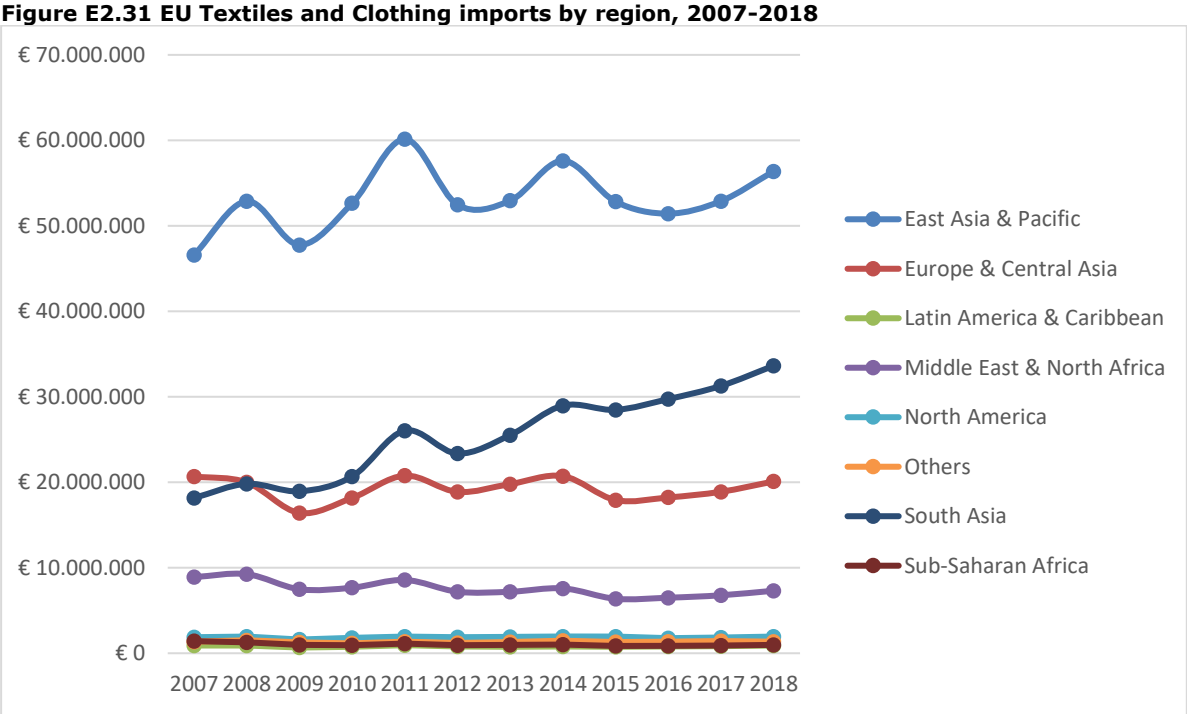
Source: Own calculations based on WITS Database (2019).

Table E2.30 Main textiles and clothing import origins to the EU in EUR thousands, 2007-2018



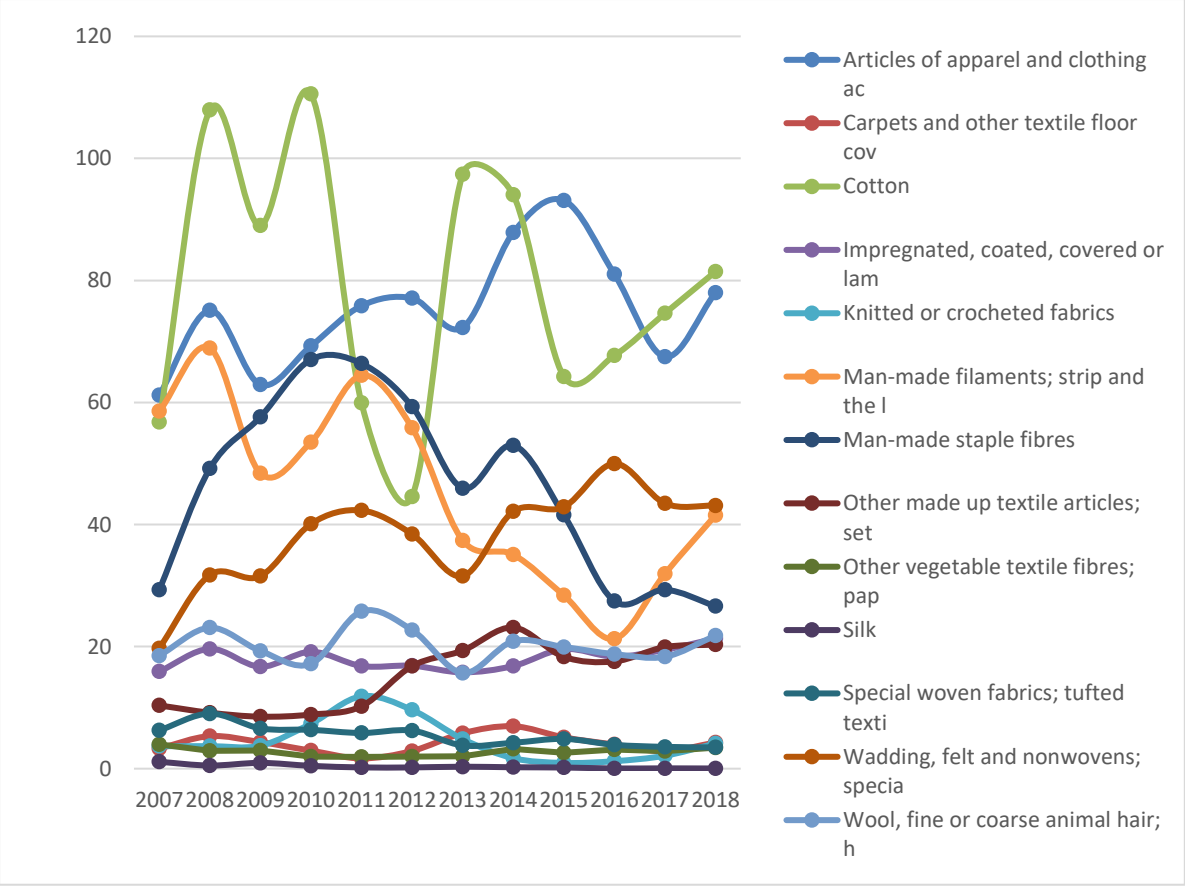
Source: Own calculations based on WITS Database (2019).

Figure E2.31 EU Textiles and Clothing imports by region, 2007-2018



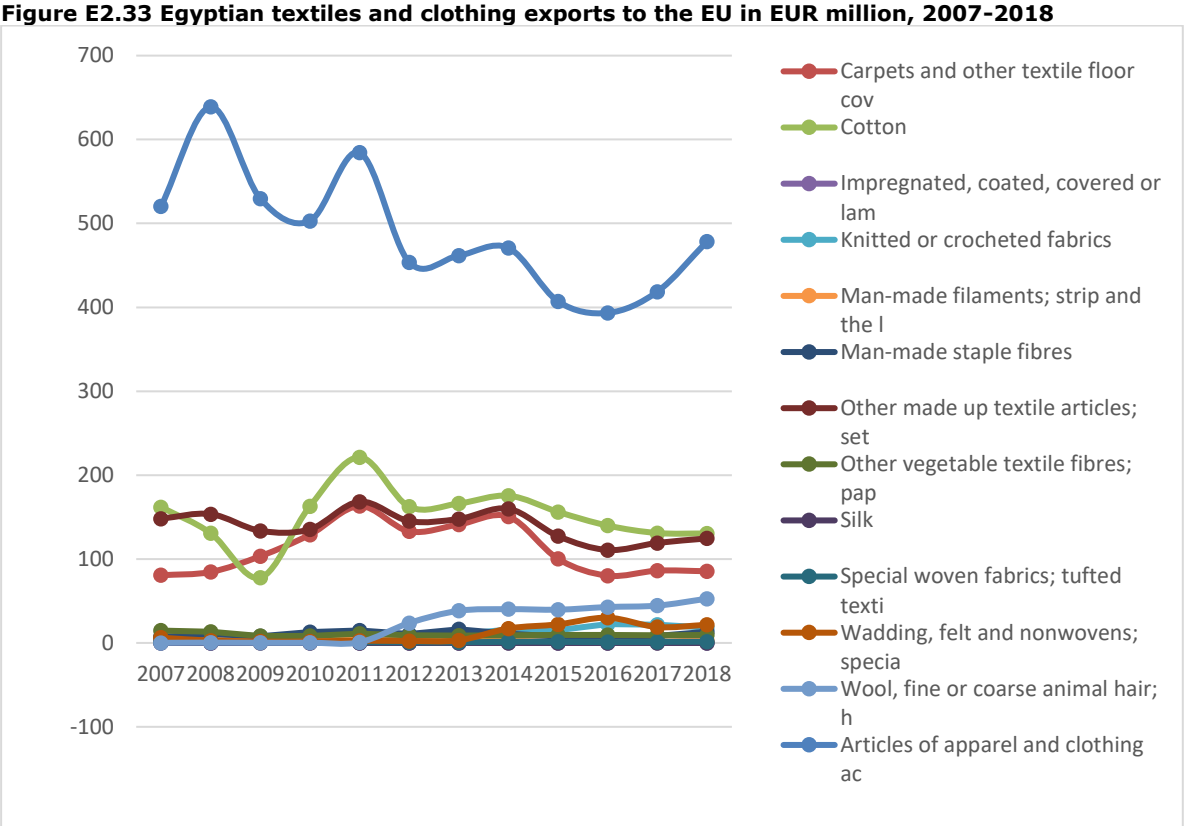
Source: WITS Database (2019).

Figure E2.32 Egyptian textiles and clothing imports from the EU in EUR million, 2007-2018



Source: WITS Database (2019).

Figure E2.33 Egyptian textiles and clothing exports to the EU in EUR million, 2007-2018



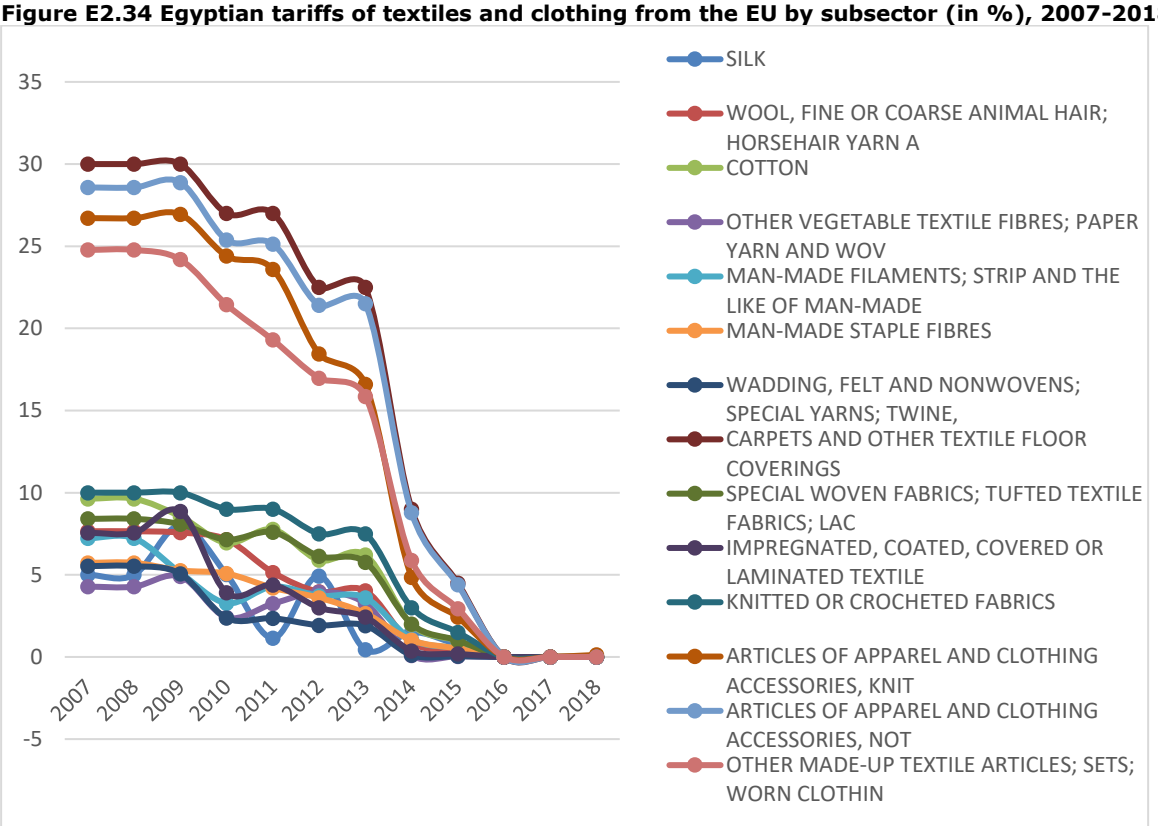
Source: WITS Database (2019).

Table E2.1 Top ten textiles and clothing exports from Egypt to the EU, 2017

1. HS Code	2. Product	3. Trade value	4. Share in sectoral imports
5. 6 20342	6. MEN'S OR BOYS' TROUSERS, BIB AND BRACE OVERALLS, BREECHES AND SHORTS, OF COTTON (EXCL. KNITTED OR CROCHETED, UNDERPANTS AND SWIMWEAR)	7. € 70.171.222,00	8. 8 ,3%
9. 6 20462	10. WOMEN'S OR GIRLS' TROUSERS, BIB AND BRACE OVERALLS, BREECHES AND SHORTS OF COTTON (EXCL. KNITTED OR CROCHETED, PANTIES AND SWIMWEAR)	11. € 69.131.599,00	12. 8 ,2%
13. 6 10910	14. T-SHIRTS, SINGLETS AND OTHER VESTS OF COTTON, KNITTED OR CROCHETED	15. € 49.941.192,00	16. 5 ,9%
17. 5 10529	18. WOOL, COMBED (EXCL. THAT IN FRAGMENTS 'OPEN TOPS')	19. € 35.098.908,00	20. 4 ,2%
21. 5 70242	22. CARPETS AND OTHER FLOOR COVERINGS, OF MAN-MADE TEXTILE MATERIALS, WOVEN, NOT TUFTED OR FLOCKED, OF PILE CONSTRUCTION, MADE UP (EXCL. KELEM, SCHUMACKS, KARAMANIE AND SIMILAR HAND-WOVEN RUGS)	23. € 33.345.169,00	24. 4 ,0%
25. 6 30260	26. TOILET LINEN AND KITCHEN LINEN, OF TERRY TOWELLING OR SIMILAR TERRY FABRICS OF COTTON (EXCL. FLOOR-CLOTHS, POLISHING-CLOTHS, DISH-CLOTHS AND DUSTERS)	27. € 31.496.115,00	28. 3 ,7%
29. 6 11020	30. JERSEYS, PULLOVERS, CARDIGANS, WAISTCOATS AND SIMILAR ARTICLES, OF COTTON, KNITTED OR CROCHETED (EXCL. WADDED WAISTCOATS)	31. € 25.532.095,00	32. 3 ,0%
33. 5 20544	34. MULTIPLE 'FOLDED' OR CABLED COTTON YARN, OF COMBED FIBRES, CONTAINING >= 85% COTTON BY WEIGHT AND WITH A LINEAR DENSITY OF 125 DECITEX TO < 192,31 DECITEX '> MC 52 TO MC 80' PER SINGLE YARN (EXCL. SEWING THREAD AND YARN PUT UP FOR RETAIL SALE)	35. € 24.450.170,00	36. 2 ,9%
37. 6 30231	38. BED-LINEN OF COTTON (EXCL. PRINTED, KNITTED OR CROCHETED)	39. € 23.409.130,00	40. 2 ,8%
41. 5 70320	42. CARPETS AND OTHER FLOOR COVERINGS, OF NYLON OR OTHER POLYAMIDES, TUFTED "NEEDLE PUNCHED", WHETHER OR NOT MADE UP	43. € 19.710.719,00	44. 2 ,3%

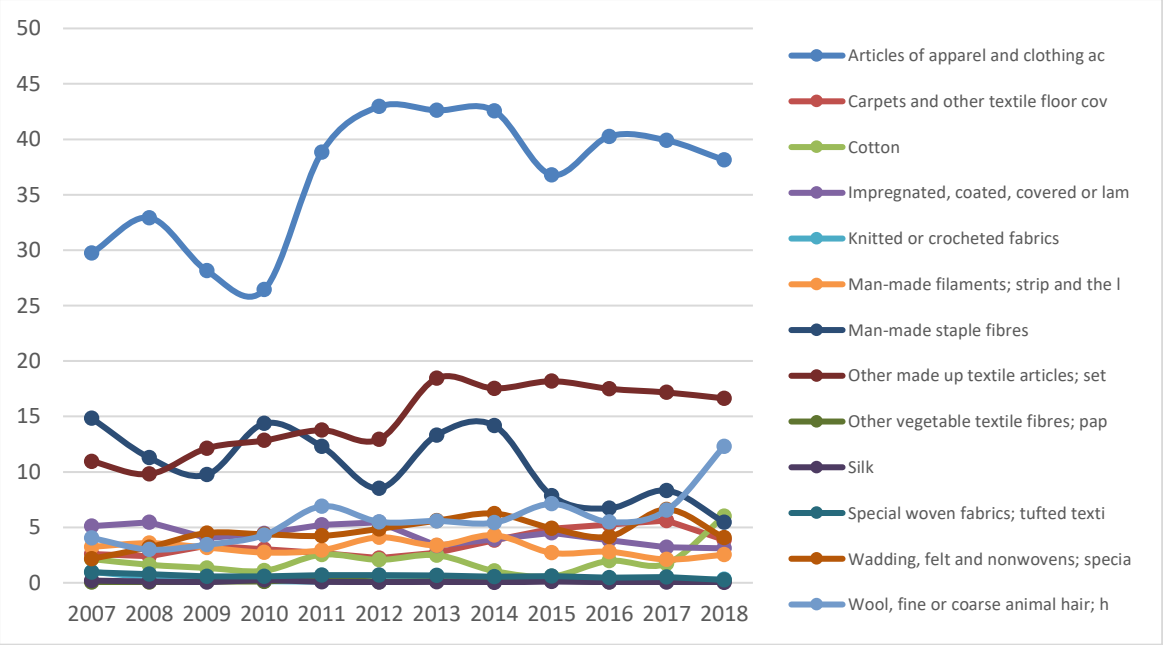
Source: Eurostat Easy Comext.
Note: EU imports under HS 50 to 63 at the six digit level.

Figure E2.34 Egyptian tariffs of textiles and clothing from the EU by subsector (in %), 2007-2018



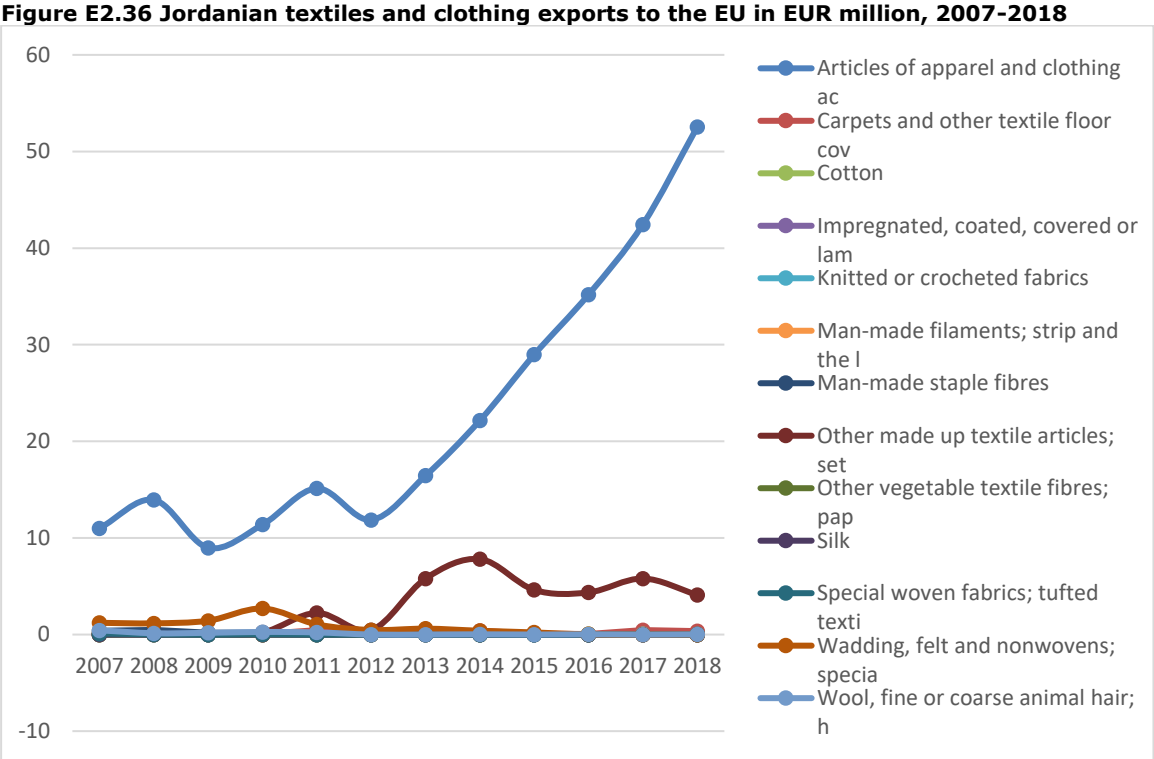
Source: WITS Database (2019).

Figure E2.35 Jordanian textiles and clothing imports from the EU in EUR million, 2007-2018



Source: WITS Database (2019).

Figure E2.36 Jordanian textiles and clothing exports to the EU in EUR million, 2007-2018



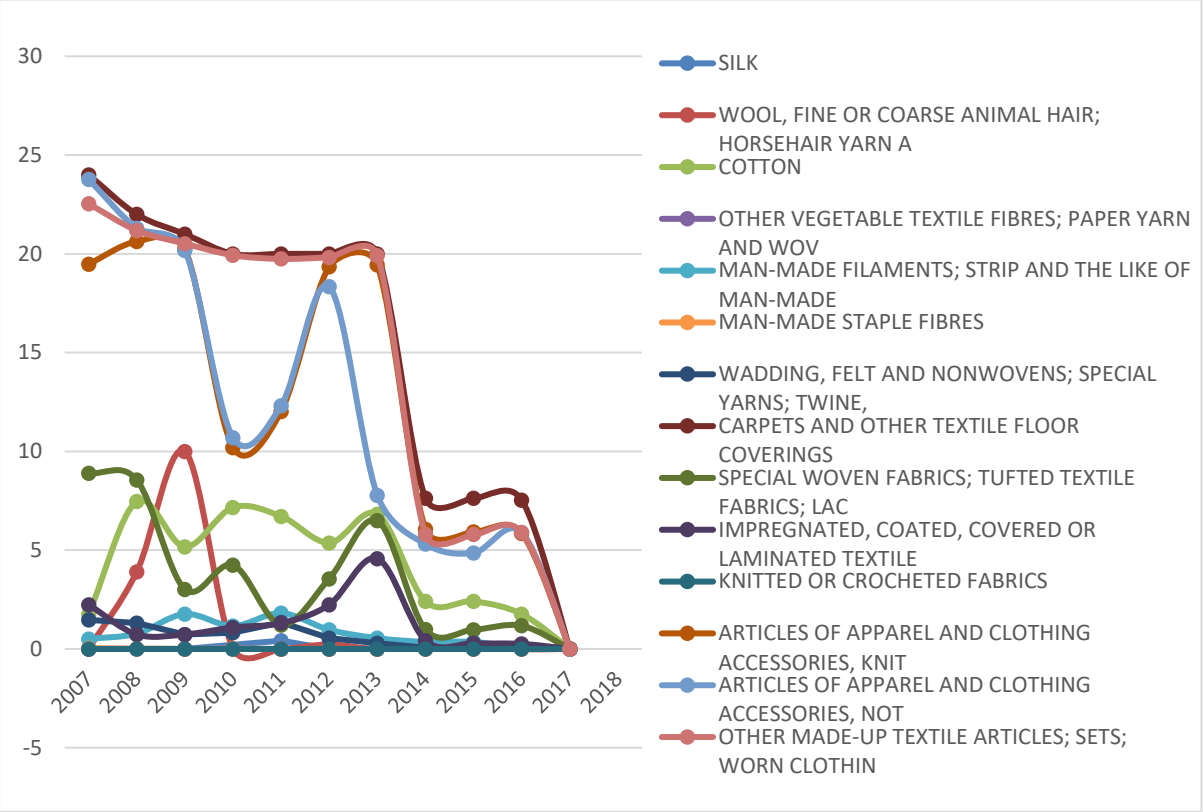
Source: WITS Database (2019).

Table E2.2 Top ten textiles and clothing exports from Jordan to the EU, 2017

45. Code	HS	46. Product	47. Trade value	48. Share in sectoral imports
49. 30	6110	50. JERSEYS, PULLOVERS, CARDIGANS, WAISTCOATS AND SIMILAR ARTICLES, OF MAN-MADE FIBRES, KNITTED OR CROCHETED (EXCL. WADDED WAISTCOATS)	51. € 13.192.071,00	52. 27,4 %
53. 90	6109	54. T-SHIRTS, SINGLETS AND OTHER VESTS OF TEXTILE MATERIALS, KNITTED OR CROCHETED (EXCL. COTTON)	55. € 8.477.754,00	56. 17,6 %
57. 60	6302	58. TOILET LINEN AND KITCHEN LINEN, OF TERRY TOWELLING OR SIMILAR TERRY FABRICS OF COTTON (EXCL. FLOOR-CLOTHS, POLISHING-CLOTHS, DISH-CLOTHS AND DUSTERS)	59. € 5.440.835,00	60. 11,3 %
61. 63	6104	62. WOMEN'S OR GIRLS' TROUSERS, BIB AND BRACE OVERALLS, BREECHES AND SHORTS OF SYNTHETIC FIBRES, KNITTED OR CROCHETED (EXCL. PANTIES AND SWIMWEAR)	63. € 3.405.386,00	64. 7,1%
65. 43	6103	66. MEN'S OR BOYS' TROUSERS, BIB AND BRACE OVERALLS, BREECHES AND SHORTS OF SYNTHETIC FIBRES, KNITTED OR CROCHETED (EXCL. SWIMWEAR AND UNDERPANTS)	67. € 2.512.836,00	68. 5,2%
69. 42	6103	70. MEN'S OR BOYS' TROUSERS, BIB AND BRACE OVERALLS, BREECHES AND SHORTS OF COTTON, KNITTED OR CROCHETED (EXCL. SWIMWEAR AND UNDERPANTS)	71. € 2.373.713,00	72. 4,9%
73. 20	6110	74. JERSEYS, PULLOVERS, CARDIGANS, WAISTCOATS AND SIMILAR ARTICLES, OF COTTON, KNITTED OR CROCHETED (EXCL. WADDED WAISTCOATS)	75. € 2.285.374,00	76. 4,7%
77. 30	6101	78. OVERCOATS, CAR COATS, CAPES, CLOAKS, ANORAKS, INCL. SKI JACKETS, WINDCHEATERS, WIND-JACKETS AND SIMILAR ARTICLES OF MAN-MADE FIBRES, FOR MEN OR BOYS, KNITTED OR CROCHETED (EXCL. SUITS, ENSEMBLES, JACKETS, BLAZERS, BIB AND BRACE OVERALLS AND TROUSERS)	79. € 1.643.651,00	80. 3,4%
81. 43	6203	82. MEN'S OR BOYS' TROUSERS, BIB AND BRACE OVERALLS, BREECHES AND SHORTS OF SYNTHETIC FIBRES (EXCL. KNITTED OR CROCHETED, UNDERPANTS AND SWIMWEAR)	83. € 1.316.489,00	84. 2,7%
85. 62	6204	86. WOMEN'S OR GIRLS' TROUSERS, BIB AND BRACE OVERALLS, BREECHES AND SHORTS OF COTTON (EXCL. KNITTED OR CROCHETED, PANTIES AND SWIMWEAR)	87. € 1.177.364,00	88. 2,4%

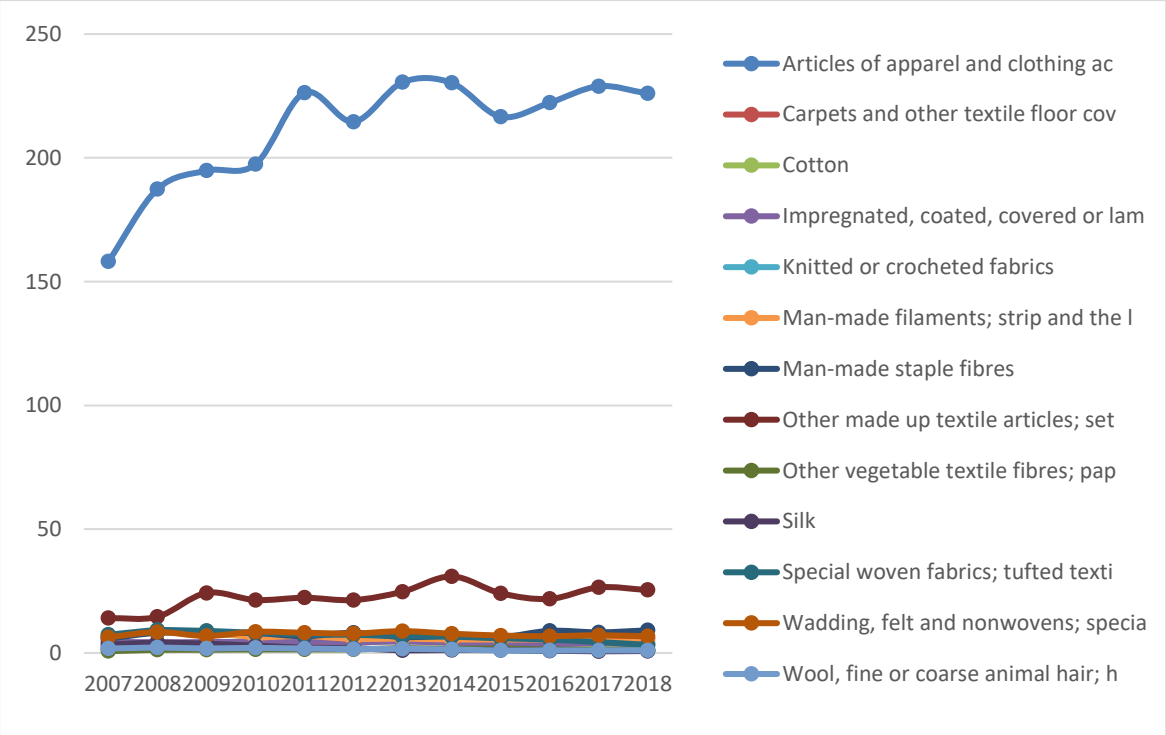
Source: Eurostat Easy Comext.
Note: EU imports under HS 50 to 63 at the six digit level.

Figure E2.37 Jordanian tariffs of textiles and clothing from the EU by subsector (in %), 2007-2018



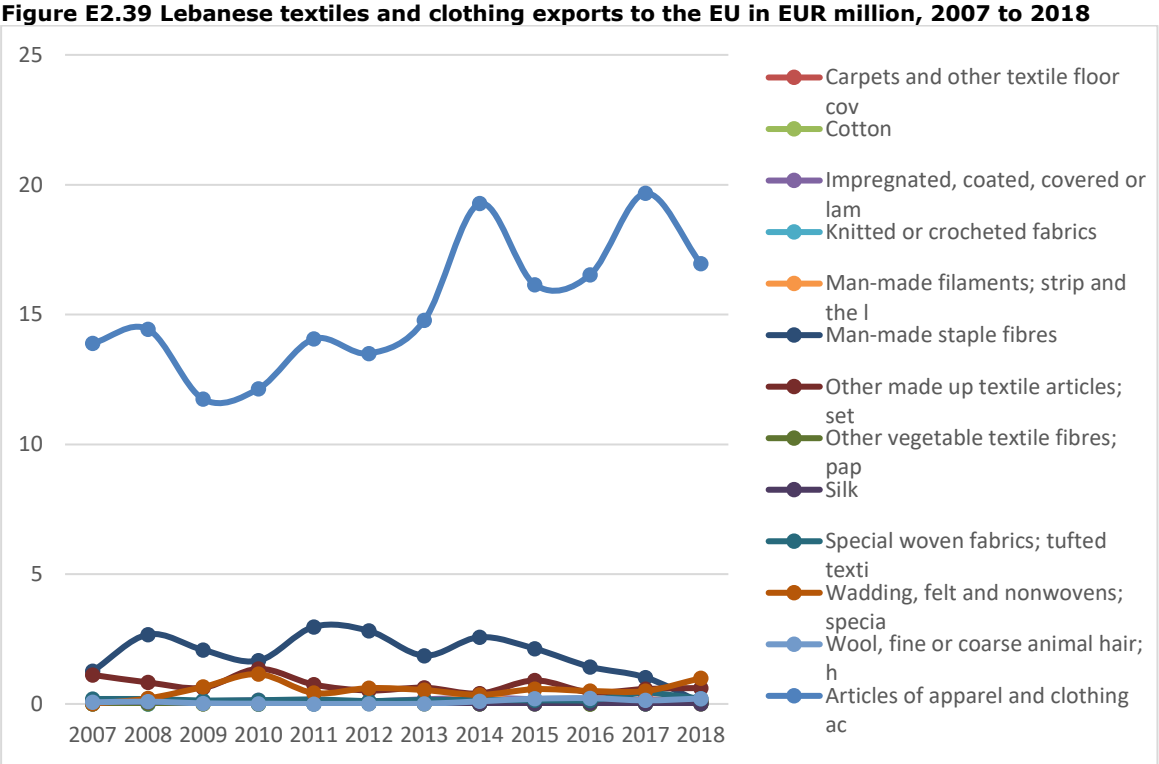
Source: WITS Database (2019).

Figure E2.38 Lebanese textiles and clothing imports from the EU in EUR million, 2007 to 2018



Source: World Bank WITS.

Figure E2.39 Lebanese textiles and clothing exports to the EU in EUR million, 2007 to 2018



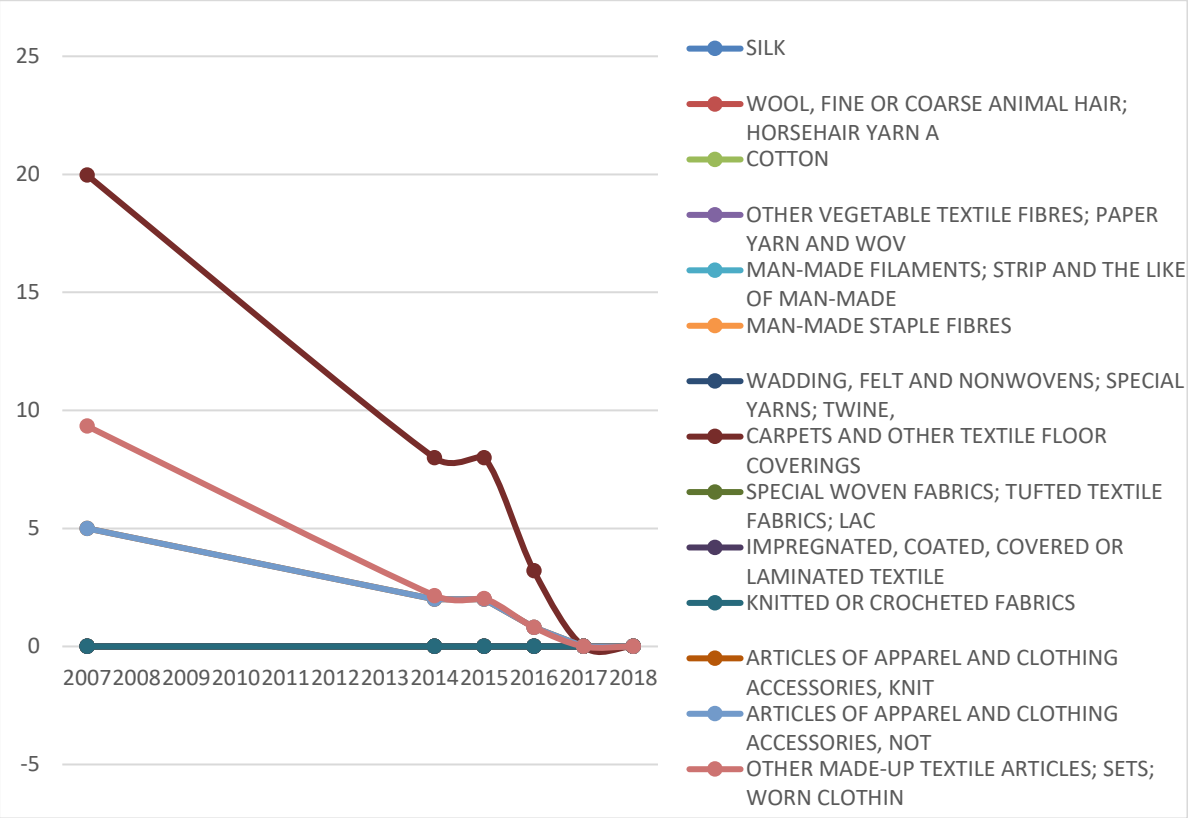
Source: World Bank WITS.

Table E2.3 Top ten textiles and clothing exports from Lebanon to the EU, 2017

89. Code	HS	90. Product	91. Trade value	92. Share in sectoral imports
93. 49	6204	94. WOMEN'S OR GIRLS' DRESSES OF TEXTILE MATERIALS (EXCL. OF WOOL, FINE ANIMAL HAIR, COTTON OR MAN-MADE FIBRES, KNITTED OR CROCHETED AND PETTICOATS)	95. € 2.324.246,00	96. 10,4 %
97. 43	6204	98. WOMEN'S OR GIRLS' DRESSES OF SYNTHETIC FIBRES (EXCL. KNITTED OR CROCHETED AND PETTICOATS)	99. € 2.111.203,00	100. 9,4 %
101. 10	6109	102. T-SHIRTS, SINGLETS AND OTHER VESTS OF COTTON, KNITTED OR CROCHETED	103. € 1.784.070,00	104. 8,0 %
105. 44	6104	106. WOMEN'S OR GIRLS' DRESSES OF ARTIFICIAL FIBRES, KNITTED OR CROCHETED (EXCL. PETTICOATS)	107. € 1.641.001,00	108. 7,3 %
109. 30	6110	110. JERSEYS, PULLOVERS, CARDIGANS, WAISTCOATS AND SIMILAR ARTICLES, OF MAN-MADE FIBRES, KNITTED OR CROCHETED (EXCL. WADDED WAISTCOATS)	111. € 1.559.723,00	112. 7,0 %
113. 50	6210	114. WOMEN'S OR GIRLS' GARMENTS OF TEXTILE FABRICS, RUBBERISED OR IMPREGNATED, COATED, COVERED OR LAMINATED WITH PLASTICS OR OTHER SUBSTANCES (EXCL. OF THE TYPE DESCRIBED IN SUBHEADING 6202,11 TO 6202,19, AND BABIES' GARMENTS AND CLOTHING ACCESSORIES)	115. € 1.473.562,00	116. 6,6 %
117. 69	6204	118. WOMEN'S OR GIRLS' TROUSERS, BIB AND BRACE OVERALLS, BREECHES AND SHORTS OF TEXTILE MATERIALS (EXCL. OF WOOL, FINE ANIMAL HAIR, COTTON OR SYNTHETIC FIBRES, KNITTED OR CROCHETED, PANTIES AND SWIMWEAR)	119. € 1.295.428,00	120. 5,8 %
121. 90	6114	122. SPECIAL GARMENTS FOR PROFESSIONAL, SPORTING OR OTHER PURPOSES, N.E.S., OF TEXTILE MATERIALS, KNITTED OR CROCHETED (EXCL. OF WOOL, FINE ANIMAL HAIR, COTTON AND MAN-MADE FIBRES)	123. € 1.259.298,00	124. 5,6 %
125. 42	6204	126. WOMEN'S OR GIRLS' DRESSES OF COTTON (EXCL. KNITTED OR CROCHETED AND PETTICOATS)	127. € 938.551,00	128. 4,2 %
129. 49	6104	130. WOMEN'S OR GIRLS' DRESSES OF TEXTILE MATERIALS, KNITTED OR CROCHETED (EXCL. OF WOOL, FINE ANIMAL HAIR, COTTON, SYNTHETIC OR ARTIFICIAL FIBRES AND PETTICOATS)	131. € 571.255,00	132. 2,6 %

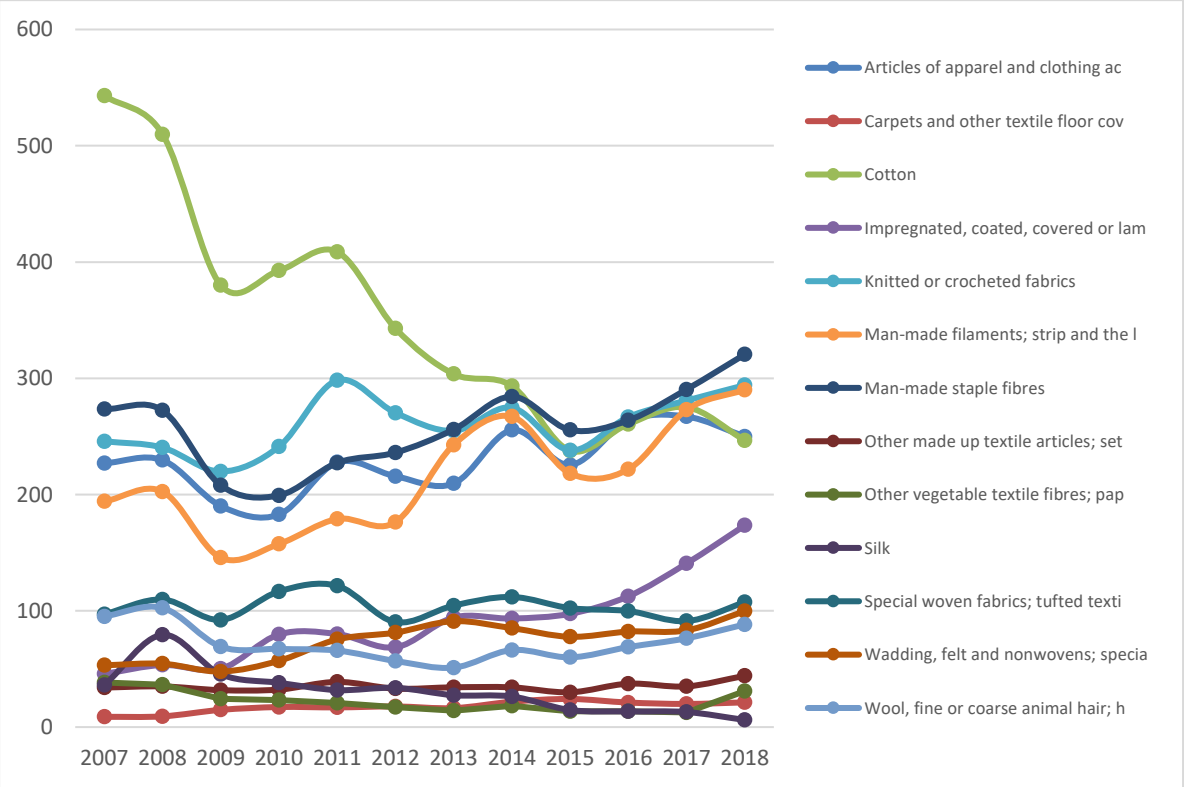
Source: Eurostat Easy Comext. Note: EU imports under HS 50 to 63 at the six digit level.

Figure E2.40 Lebanese tariffs of textiles and clothing from the EU by subsector (in %), 2007-2018



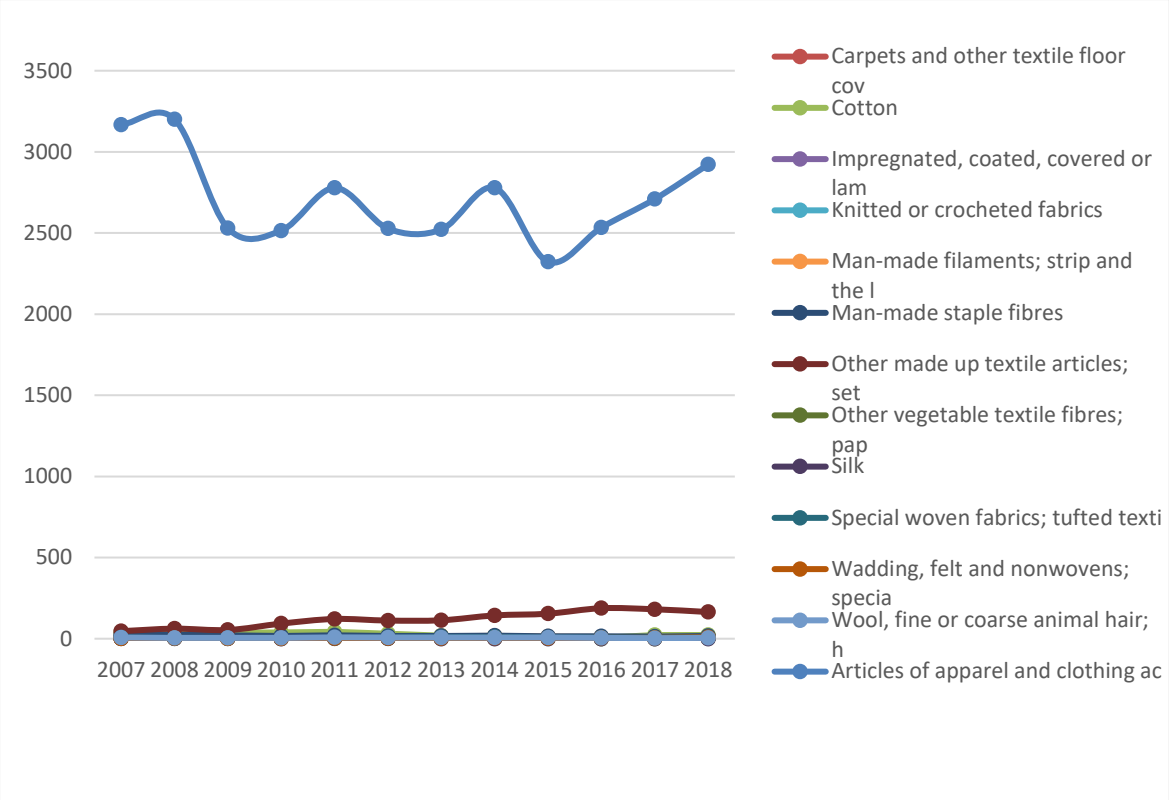
Source: WITS Database (2019).

Figure E2.41 Moroccan textiles and clothing imports from the EU in EUR million, 2007-2018



Source: WITS Database (2019).

Figure E2.42 Moroccan textiles and clothing exports to the EU in EUR million, 2007-2018



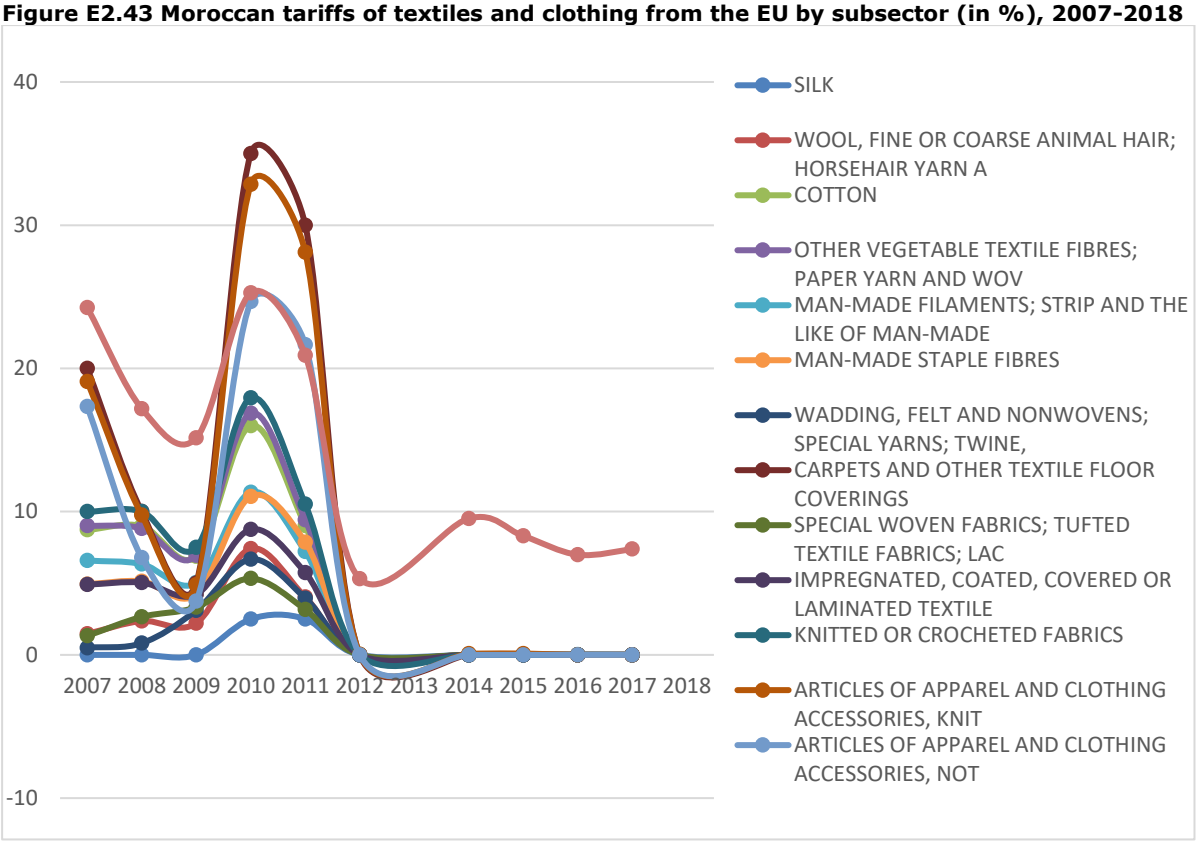
Source: WITS Database (2019).

Table E2.4 Top ten textiles and clothing exports from Morocco to the EU, 2017

133. Code	HS	134. Products	135. Trade value	136. Share in sectoral imports
137. 40	6206	138. WOMEN'S OR GIRLS' BLOUSES, SHIRTS AND SHIRT-BLOUSES OF MAN-MADE FIBRES (EXCL. KNITTED OR CROCHETED AND VESTS)	139. € 207.731.855,00	140. 7,1 %
141. 42	6203	142. MEN'S OR BOYS' TROUSERS, BIB AND BRACE OVERALLS, BREECHES AND SHORTS, OF COTTON (EXCL. KNITTED OR CROCHETED, UNDERPANTS AND SWIMWEAR)	143. € 202.208.829,00	144. 6,9 %
145. 62	6204	146. WOMEN'S OR GIRLS' TROUSERS, BIB AND BRACE OVERALLS, BREECHES AND SHORTS OF COTTON (EXCL. KNITTED OR CROCHETED, PANTIES AND SWIMWEAR)	147. € 199.402.981,00	148. 6,8 %
149. 10	6109	150. T-SHIRTS, SINGLETS AND OTHER VESTS OF COTTON, KNITTED OR CROCHETED	151. € 144.160.503,00	152. 5,0 %
153. 91	6304	154. ARTICLES FOR INTERIOR FURNISHING, KNITTED OR CROCHETED (EXCL. BLANKETS AND TRAVELLING RUGS, BED-LINEN, TABLE LINEN, TOILET LINEN, KITCHEN LINEN, CURTAINS, INCL. DRAPES, INTERIOR BLINDS, CURTAIN OR BED VALANCES, BEDSPREADS, LAMPSHADES AND ARTICLES OF HEADING 9404)	155. € 135.177.548,00	156. 4,6 %
157. 63	6204	158. WOMEN'S OR GIRLS' TROUSERS, BIB AND BRACE OVERALLS, BREECHES AND SHORTS OF SYNTHETIC FIBRES (EXCL. KNITTED OR CROCHETED, PANTIES AND SWIMWEAR)	159. € 103.641.703,00	160. 3,6 %
161. 44	6204	162. WOMEN'S OR GIRLS' DRESSES OF ARTIFICIAL FIBRES (EXCL. KNITTED OR CROCHETED AND PETTICOATS)	163. € 92.819.034,00	164. 3,2 %
165. 43	6204	166. WOMEN'S OR GIRLS' DRESSES OF SYNTHETIC FIBRES (EXCL. KNITTED OR CROCHETED AND PETTICOATS)	167. € 87.833.084,00	168. 3,0 %
169. 11	6202	170. WOMEN'S OR GIRLS' OVERCOATS, RAINCOATS, CAR-COATS, CAPES, CLOAKS AND SIMILAR ARTICLES, OF WOOL OR FINE ANIMAL HAIR (EXCL. KNITTED OR CROCHETED)	171. € 84.929.536,00	172. 2,9 %
173. 30	6206	174. WOMEN'S OR GIRLS' BLOUSES, SHIRTS AND SHIRT-BLOUSES OF COTTON (EXCL. KNITTED OR CROCHETED AND VESTS)	175. € 80.130.012,00	176. 2,8 %

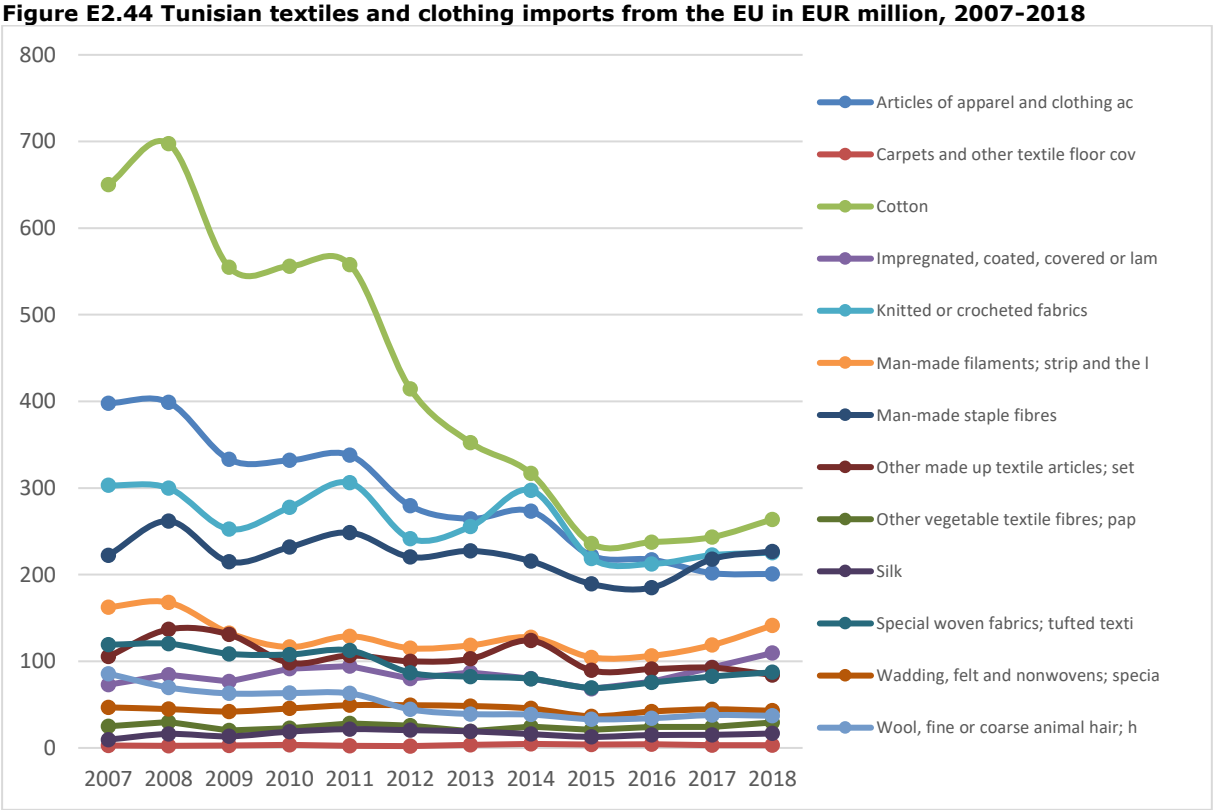
Source: Eurostat Easy Comext.
Note: EU imports under HS 50 to 63 at the six digit level.

Figure E2.43 Moroccan tariffs of textiles and clothing from the EU by subsector (in %), 2007-2018



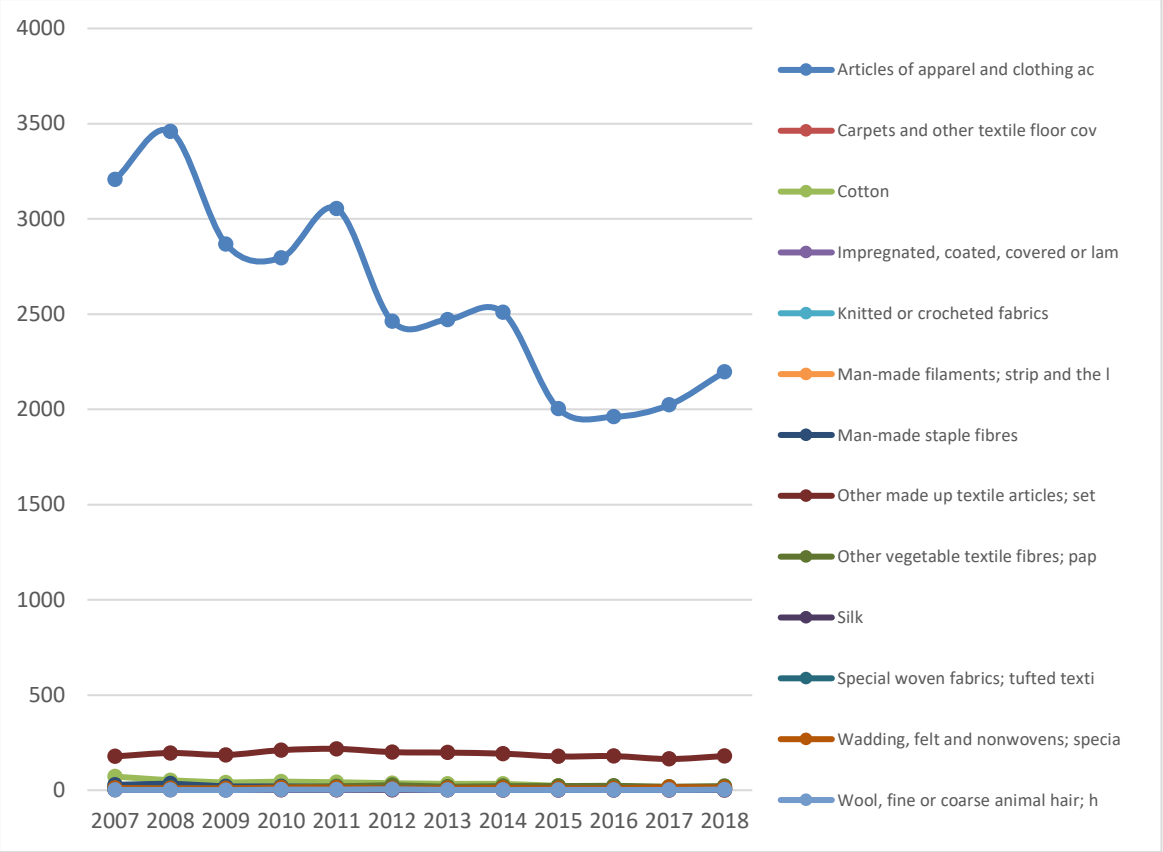
Source: WITS Database (2019).

Figure E2.44 Tunisian textiles and clothing imports from the EU in EUR million, 2007-2018



Source: WITS Database (2019).

Figure E2.45 Tunisian textiles and clothing exports to the EU in EUR million, 2007-2018



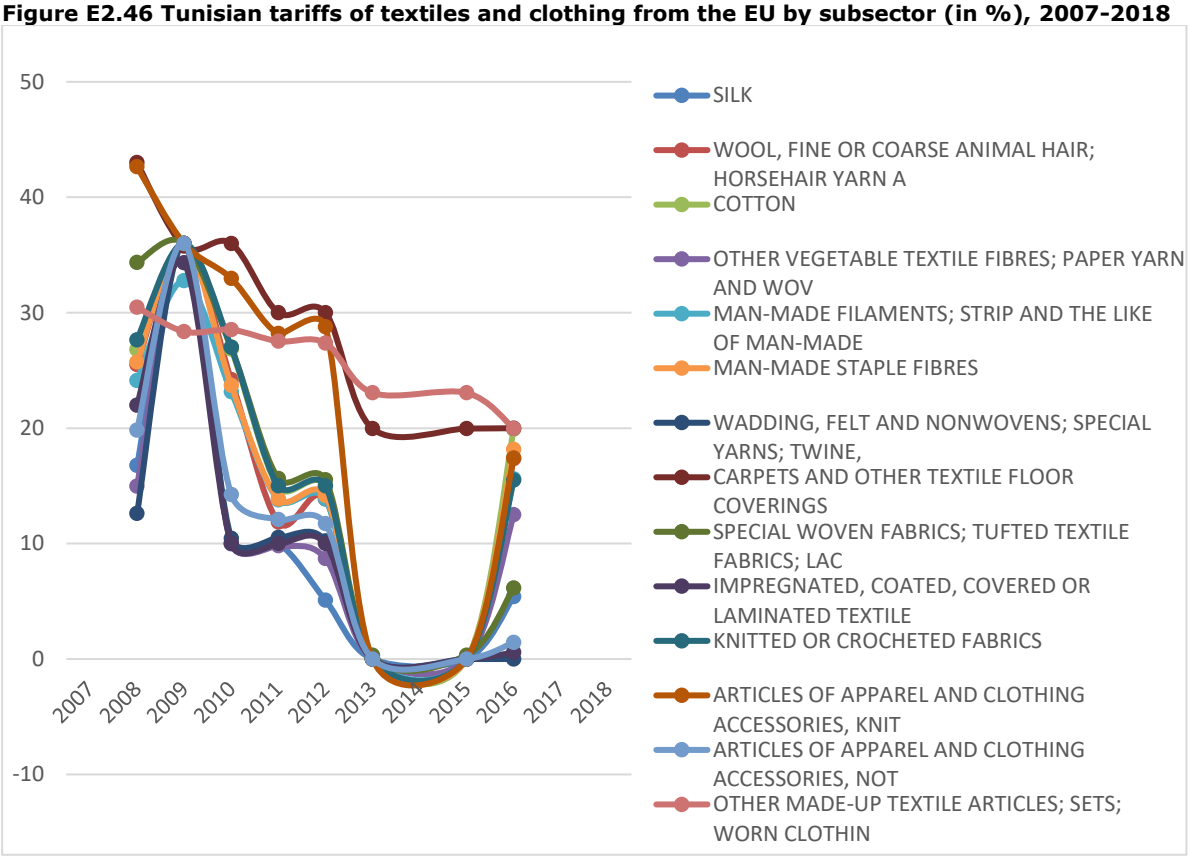
Source: WITS Database (2019).

Table E2.5 Top ten textiles and clothing exports from Tunisia to the EU, 2017

177. Code	HS	178. Product	179. Trade value	180. Share in sectoral imports
181. 42	6203	182. MEN'S OR BOYS' TROUSERS, BIB AND BRACE OVERALLS, BREECHES AND SHORTS, OF COTTON (EXCL. KNITTED OR CROCHETED, UNDERPANTS AND SWIMWEAR)	183. € 405.653.374,00	184. 18,2 %
185. 62	6204	186. WOMEN'S OR GIRLS' TROUSERS, BIB AND BRACE OVERALLS, BREECHES AND SHORTS OF COTTON (EXCL. KNITTED OR CROCHETED, PANTIES AND SWIMWEAR)	187. € 189.871.144,00	188. 8,5 %
189. 10	6109	190. T-SHIRTS, SINGLETS AND OTHER VESTS OF COTTON, KNITTED OR CROCHETED	191. € 89.585.107,00	192. 4,0 %
193. 10	6212	194. BRASSIERES OF ALL TYPES OF TEXTILE MATERIALS, WHETHER OR NOT ELASTICATED, INCL. KNITTED OR CROCHETED	195. € 84.544.154,00	196. 3,8 %
197. 32	6211	198. MEN'S OR BOYS' TRACKSUITS AND OTHER GARMENTS, N.E.S. OF COTTON (EXCL. KNITTED OR CROCHETED)	199. € 83.257.037,00	200. 3,7 %
201. 90	6307	202. MADE-UP ARTICLES OF TEXTILE MATERIALS, INCL. DRESS PATTERNS, N.E.S.	203. € 63.817.248,00	204. 2,9 %
205. 90	6109	206. T-SHIRTS, SINGLETS AND OTHER VESTS OF TEXTILE MATERIALS, KNITTED OR CROCHETED (EXCL. COTTON)	207. € 60.519.340,00	208. 2,7 %
209. 20	6205	210. MEN'S OR BOYS' SHIRTS OF COTTON (EXCL. KNITTED OR CROCHETED, NIGHTSHIRTS, SINGLETS AND OTHER VESTS)	211. € 50.179.021,00	212. 2,2 %
213. 43	6203	214. MEN'S OR BOYS' TROUSERS, BIB AND BRACE OVERALLS, BREECHES AND SHORTS OF SYNTHETIC FIBRES (EXCL. KNITTED OR CROCHETED, UNDERPANTS AND SWIMWEAR)	215. € 49.633.222,00	216. 2,2 %
217. 33	6211	218. MEN'S OR BOYS' TRACKSUITS AND OTHER GARMENTS, N.E.S. OF MAN-MADE FIBRES (EXCL. KNITTED OR CROCHETED)	219. € 49.350.335,00	220. 2,2 %

Source: Eurostat Easy Comext.
Note: EU imports under HS 50 to 63 at the six digit level.

Figure E2.46 Tunisian tariffs of textiles and clothing from the EU by subsector (in %), 2007-2018



Source: WITS Database (2019).

ANNEX F: ADDITIONAL INFORMATION RELATED TO THE SUSTAINABILITY ANALYSIS

F.1 Results of the literature review: social and human rights impacts of the EuroMed FTAs

Social impacts

This section also covers studies that examined some of the human rights impacts of the FTAs concluded by the European Union.

The next section examines the social impact of free trade agreements between the European Union and the six Southern Mediterranean Countries covered by this study. This literature review concludes that the social impact of trade opening is not yet in line with the objectives set by the European Union, nor with the challenge of the growing working-age population that SMC countries must meet.

What does the theory teach us?

Economic theory suggests that trade opening should be economically beneficial (Krugman & Obstfeld, 2009), leaving room for improving social conditions in countries participating in liberalisation agreements. Recent joint work conducted by the World Bank and the World Trade Organization (Bartley Johns et al., 2018) explains the link between trade opening and overall poverty reduction through the following channels: growth, relative prices, macroeconomic stability and price stability, effects on government revenues. Onwachukwu and Okagbue (2019) also argue, with a difference-in-difference estimates used on a dataset including 175 countries between 1991 and 2017, that unemployment rate reduced by an average 13.7 percent, for developing countries ascending the World Trade Organization. Trade opening promotes changes in the sectoral composition of economic production. The latter then undergoes structural adjustments consisting in the reallocation of production factors to the sectors where they are most efficient (Lewis, 1954; Ranis and Fei, 1964). Considering this strand of literature, a lot is to be expected from liberalization agreements.

But the theory makes the assumption of insignificant readjustment costs by adopting a long-term horizon. However, over intermediate horizons, the population and the public decision-makers who govern them, face a harsher social reality. There are delays for individuals who lose their jobs to find a new job, training needs and obstacles to geographical mobility. In this way, the labour market emerges as a relevant indicator of the social impact of free trade agreements.

Several difficulties have to be mentioned when it comes to analysing the social impact of free trade agreements with the European Union. They are linked to the fact that social change within an economy is not only impacted by free trade and even less only by free trade with the European Union. Thus, the impacts mentioned below must be taken with caution. In particular, during the period, other liberalization agreements were signed, there may have been a lot of political instability, and the relevant economic policies to accompany the opening up of the market, which is in the domain of the sovereignty of the countries, were not always implemented. For our study, it implies that we need to identify other factors that have shaped observed developments, as the trade agreements will in many cases only be a limited explanation for observed trends.

Social impacts at the regional level

In 2011, IEmed published a Euro-med survey that took place between October and December 2010 about the impact of FTAs and which include a section on the social impact. The survey was answered by 598 experts, policymakers, civil society from 43 members of the Union for the Mediterranean (UfM). It included 31 general questions related to the Euro-Med policy, economic, financial issues, the FTA, the liberalization of products, sustainable development and others. One of the findings of the survey is that the FTA had had a more positive impact on growth and competitiveness of Mediterranean Partners Countries than on area such as employment.

This feeling of low effectiveness of the agreements on labour market is confirmed in several studies. Zorob (2017) focuses more generally on the analysis of economic and financial relations between the European Union and the Southern Mediterranean Countries. He points out that most of the studies showed a very mixed effect of the agreements on job creation. He also notes that increased competitive pressure on industries and labour markets seems to have contributed to an increase in existing wage gaps.

In his article, Jarreau (2011) studied the situation of the trade liberalization and analyses the main results of this process on the MENA region. A lot of studies that he gathered conclude the same thing that all these agreements had positive effect on the EU countries as it increased their exports. However it is insignificant or negative for the other countries. When employment is studied, the effects found are negatives on the labour market.

Alcidi et al. (2017) point out that studies using gravity models had predicted relatively low impacts of agreements on exports except when these models specified high transaction costs including non-tariff barriers. In this case, Euro-Mediterranean liberalization had a more significant impact on the increase in exports from Southern Mediterranean Countries.

Thus, at the regional level, on the basis of surveys and groupings of studies, the literature concluded on a disappointing effect of agreements on the social conditions of populations. A part of the literature on the social impacts of agreements has focused on subset of countries in the Mediterranean region or on specific countries.

Social impacts at the sub-regional level

Martin (2003) presented a literature review on the different determinants of FDI in Algeria, Morocco and Tunisia and its evolution after the Euro-med partnership. Martin's analysis is based on a timeless methodology: it uses a matrix to determine the attractiveness of foreign investment to the region. This matrix consists of two axes: one represents the "locational advantages" and includes natural resources availability, market size and growth, availability and cost of factors of production and geographical location with respect to consumer markets as well as the performance of alternative investment locations; and the other axe represents "environmental change" which encompasses factors affecting the (perceived) risk incurred by FDI and the context in which it operates, i.e., business environment, political stability, macroeconomic policy and performance, public policies. Martin concluded that the horizontal free-trade agreements between the Maghreb countries are better than the parallel bilateral agreements and have positive impacts on the FDI levels, which will affect the employment, wages and work conditions. For example, with the Euro-Mediterranean Free Trade Area, investors no longer need to invest within the Maghreb to avoid customs barriers while the free-trade agreements between the Maghreb countries expand the internal market, which is a positive element for investors. To avoid the diversion of foreign investment and encourage the creation of foreign investment, proactive measures in terms of integrity, political stability, financial support and the provision of information will have to be adopted by national governments. Given the method he uses, Martin's study provides only qualitative analytical results. On the other hand, the study prepared as part of this report also gives quantitative results. Similarly, other studies that preceded ours have already quantitatively analysed the issue of the social impacts of FTAs.

In another paper, Martin (2004) studied the social impact of the creation of the Euro-Mediterranean Free Trade Area (EMFTA) and its effects on employment, income, prices of consumer goods, state social expenditure and other economic variables during the 12 years agreed on for the creation of Euro-Mediterranean free trade areas. In addition, he presents a case study on Morocco. In this paper, he mentioned that the EMFTA will have negative impact on the employment and job creation, especially at the beginning, in the developing countries, due to the substitution of the local products by the imported products. According to the theory, the employees who lost their jobs will find another in more competitive sector. The public and the informal sectors are the two sectors that can help in this labour adjustment. There will be negative impact on the working conditions and wages as well, companies will prefer temporary staff than full time staff with less benefits and smaller salaries. On the other hand, there will be positive impact on living conditions and real income due to the decrease of the prices of imported goods what will lead to the increase of the real income. It is important to mention that he claims that this will be in the case of the middle and high class as the poor usually pay customs duties much less frequently because they obtain goods in a diverted way, particularly through smuggling.

In their paper, Dadush and Myachenkova (2018) mentioned that the agreements between the European Union and Algeria, Egypt, Morocco and Tunisia have weak impacts on them since 2000s: their exports to the EU countries remained approximately the same, whereas the EU’s exports increased rapidly. Admittedly, in a complicated context, trade opening does not seem to have helped the economy. GDP and average per capita income are two indicators of a country's economic activity. If international trade were to play a positive role in their growth, many jobs would be created in response to the increase in this economic activity. However, in the four countries studied, between 2007 and 2017, average per capita income growth was less than 2.5%.

This is not enough to lead to a sufficient acceleration of employment and meet the challenges of youth unemployment and the inclusion of women in the labour market of these countries. However, these agreements could have positive impacts if they helped or encouraged reforms that make these countries more competitive in the international market.

Country-specific social impacts

The analysis of the literature at a country level makes it possible to refine the social results of opening by observing intra-regional disparities.

Alcidi et al. (2017) successively study the four Southern Mediterranean Countries namely Egypt, Jordan, Morocco and Tunisia. For each of these countries, the authors of the studies also make the link between opening and direct investment received from abroad. Economically, the development of international trade can have a direct impact on employment. By simply mentioning the direct effects, all other things being equal, the development of exports in a sector can create additional activity in that sector, which requires the hiring of staff. The direct effects on employment being the opposite for sectors facing competition from increased imports. Trade opening can also create an incentive to invest in countries that allows an indirect effect of trade opening on employment through foreign investment received. In the case of Egypt, on the basis of correlation analysis, the authors determine that the observed job creation is due more to the expansion of exports following the agreements than to investments from abroad. This is due to a stronger attraction of investors to capital-intensive sectors. On the other hand, Egypt was able to benefit from trade expansion in sectors that are more intensive in skilled labour. For Jordan, the authors observe that the country's structurally loss-making trade balance pushes Jordan to attract foreign investment to offset the balance of payments. However, the authors could not find strong correlation links between foreign investment and employment. In the case of Morocco, several of the mentioned effects of the agreements have potential effects on the social dimension through the quantity and quality of jobs.

The trade liberalization agreements signed by Morocco have been detrimental to its trade balance since its imports have increased more than its exports. But these agreements have attracted foreign investments, pushing Morocco towards a sectoral restructuring that creates more added value. However, the report mentions a lack of information to link these investments to job creation. For Tunisia, after the events of 2011, imports fell less rapidly than exports. Tunisia has indeed chosen to specialize in sectors that are intensive in employment but whose external demand is not very dynamic. Tunisia remains less diversified than its export competitors to the EU. In this context, Tunisia is struggling to initiate a growth rate high enough to cope with the strong growth of the population in need of work.

The conclusions of this last study should be put in perspective with other studies specific to the same countries. Gignoux and Suwa-Eisenmann (2017) use econometrics on survey data from 1999 to 2012 to estimate the differential social effects of free trade agreements in Egypt. Each region of Egypt is specialized in a particular production, which means that the variation in trade barriers is not experienced in the same way throughout the country. It appears that household incomes suffered the most during the period from 1999 to 2004, corresponding to a sustained pace of liberalisation. The pace of liberalization in the period from 2004 to 2012 was less harmful to households. In the early 2000s, qualified self-employed workers and low-skilled employees were the most affected in terms of income. The regions most exposed to trade opening have had lower employment growth rates. In addition, workers mobility toward expanding sectors has been low. This is confirmed by survey data on migration rates between the governorates in 1996 and 2006 and could be explained by the cost of migration to a household.

In a more sectoral way, Belghazi (2015) uses reports from FAO and WTO to study the agricultural sector in the southern Mediterranean countries, while addressing the issue of trade opening. It specifies the stakes of the evolution of this sector: in the Southern Mediterranean Countries, this sector employs a large part of the population and is the main source of income for the most vulnerable. In the particular case of Jordan, he pointed out that over the period from 2002 to 2010, during the period of trade opening with the European Union, the government had put in place a policy to encourage private investment in agriculture. However, it is not clear whether this policy of supporting opening has borne fruit in terms of employment.

Cherkaoui, Khellaf and Nihou (2011) studied the impact of tariff liberalization on households in Morocco through surveys covering the period from 2000 to 2007. They use panel econometrics to determine that trade opening has led to lower prices for agricultural and manufactured products and higher wages. In total, the increase in real household income is around 2.7%.

Zaafrane and Mahjoub (2000) analysed the Euro-Mediterranean Free Trade Agreements taking into account the characteristics of the partner countries. As far as Tunisia is concerned, they estimated that 60% of industrial production was potentially impacted by tariff liberalisation and that only 30% was really competitive. The non-competitive 30% would then need to free up their resources so that they could be redirected to competitive sectors. What the authors point out as a preoccupying transition since this involves a huge movement of labour force which seems to be a real challenge even if this movement is accompanied by training programmes.

The literature shows that the employment and income effects might be relatively small or sometimes even negative. The relation with the FTA is a complex one, and the ability of workers to move from one sector to another is an important element to look at. Next to trade, investments are likely to be indirectly affected by the agreement as well and the related impact on employment should also be taken into account.

Human rights impacts

Impact assessment studies assessing the link between the Euro-Mediterranean Free Trade Agreements (EMFTAs) and human rights are very rare or non-existent. Most evaluations focus on sectoral and trade impacts, while the implementation of evaluations on the human rights impact of these EMFTAs is strongly recommended in reports, and papers propose a methodology for doing so (Bonanomi, 2017; Zerk, 2019). Both documents start with a focus on ex ante analysis, however, and provide limited suggestions for ex-post analysis. It is clear that much more research is needed on the link between trade agreements and HR, and the case studies that will be conducted as part of this study could provide further insights.

On the issue of gender inequality, the literature review proposed by Euromed Right in 2017, "The Analysis of Economic and Financial Relations between the European Union and the Southern Mediterranean Countries", explains this gap in the literature partly by the lack of data to analyse the impact of EMFTAs on women's employment, particularly in rural areas. This point is problematic since the 2007 Social Impact Assessment - EMFTA stressed that without appropriate measures, these EMFTAs could have a negative impact on this same group, particularly on their status and living and health conditions, with an accelerated transition from traditional to commercial agriculture. A classic issue that arises when looking at gender equality and trade liberalization is the impact of lower government tax revenue (because of fewer tariffs and taxes on trade) on women's domestic and informal work (energy spent for childcare, household maintenance, etc.) as a result of budget cuts for social policies. In addition, according to a report by the Development Committee on "Gender Equality in European Union Trade Agreements", the Commission points to the neglection of EU trade policies in addressing gender equality issues. This is why the European Parliament decided to adopt in March 2018 a resolution that ensures that gender equality is better taken into account in the conclusion of the EU's trade agreements with its partners. The impact of women is therefore an interesting topic to further explore.

The 2007 SIA also pointed out that a risk in terms of access to food, especially for the poorest households in the event of fluctuations in international staple food prices, could be due to EMFTAs. However, no ex-post evaluation seems to have been carried out. The issue of food security is a complex, and when measured in terms of access to food, several elements related to trade liberalization can be studied: terms of trade, food prices, food budget share, etc. The effects of liberalization on food security are multiple and must be studied (FAO, 2015). These will be useful indicators to look at should the right to food be selected as a topic of more in-depth analysis.

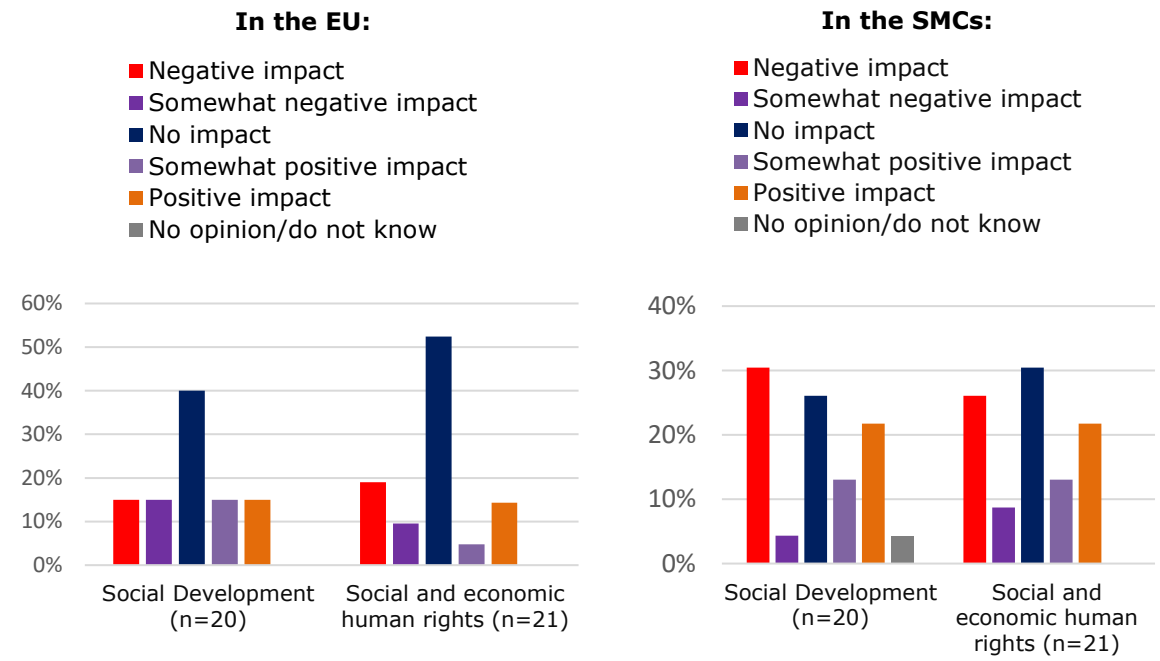
The global literature on the effects of international trade on access to water shows indirect and direct effects of trade on water use (particularly in the agricultural and manufacturing sectors). International trade can be a "powerful tool" to provide solutions to water use crises (ADB, 2017), through direct channels such as investment in water-related infrastructure, resource, innovation and technology transfers ; or through indirect means and in particular through "virtual water" exchanged through agricultural and manufactured products, which would allow an international rebalancing of water resources through international trade.

Regarding the link between trade liberalization and the right to culture, an ageing literature is limited to the global study of the integration of human rights into the legal frameworks of free trade agreements.

F.2 Insights from the stakeholder consultations: social and human rights impacts of the EuroMed FTAs

Stakeholders provided inputs on the social and human rights impacts through contributions in workshops, interviews, and the open public consultation (OPC). While overall limited, the inputs on social impacts mainly focused on labour standards and working conditions, employment, wages, household incomes, gender related issues and vulnerable groups. Human rights related impacts were rarely covered in the consultations, hinting that these are not seen as a major issue in regard to the trade agreements. However, some stakeholders highlighted a few individual issues. The OPC shows similarly that most respondents did not feel that the agreements impacted social development (employment, wages, etc.) as well as social and economic human rights in the EU. However, respondents were more critical in regard to their impact on the SMCs. Figure AF.1 shows that some respondents to the consultations felt that it had a negative or somewhat negative impact (34%) on social development, however many also felt it had no impact (26%) or a positive and somewhat positive impact (35%). The results are similarly mixed for the SMCs regarding the social and economic human rights.

Figure F.1 Social and human right impacts of the FTAs



Source: Open Public Consultations.

Specifically on **the social impact**, stakeholders from southern European Member States mentioned that in regard to the EU, the agreements negatively affected employment, wages, and labour standards. They argue that the differences in labour conditions and lower production costs in SMCs threatens EU producers (specifically in agriculture) and harm the income of EU farmers. One stakeholder mentioned also that agricultural investments by European investors into the SMCs undermine European labour standards by making use of the lower standards in the SMCs, however we could not confirm this statement. In regard to the SMCs, stakeholders were similarly critical with individual ones mentioning that the benefits of the FTAs have not fallen to the local population but rather European companies and investors making use of the lower labour conditions. In terms of poverty reduction and food security, a stakeholder remarked that consumers in urban and rural areas benefit from lower prices for food and other goods, potentially helping to mitigate poverty. However, at the same time adjustments to industrial and agricultural productions puts pressure on employment and income potentially negating these effects. According to a stakeholder representing a network of human rights organisations in the Mediterranean region, poverty will only be diminished if better urban employment is able to compensate for employment losses in agriculture and industry and that otherwise inequality will increase. The human rights stakeholdernoted also that there is a lack of protection of female employees in the region, due to an apparent discrepancy between the ratification and application of ILO conventions.

Specifically on the individual countries, the following social impacts were noted by stakeholders. In **Algeria**, several interviewees reported job losses due increased competition from imports and local businesses not being able to compete. However, stakeholders agreed that the FTA improved availability of products for Algerian consumers and lowered prices. Views were mixed on labour conditions, while two stakeholders from civil society believed that the agreement positively impacted salaries, freedom of association and general working conditions, two other interviewees were more critical arguing that the FTA did not contribute to improved working conditions as foreign companies often have to adjust to persistent traditional local customs and practices. One interviewee thought also that the FTA facilitated workers transitioning from the informal to the formal economy, while another one believed it also helped with gender equality as EU companies are more open to hiring female employees than the rather traditional Algerian private sector.

Egypt saw a significant increase in the informal economy in the past twenty years but particular from 2016 to 2018 according to one stakeholder, who however noted that there is no one reason for this development. In fact, 2010 estimates show that 80% of all micro and small businesses are informal and common estimates say that 27% to 35% of Egypt's GDP stems from the informal economy with some estimates from government officials saying it may actually be as high as 60%.[1335] However, there seems to be a lot of unclarity about the exact size of the informal economy, with a recent report by PwC stating that Egypt's informal sector accounts to 40% of GDP employing about 10 million people.[1336] On employment, one stakeholder thought that these were limited as most FDI from the EU is in the oil and gas sector which is very capital intensive but does not create much employment. However, similar to Algeria stakeholders believed that consumers benefited from increased product availability. On gender equality, conflicting opinions exist with one stakeholder arguing that employment of women increased in the textile sector and to a lesser extent in the chemical sector, while another one was involved in a study which showed that gender equality has not improved as business continue to be reluctant to employ women. Finally, a stakeholder argued that an increased export orientation of the Egyptian private sector had a negative impact on labour standards (social security, medical insurance, contracts, paid sick leave, and trade union membership), because companies aim to be more cost competitive.

Responses from stakeholders in **Jordan** were either neutral or positive on the social impact of the FTA. Stakeholder specifically point to the textile and garment sector as an industry that could generate employment and also led to the creation of employment service centres as a positive development. On the employment centres, the stakeholder the stakeholder elaborated that 13 of such centres have been set up since 2017 with the support from the EU and the Netherlands. These centres provide training and other services to Jordanians and Syrian. An interviewee referred to the improvement of work conditions in several factories as an impact of the FTA and a stakeholder from the Jordanian civil society ascertained that the FTA had an excellent impact on the work conditions and the overall social situation in Jordan. Two interviewees also saw a positive impact on gender equality thanks to the increased demand in the textile and garment sector which employs a lot of women. Overall, stakeholders were very positive about the simplification of the rules of origin in the bilateral trade for production that contributes to the creation of jobs for Syrian refugees.[1337] However, a stakeholder noted that in Jordan employment is often based on an oral contracts, which makes it difficult to proof the contribution to job creation for Syrian refugees.

In **Lebanon**, stakeholders did not provide much information on social impacts. One interviewee from the Ministry of Labour pointed out that the Ministry is doing regular assessments in factories to check working conditions and adherence to labour law. However, there seems to be room for improvement, but the minimum level of inspection helps with compliance to ILO criteria. A private sector representative, noted though that agriculture in Lebanon heavily relies on cheap labour from vulnerable groups such as Syrian refugees and female workers some of which are not adults yet. A lot of this informal employment is not reflected in official statistics.

For **Morocco**, stakeholders are rather positive. However, one respondent to the OPC was worried about social dumping of European companies in Morocco, and a representative of the ILO raised the issue of weak inclusiveness of growth with huge imbalances between regions. On the positive side, an interviewee felt that an increase in employment was brought about in no small part due to

[1335] El Sharnoubi, O. (2019) 'Egypt: Costs And Benefits Of Working In The Informal Economy' Mada Masr, 29 July.
[1336] PwC (2019) Shedding light on Egypt's shadow economy.
[1337] The Rules of Origin were relaxed in response to the refugee crisis in Jordan. Now certain companies can export duty free if they have a minimum of 15% Syrian workers.

the FTA. However, the job growth has been slowing down. In addition, the stakeholder stressed that wages increased in particular in the automotive sector thanks also to higher qualifications of workers. Households have been positive impacted by wider access to high quality products at lower prices as reported by one interviewee. One stakeholder argued also that Moroccan companies improved their performance in gender equality, labour laws, child labour among others thanks to the scrutiny from European customers and business partners (e.g. European retailers). Finally, a representative from a Moroccan civil society organisation argued that the social impacts of the agreement were mostly positive, but they were worried that the progress cannot be sustained at the current rate of development.

In **Tunisia**, the feedback from stakeholders on the social impacts of the FTA were more mixed. On the one hand, two stakeholders from the textiles and chemicals sector reported a strong employment creation between 1995 and 2005, specifically in the chemicals industries. Tunisian companies continuing to be subcontracted by their European counterparts, which continues this positive trend. On the other hand, however, one workshop attendee from a Tunisian Labour Union claimed that the agreement caused the loss of 200,000 to 250,000 jobs in Tunisia. On another occasion, a Union representative gave the estimate of 120,000 jobs lost, due to the increased competition with EU companies. This statement could not be verified with any supporting data. The Labour Union also argued that higher taxes had to be imposed on citizens due to reduced customs revenue, which declined from 13% of the general budget to 4%. According to OECD data[1338], public revenues from custom duties increased from about TND 65 million in 2000 to close to TND 80 million in 2017, however in shares of total government revenue custom duties decreased from 8.3 to 2.4%, showing that at least the overall importance of custom duties in the Tunisian government budget decreased. An OPC respondent also argued that the FTA contributes to a worsening of regional inequalities within Tunisia, since most EU investments were directed at the richer coastal areas. Finally, a representative from Tunisia's agricultural sector and a researcher both stressed that the FTA had a positive impact on employment as well as contributed to improving work conditions and preventing child labour.

Regarding the **human rights impacts**, some rights (e.g. workers' rights and right to food in terms of food prices and availability) were already partially covered under the above social impacts, however some stakeholders had also separate comments on human rights issues. One OPC respondent sees food sustenance endangered in the SMCs arguing that the FTAs have led for countries to abandon the production of staple foods such as cereals, milk and meat in order to focus on an export model favouring fruits and vegetables, which does not ensure the sustenance of their own populations. It is true that the SMCs heavily rely on imports of staple foods, this is however not a new development as import dependencies have also not been solved by past subsidy programs on cereals (for example in Egypt and Morocco) and moreover lack of renewable freshwater sources make it questionable how much these countries should and can aim for independence in staple food.[1339]. Specifically, on **Tunisia** one OPC respondent mentioned that article 2 of the Association Agreement stipulates that human rights should be taken into account[1340], however the respondent feels that this was not the case and that in fact the agreement negatively affected Tunisia's economic, social and cultural rights and that the country losing its rights to its natural resources. The respondent did not clarify how this is the case. Regarding **Morocco**, one respondent to the OPC criticised the EU-Morocco additional protocol on agriculture, because it limits the ability of consumers to clearly discern whether a product labelled as originating from Morocco actually comes from Morocco or the disputed territory of the Western Sahara. The status of the Western Sahara and refugees from the region living in Algeria is a serious human rights issue which has been recognised by the European Court of Justice in two separate rulings on EU-Morocco agricultural trade and more recently on the EU's fisheries agreement with Morocco.[1341]

[1338] OECD Statistics: Details of Public Revenues – Tunisia.
[1339] More information on this topic can be found in the agricultural case study.
[1340] Article 2 : Relations between the Parties, as well as all the provisions of the Agreement itself, shall be based on respect for human rights and democratic principles which guide their domestic and international policies and constitute an essential element of the Agreement.
[1341] Fox, B. (2018) 'EU dilemma on Morocco-Western Sahara conflict remains unsolved', EURACTIV, 19 June.

F.3 Additional tables and figures for social and human rights impacts of the EuroMed FTAs- case study on employment

Table F.1 EU AHS tariffs on Algerian imports by products

	2005	2018	Difference in percentage points
Articles of apparel and clothing accessories	0	0	0
Rubber manufactures, nes	0	0	0
Chemical materials and products, nes	0	0	0
Artificial resins and plastic materials, and cellulose esters etc	0	0	0

Table F.2 EU AHS tariffs on Egyptian imports by products

	2004	2018	Difference in percentage points
Articles of apparel and clothing accessories	0.03	0	-0.03
Rubber manufactures, nes	0	0	0
Chemical materials and products, nes	0	0.05	0.05
Artificial resins and plastic materials, and cellulose esters etc	0	0	0

Table F.3 EU AHS tariffs on Jordanian imports by products

	2002	2018	Difference in percentage points
Articles of apparel and clothing accessories	0	0	0
Rubber manufactures, nes	0	0	0
Chemical materials and products, nes	0	0	0
Artificial resins and plastic materials, and cellulose esters etc	0	0	0

Table F.4 EU AHS tariffs on Lebanese imports by products

	2006	2018	Difference in percentage points
Articles of apparel and clothing accessories	0	0	0
Rubber manufactures, nes	0	0	0
Chemical materials and products, nes	0	0	0
Artificial resins and plastic materials, and cellulose esters etc	0	0	0

Table F.5 EU AHS tariffs on Moroccan imports by products

	2000	2018	Difference in percentage points
Articles of apparel and clothing accessories	0	0	0
Rubber manufactures, nes	0	0	0
Chemical materials and products, nes	0	0	0
Artificial resins and plastic materials, and cellulose esters etc	0	0	0

Table F.6 EU AHS tariffs on Tunisian imports by products

	1996	2018	Difference in percentage points
Articles of apparel and clothing accessories	0	0	0
Rubber manufactures, nes	0	0	0
Chemical materials and products, nes	0	0	0
Artificial resins and plastic materials, and cellulose esters etc	0	0	0

Table F.7 Algerian AHS tariffs on EU imports by products

	2005	2018	Difference in percentage points
Articles of apparel and clothing accessories	29.8800	15.1400	-14.7400
Rubber manufactures, nes	12.6300	2.3800	-10.2500
Chemical materials and products, nes	6.5600	5.2800	-1.2800
Artificial resins and plastic materials, and cellulose esters etc	0.5000	0.3200	-0.1800

Table F.8 Egyptian AHS tariffs on EU imports by products

	2004	2018	Difference in percentage points
Articles of apparel and clothing accessories	35.34	0.17	-35.17
Rubber manufactures, nes	8.96	0.03	-8.93
Chemical materials and products, nes	8.29	0.09	-8.2
Artificial resins and plastic materials, and cellulose esters etc	8.04	0.01	-8.03

Table F.9 Jordanian AHS tariffs on EU imports by products

	2002	2017	Difference in percentage points
Articles of apparel and clothing accessories	28.07	0	-28.07
Rubber manufactures, nes	21.76	0	-21.76
Chemical materials and products, nes	14.17	0	-14.17
Artificial resins and plastic materials, and cellulose esters etc	9.43	0	-9.43

Table F.10 Lebanese AHS tariffs on EU imports by products

	2006	2018	Difference in percentage points
Articles of apparel and clothing accessories	5.96	0	-5.96
Rubber manufactures, nes	4.55	0	-4.55
Chemical materials and products, nes	3.61	0.09	-3.52
Artificial resins and plastic materials, and cellulose esters etc	1.3	0	-1.3

Table F.11 Moroccan AHS tariffs on EU imports by products

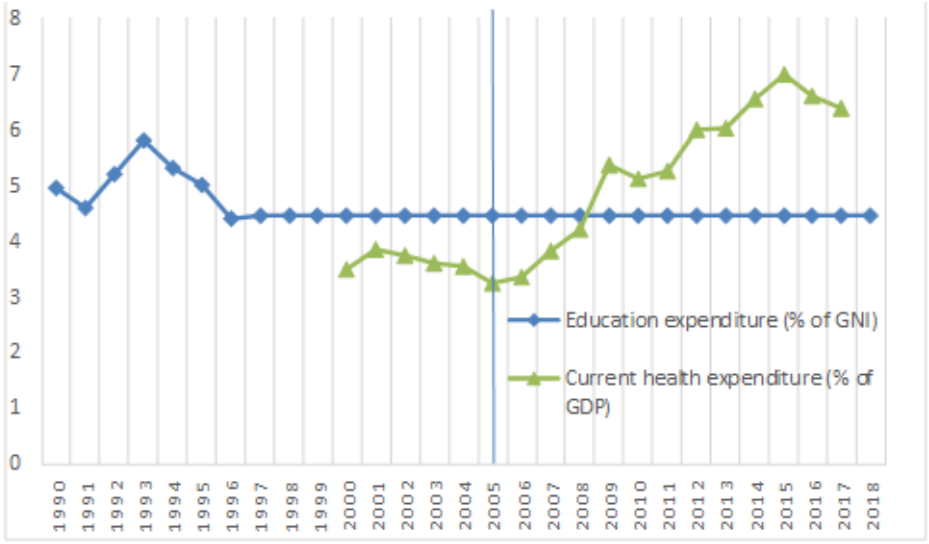
	2000	2017	Difference in percentage points
Articles of apparel and clothing accessories	49.63	0.07	-49.56
Rubber manufactures, nes	44.63	0.34	-44.29
Chemical materials and products, nes	33.57	0.43	-33.14
Artificial resins and plastic materials, and cellulose esters etc	35.59	0	-35.59

Table F.12 Tunisian AHS tariffs on EU imports by products

	1996	2016	Difference in percentage points
Articles of apparel and clothing accessories	41.7	18.83	-22.87
Rubber manufactures, nes	31.51	12.94	-18.57
Chemical materials and products, nes	20.91	3.73	-17.18
Artificial resins and plastic materials, and cellulose esters etc	20.77	6.86	-13.91

Figure F.2.a Government expenditure in SMCs

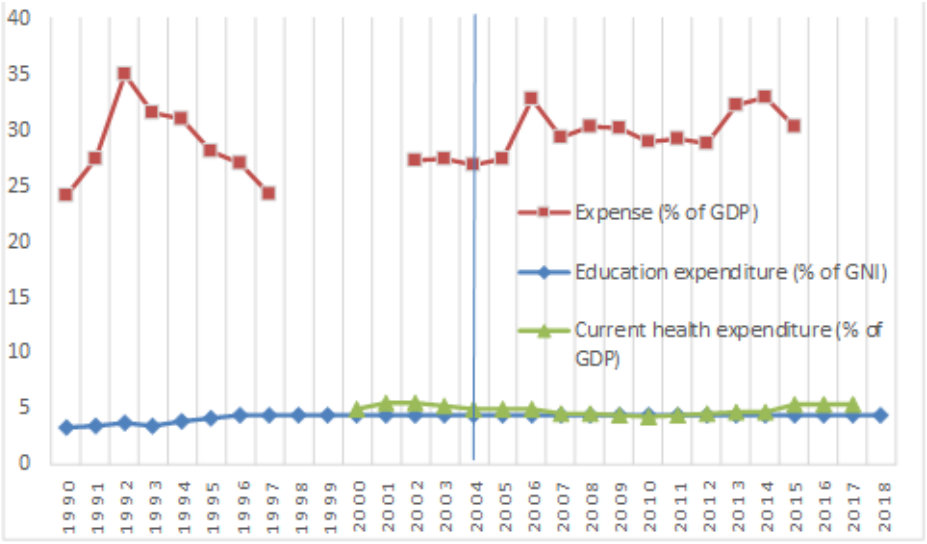
Government expenditure in Algeria



The arrow indicates the entry into force of the FTAs with EU.

Source: World Bank, WDI (2020).

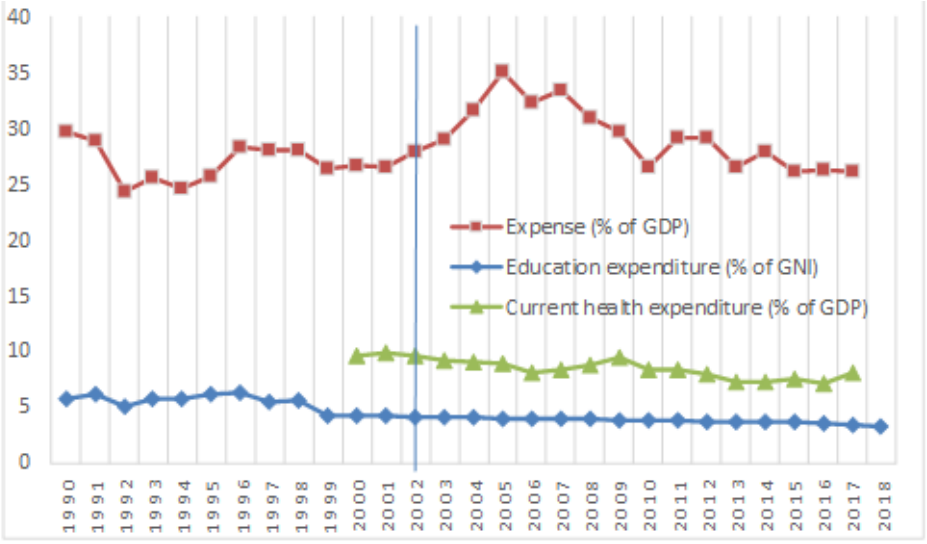
Government expenditure in Egypt



The arrow indicates the entry into force of the FTAs with EU.

Source: World Bank, WDI (2020).

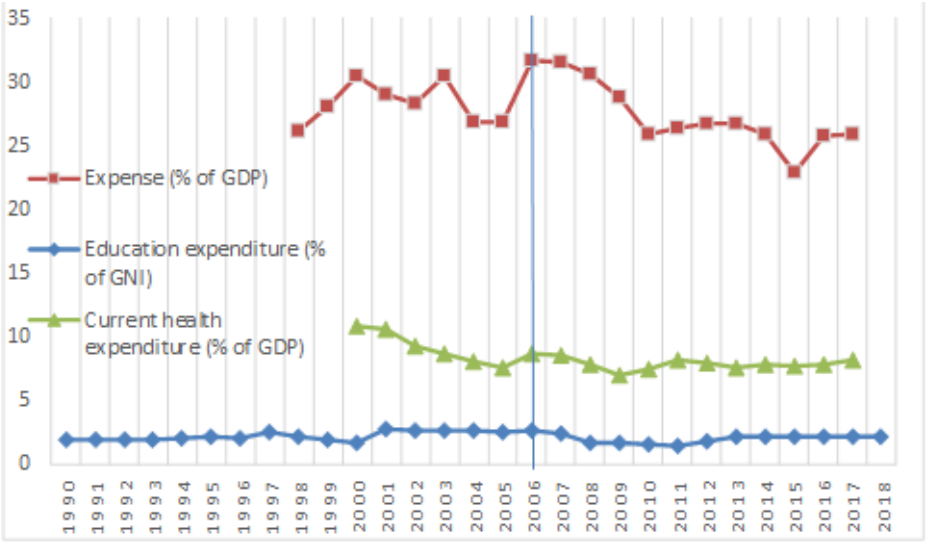
Government expenditure in Jordan



The arrow indicates the entry into force of the FTAs with EU.

Source: World Bank, WDI (2020).

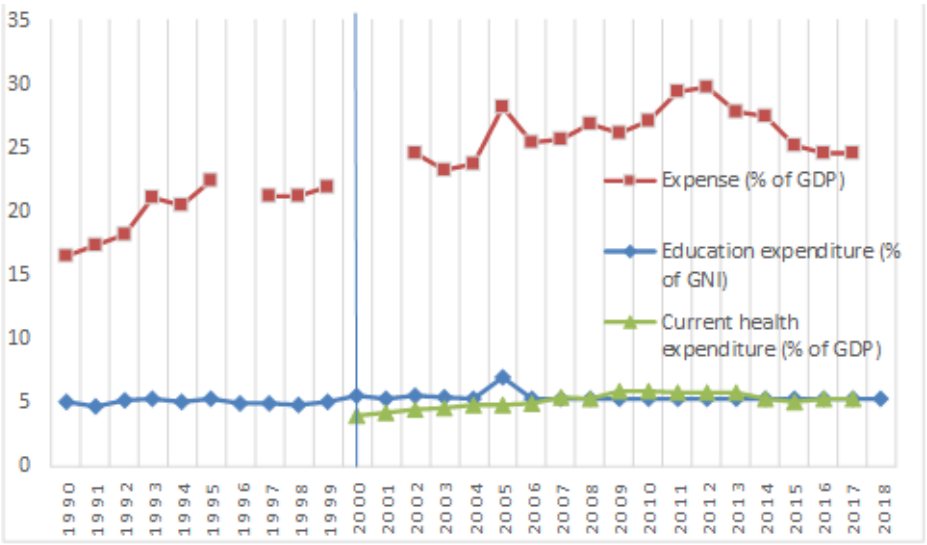
Government expenditure in Lebanon



The arrow indicates the entry into force of the FTAs with EU.

Source: World Bank, WDI (2020).

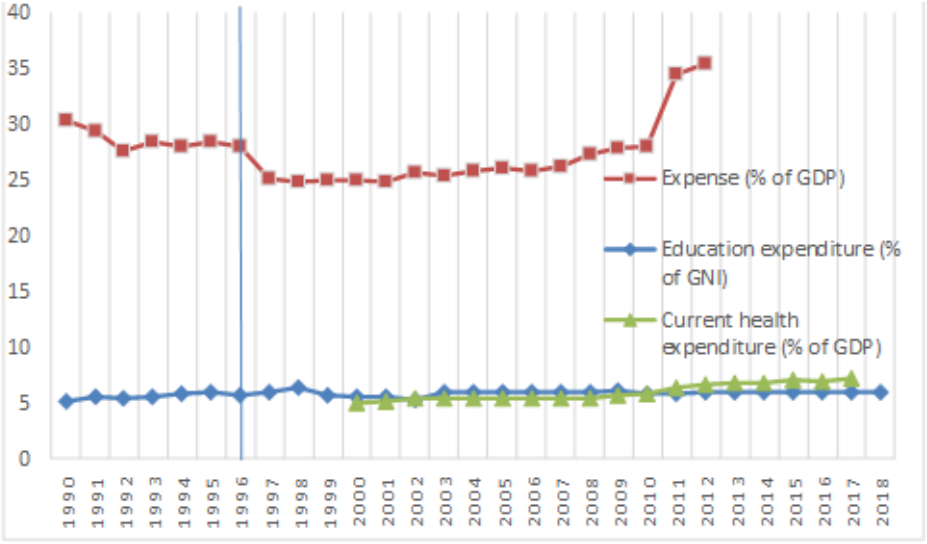
Government expenditure in Morocco



The arrow indicates the entry into force of the FTAs with EU.

Source: World Bank, WDI (2020).

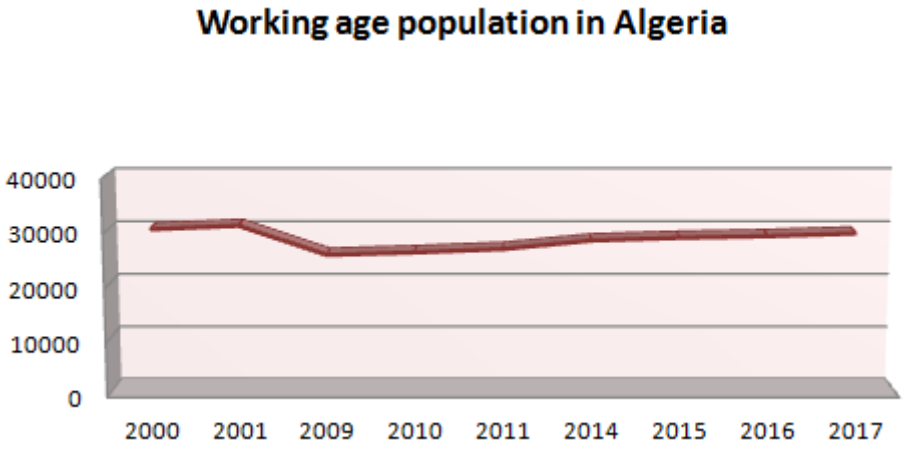
Government expenditure in Tunisia



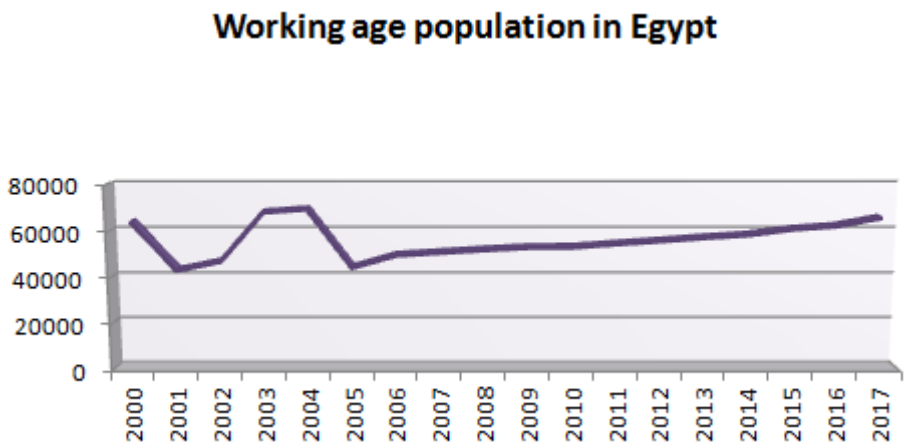
The arrow indicates the entry into force of the FTAs with EU.

Source: World Bank, WDI (2020).

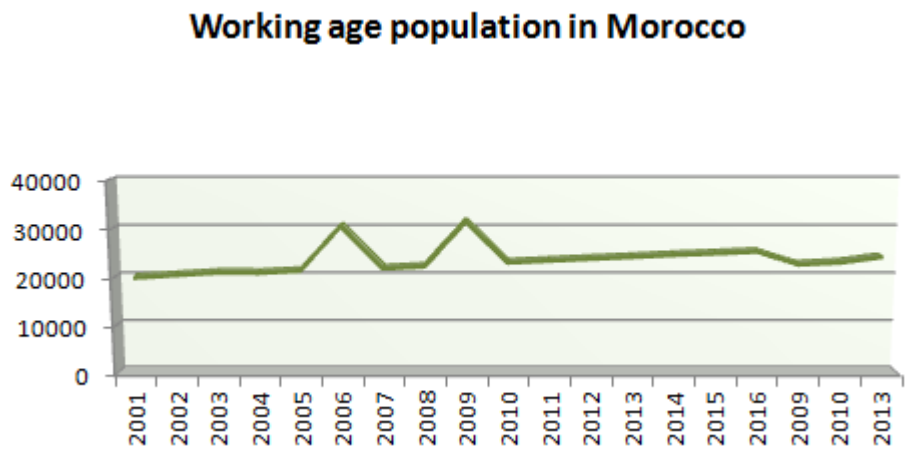
Figure F.2.b Working age population in the SMCs



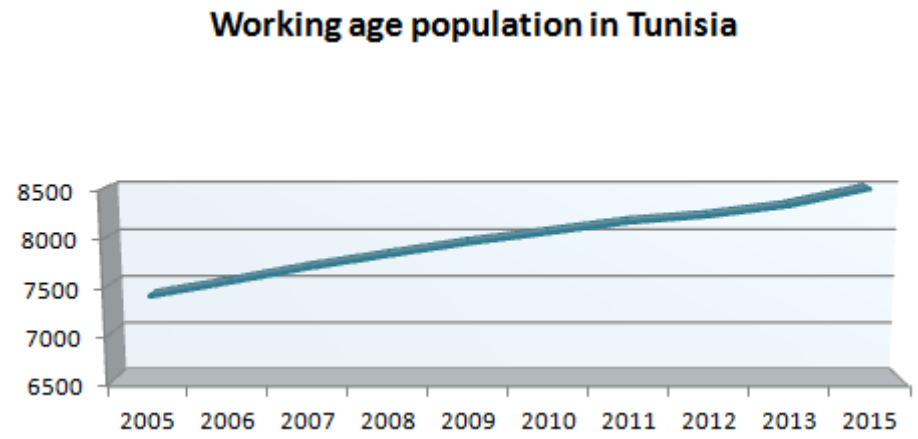
Source: World Bank, WDI(2019).



Source: World Bank, WDI(2019).

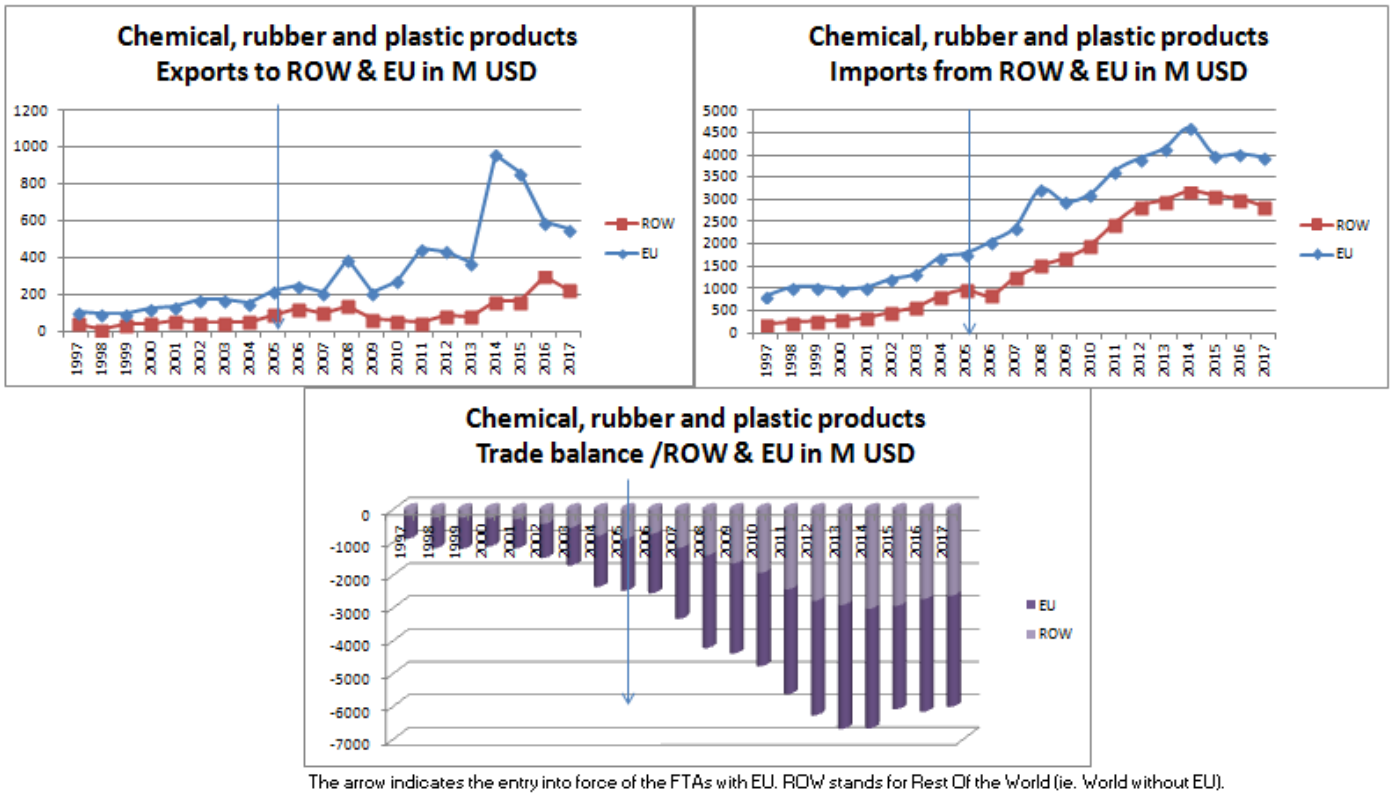


Source: World Bank, WDI(2019).



Source: World Bank, WDI(2019).

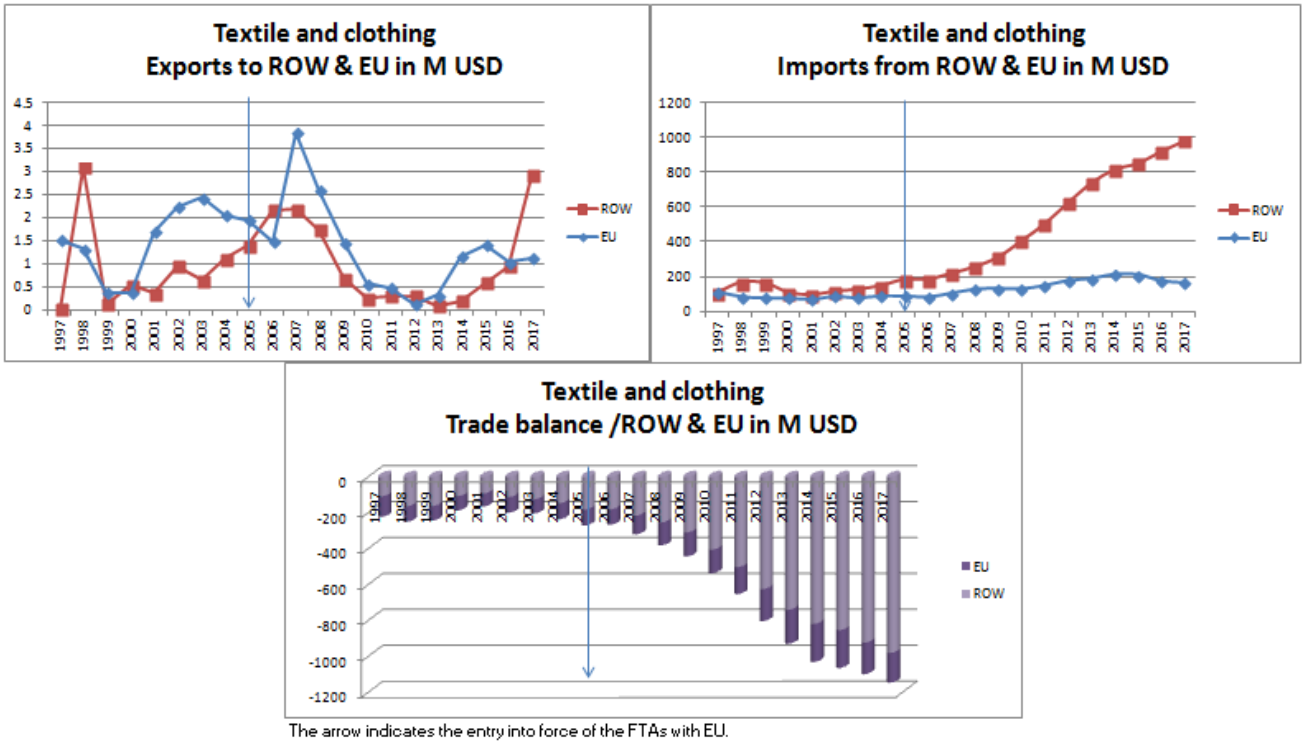
Figure F.3 Algeria trade flows in the Chemical, rubber and plastic products sector



The arrow indicates the entry into force of the FTAs with EU. ROW stands for Rest Of the World (ie. World without EU).

Source: UN COMTRADE (2019), author's calculations.

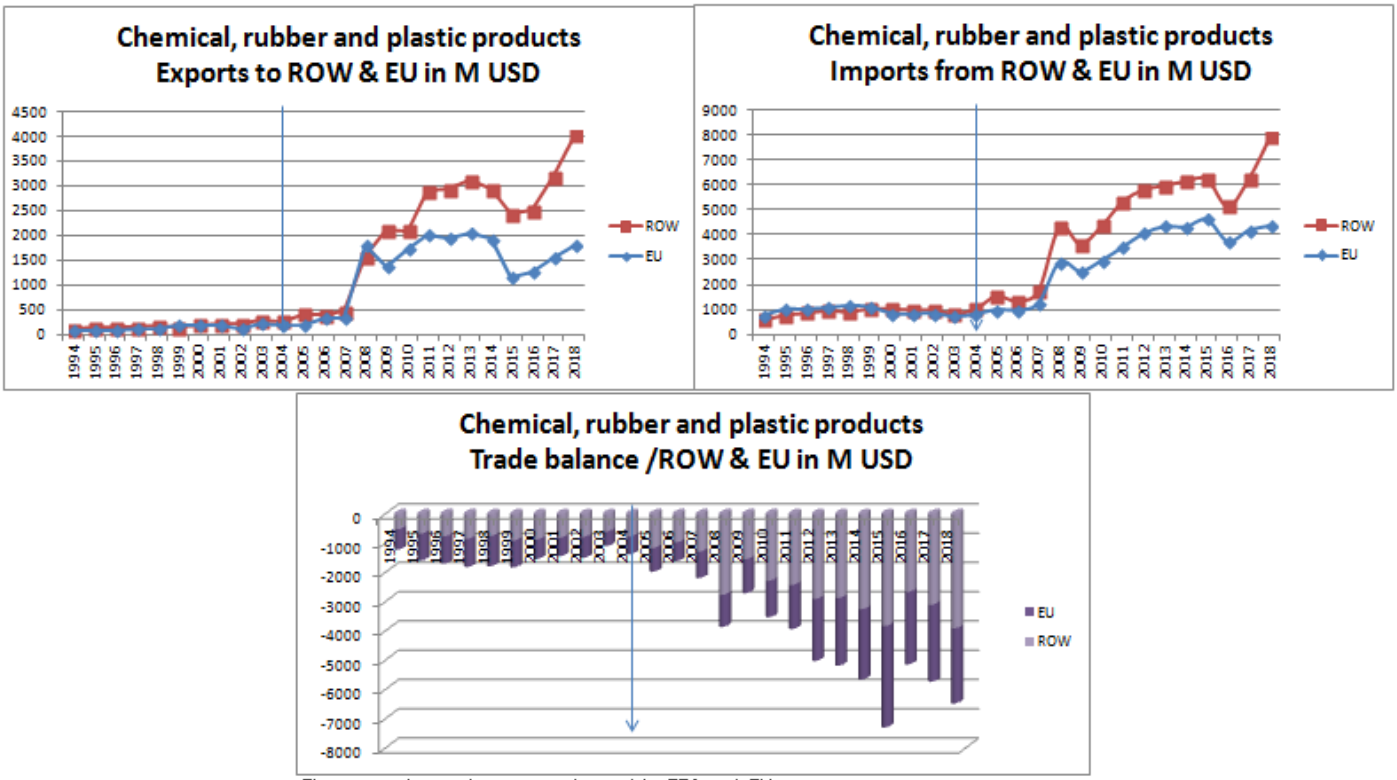
Figure F.4 Algeria trade flows in the textile and clothing sector



The arrow indicates the entry into force of the FTAs with EU.

Source: UN COMTRADE (2019), author's calculations.

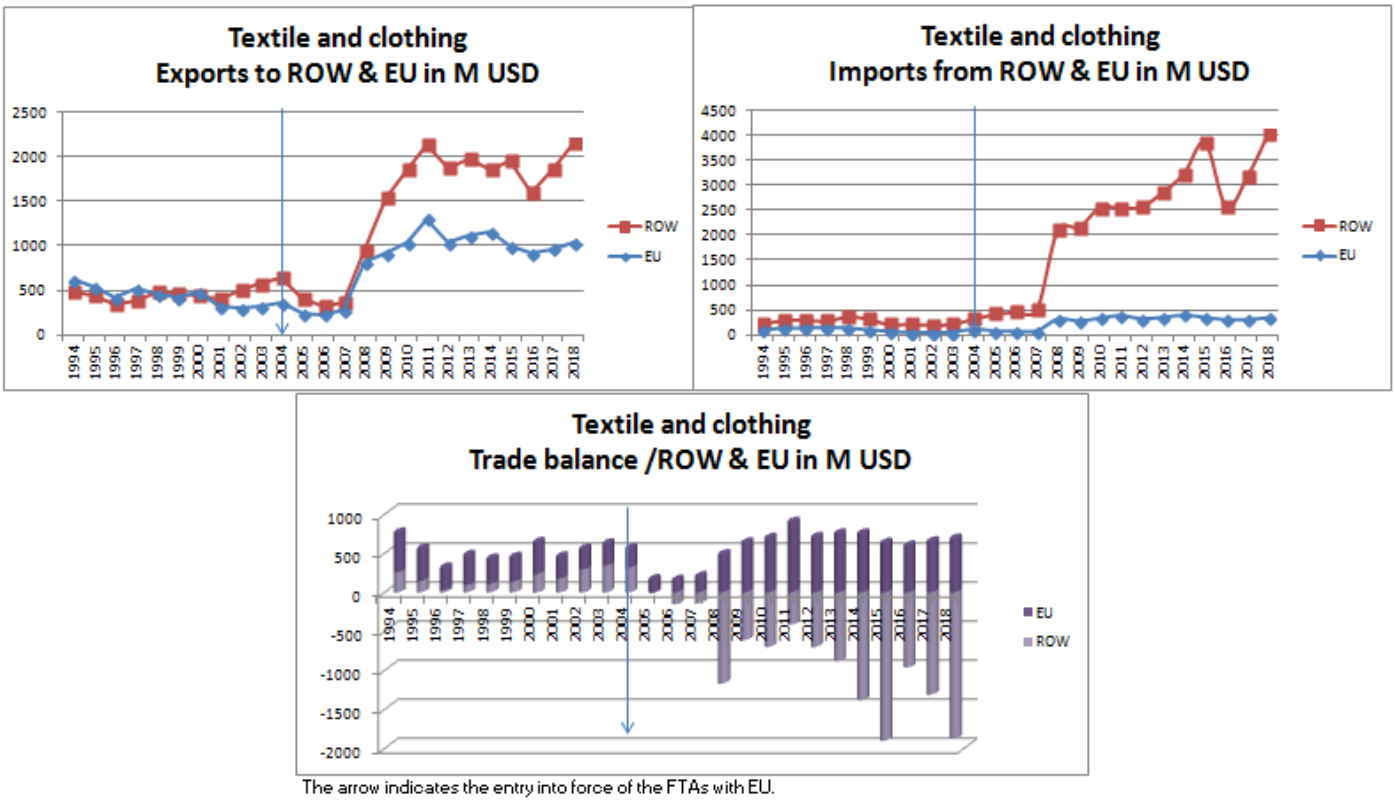
Figure F.5 Egypt trade flows in the Chemical, rubber and plastic products sector



The arrow indicates the entry into force of the FTAs with EU.

Source: UN COMTRADE (2019), author's calculations.

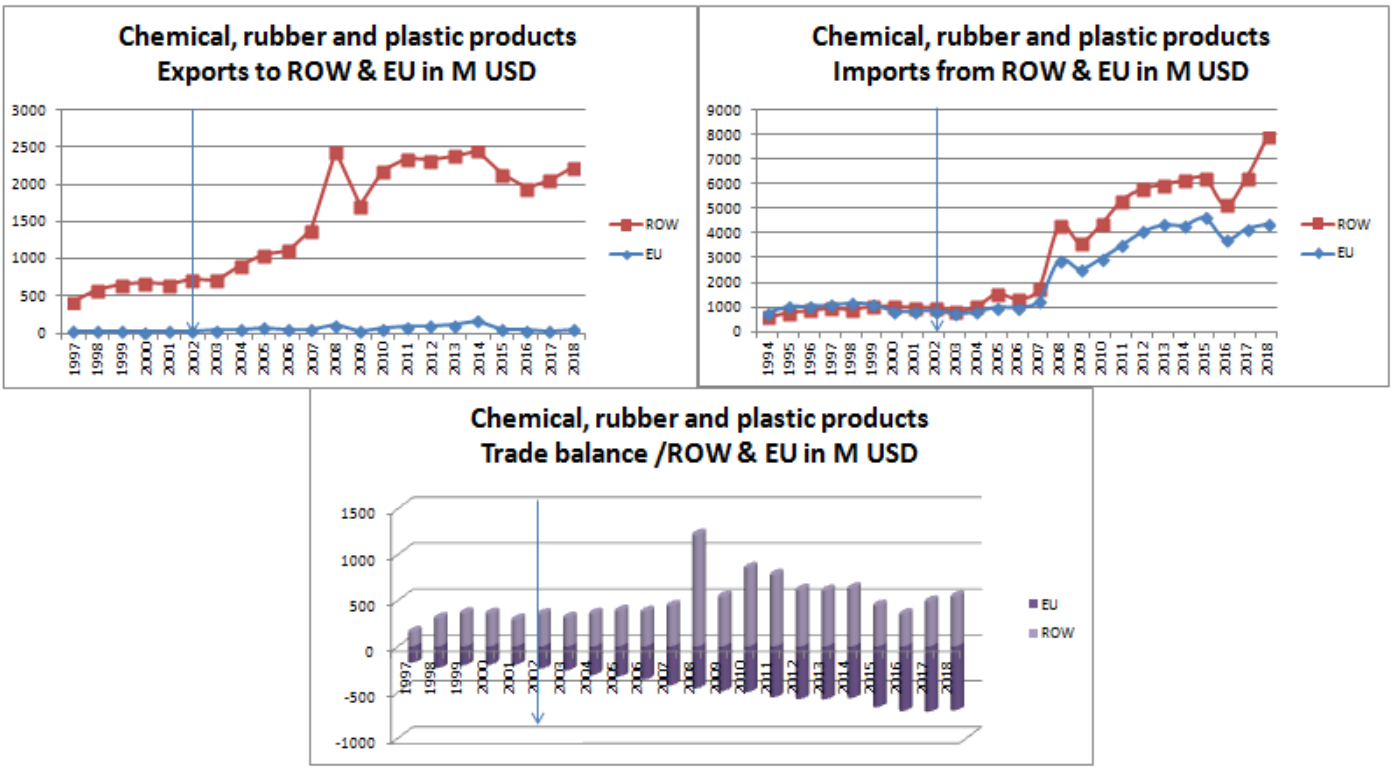
Figure F.6 Egypt trade flows in the in the textile and clothing sector



The arrow indicates the entry into force of the FTAs with EU.

Source: UN COMTRADE (2019), author's calculations.

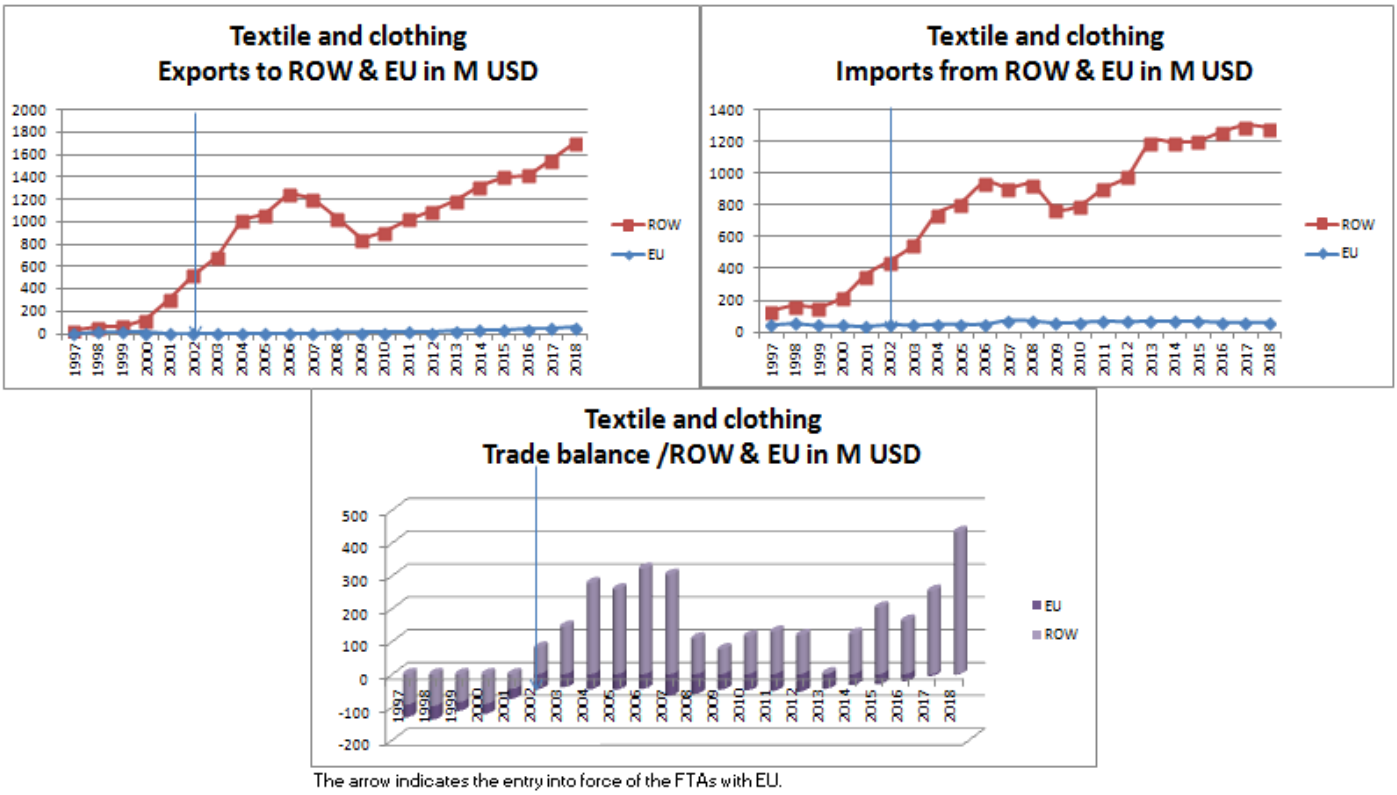
Figure F.7 Jordan trade flows in the Chemical, rubber and plastic products sector



The arrow indicates the entry into force of the FTAs with EU.

Source: UN COMTRADE (2019), author's calculations.

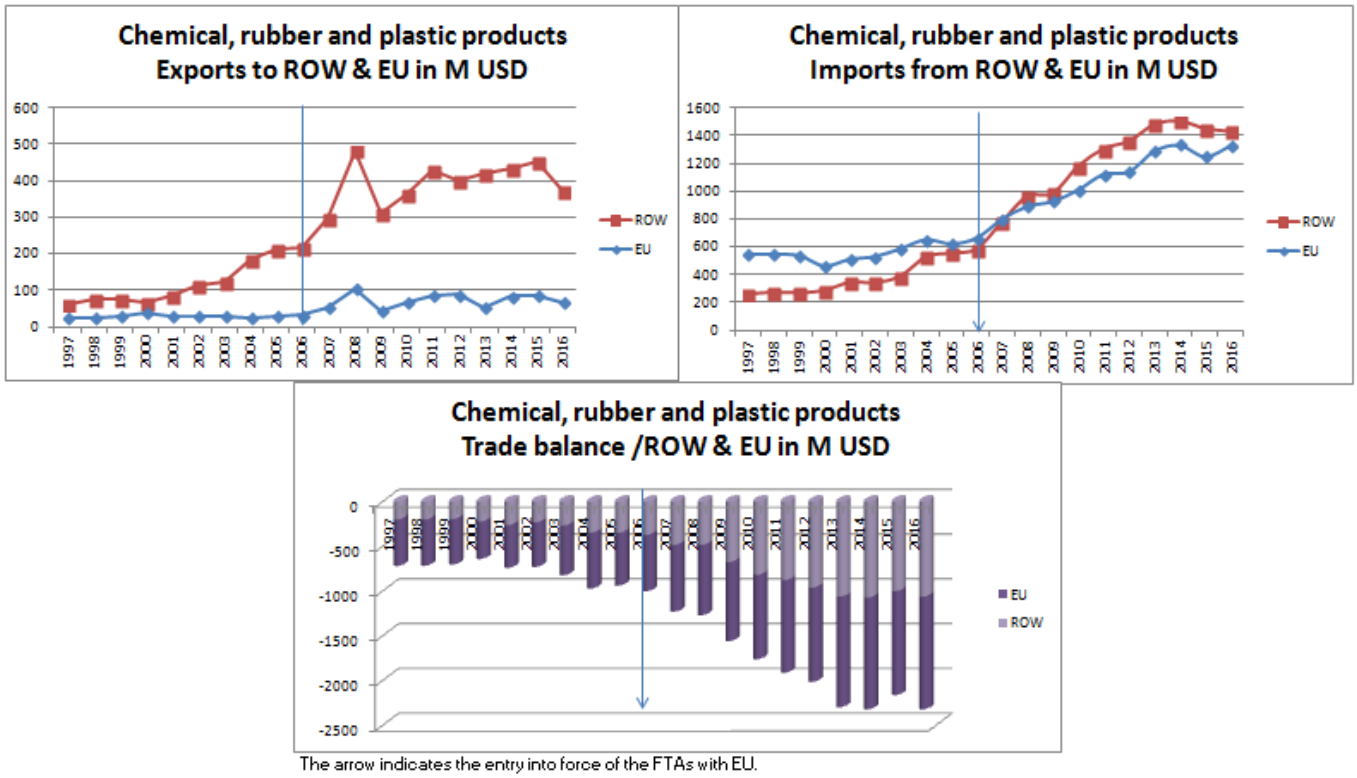
Figure F.8 Jordan trade flows in the textile and clothing sector



The arrow indicates the entry into force of the FTAs with EU.

Source: UN COMTRADE (2019), author's calculations.

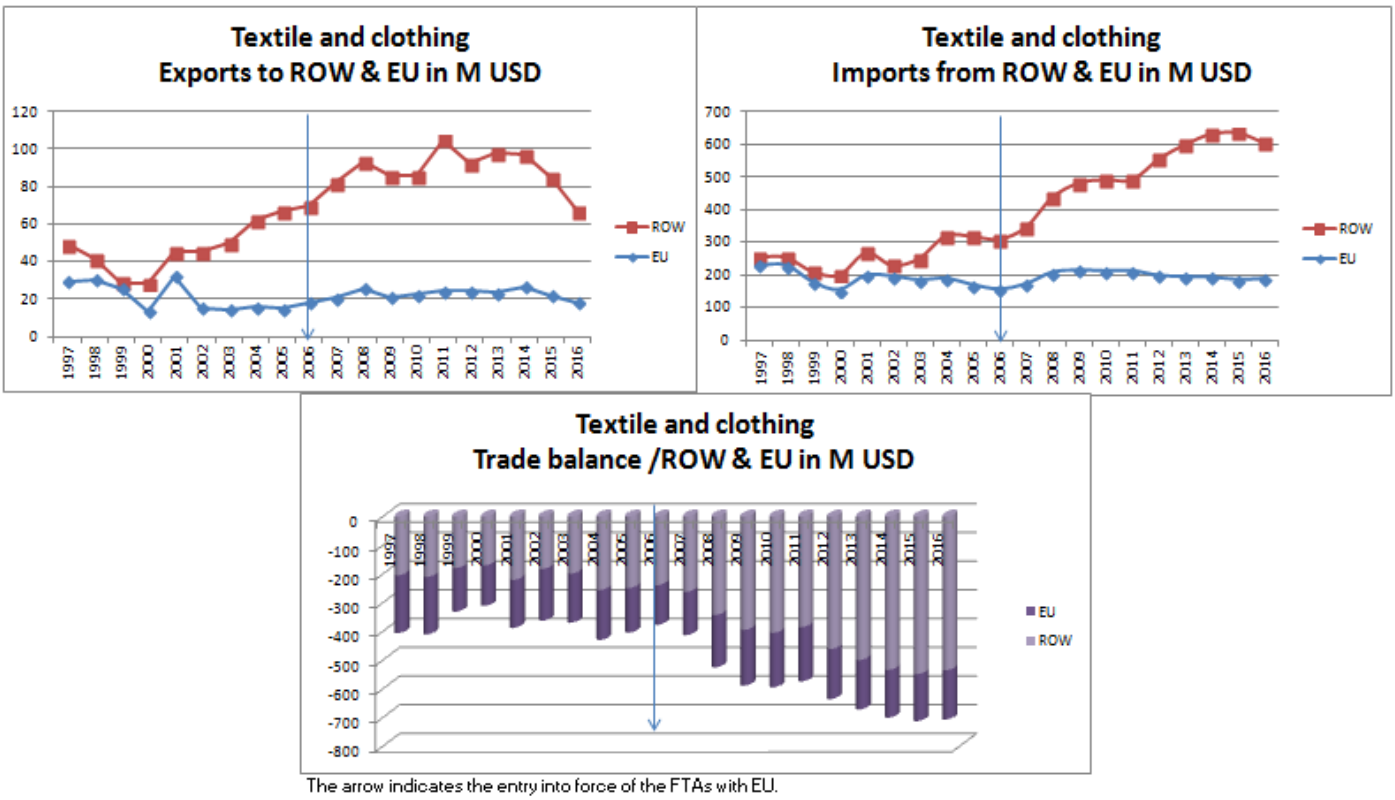
Figure F.9 Lebanon trade flows in the Chemical, rubber and plastic products sector



The arrow indicates the entry into force of the FTAs with EU.

Source: UN COMTRADE (2019), author's calculations.

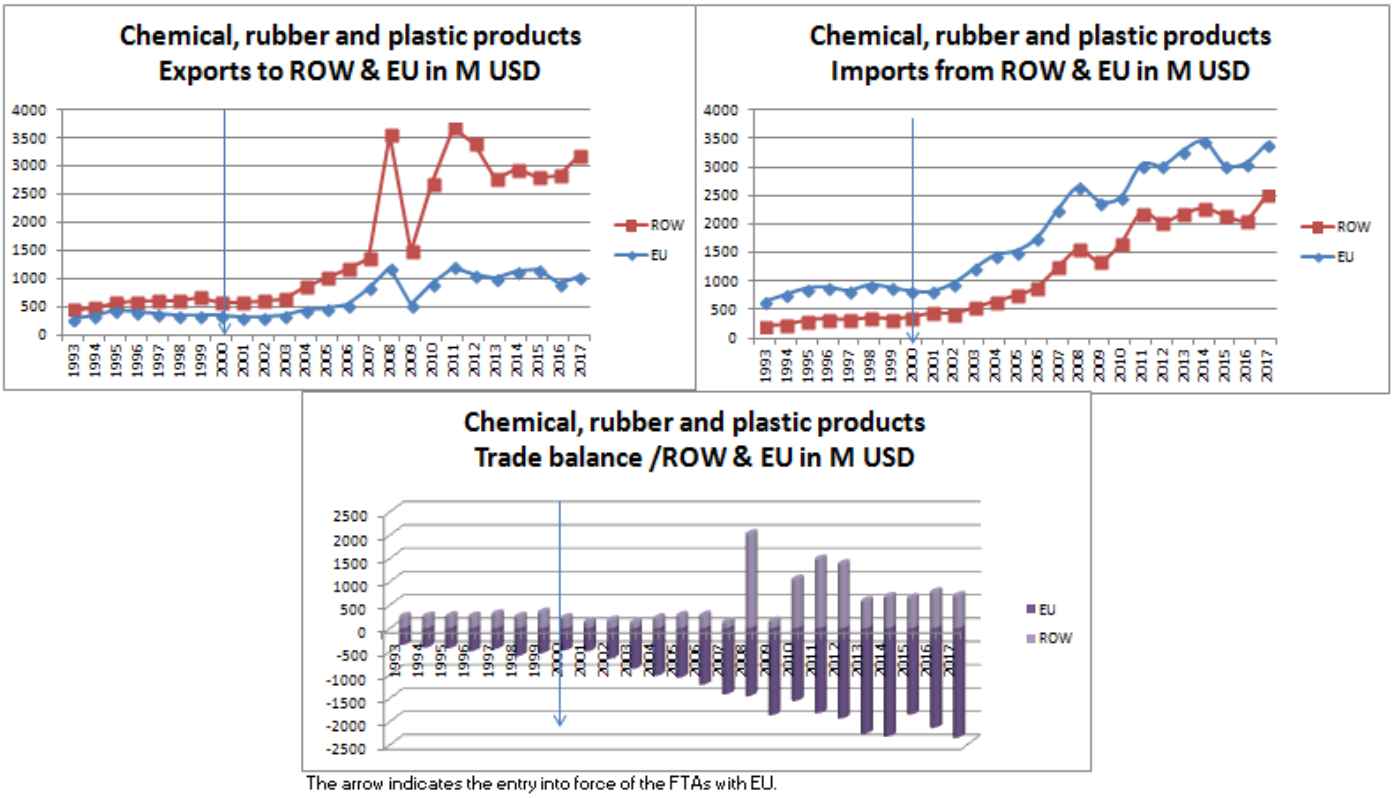
Figure F.10 Lebanon trade flows in the textile and clothing sector



The arrow indicates the entry into force of the FTAs with EU.

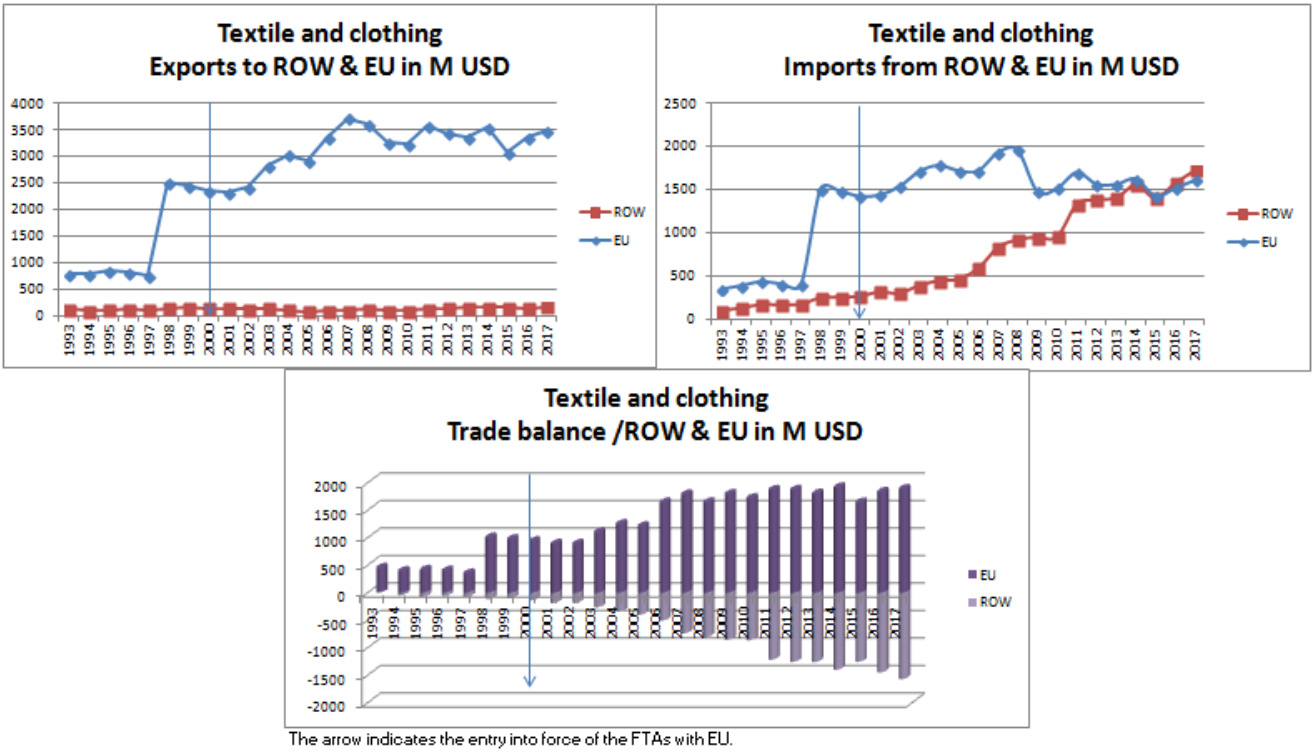
Source: UN COMTRADE (2019), author's calculations.

Figure F.11 Morocco trade flows in the Chemical, rubber and plastic products sector



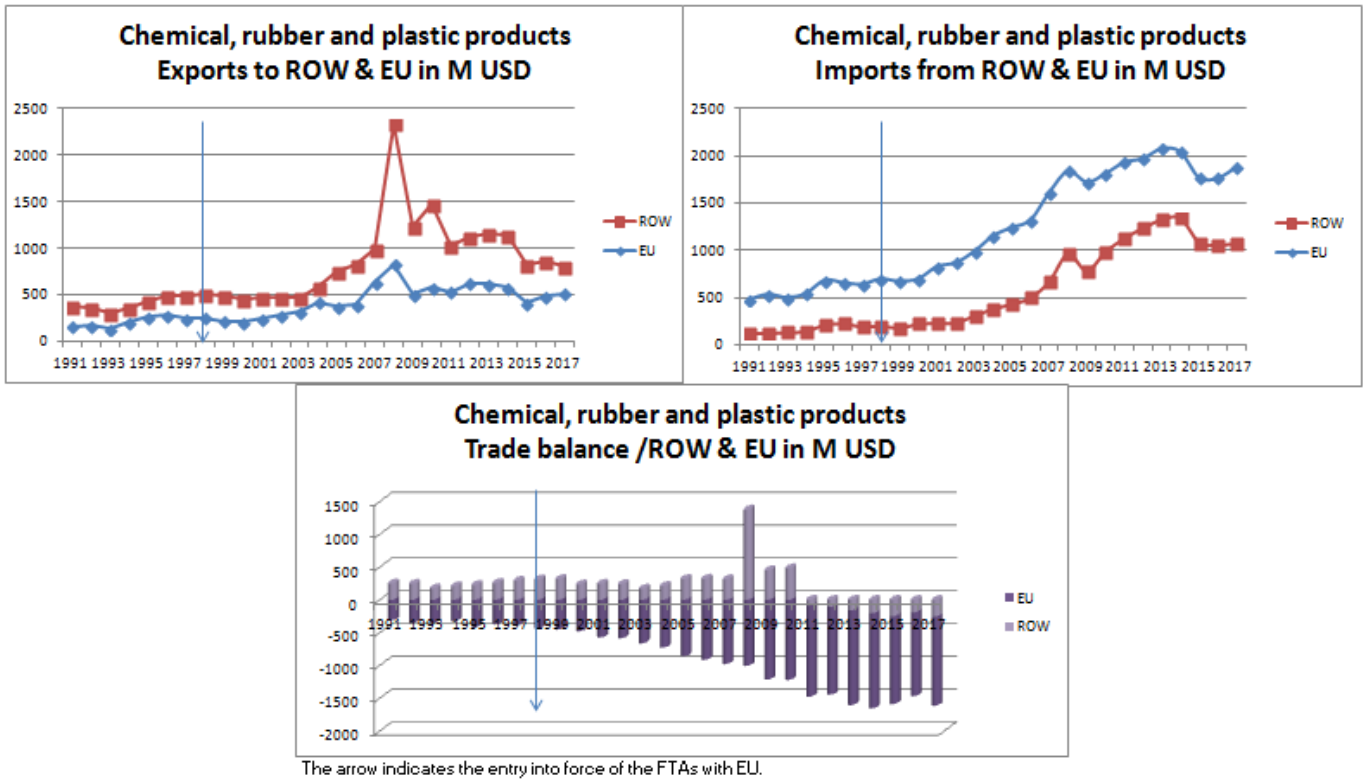
Source: UN COMTRADE (2019), author's calculations.

Figure F.12 Morocco trade flows in the textile and clothing sector



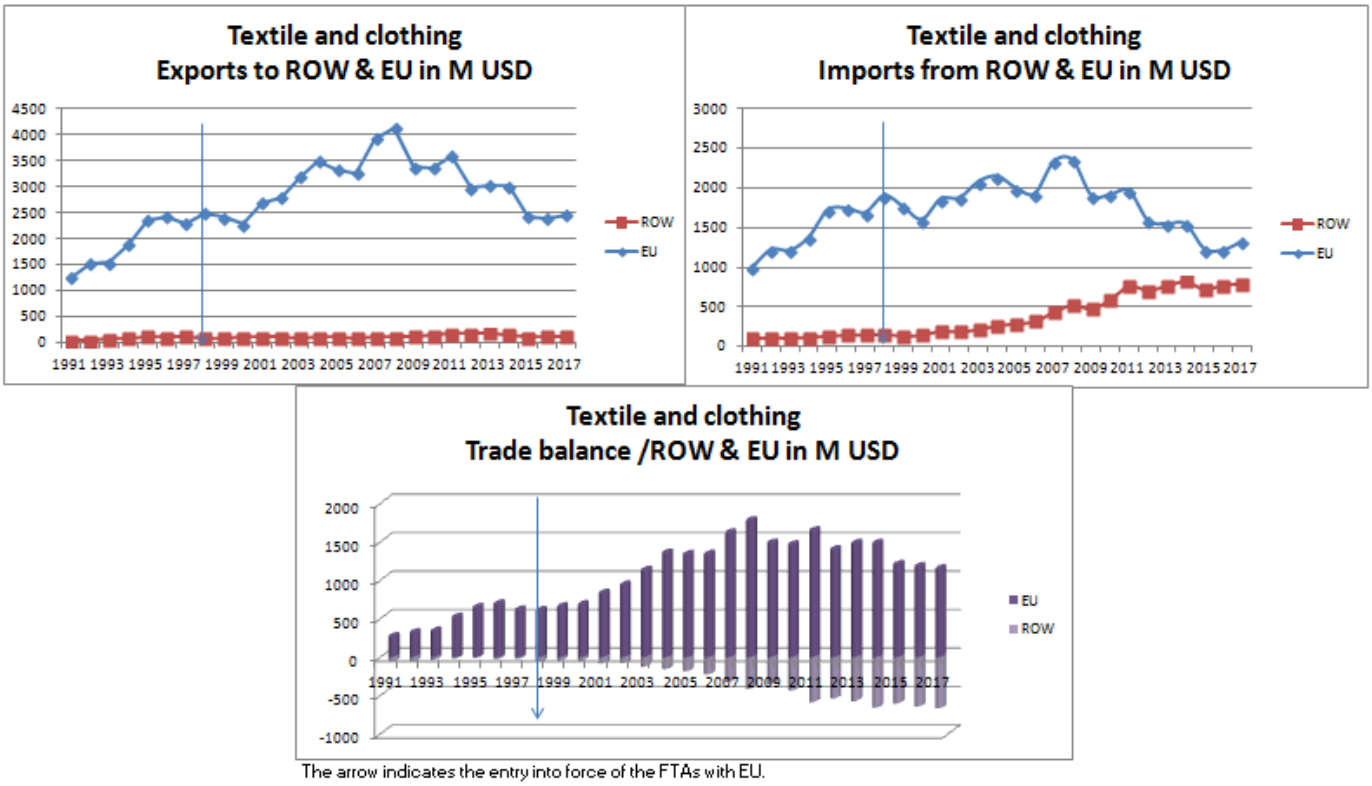
Source: UN COMTRADE (2019), author's calculations.

Figure F.13 Tunisia trade flows in the Chemical, rubber and plastic products sector



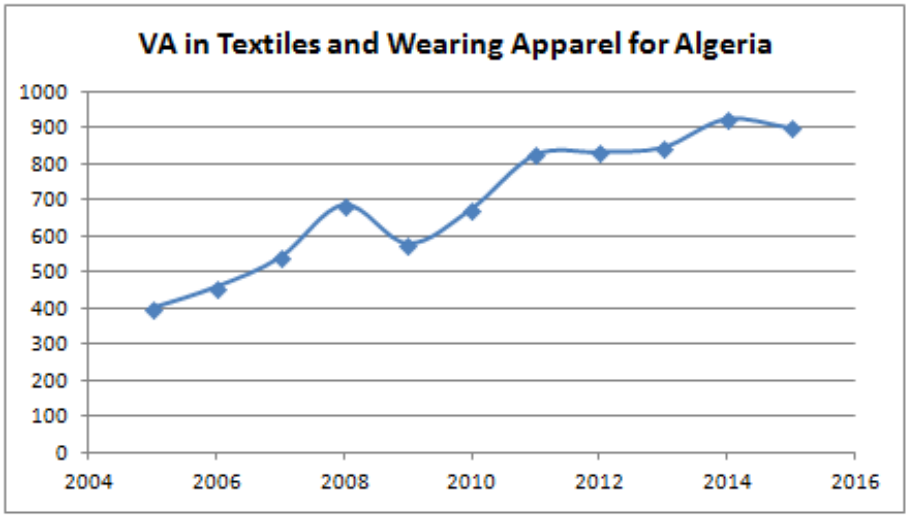
Source: UN COMTRADE (2019), author's calculations.

Figure F.14 Tunisia trade flows in the textile and clothing sector



Source: UN COMTRADE (2019), author's calculations.

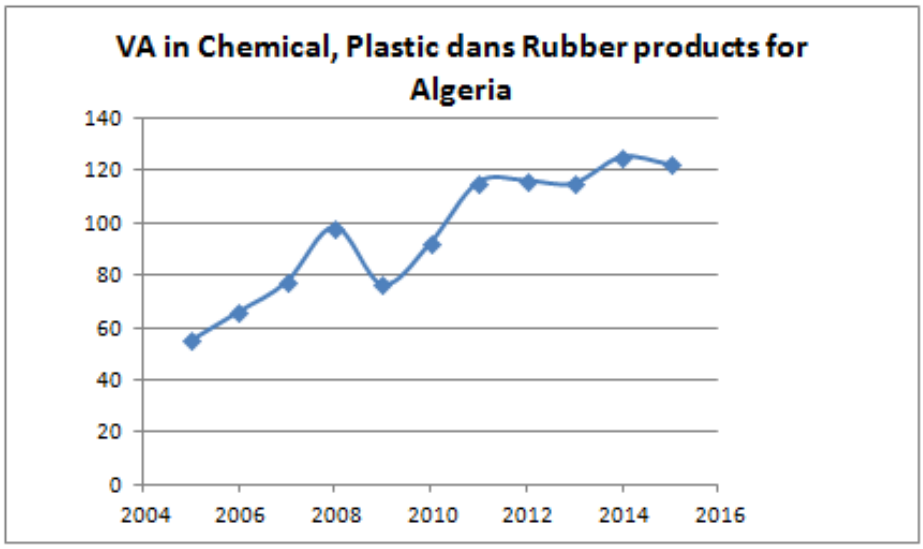
Figure F.15 VA (million EUR) & Wage bill (million DZD) in the textile and clothing sector in Algeria



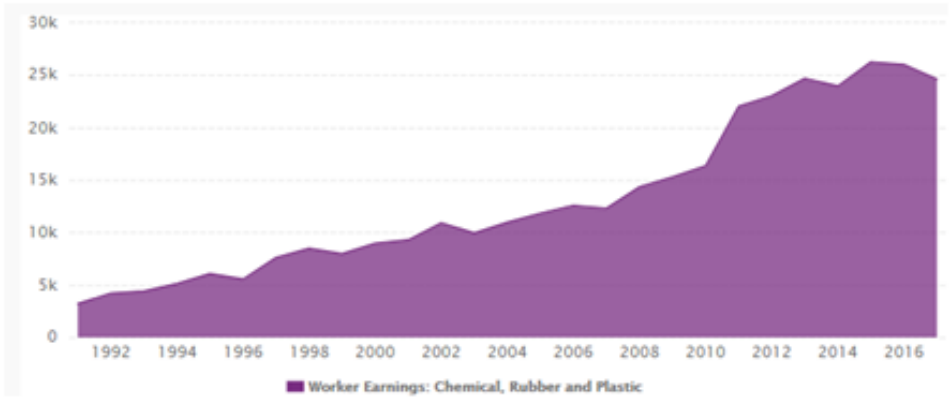
Source: Eora global supply chain database (2019)

Source: CEIC database (2019)

Figure F.16 VA(million EUR) & Wage bill (million DZD) in the Chemical, rubber and plastic products sector in Algeria

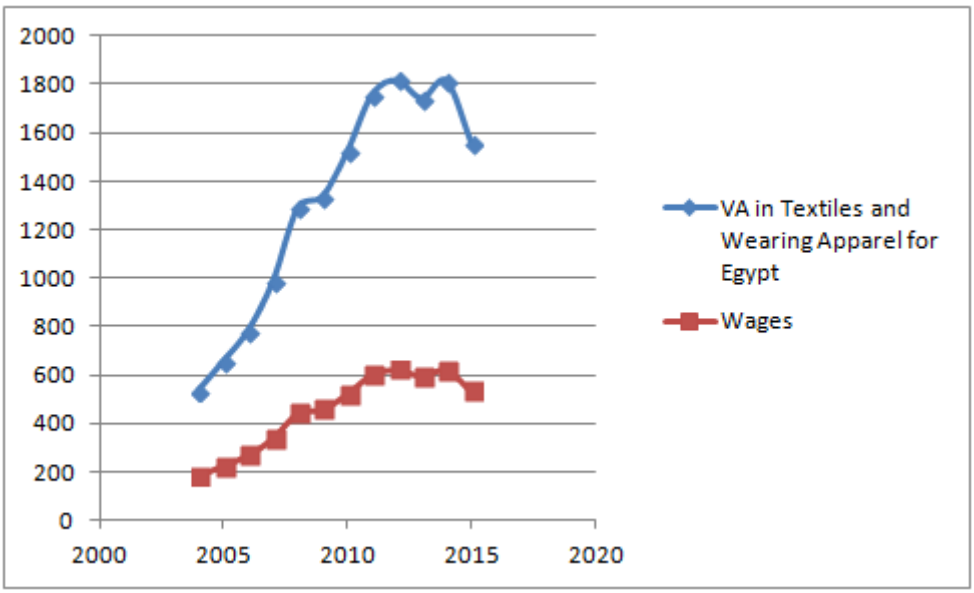


Source: Eora global supply chain database (2019)



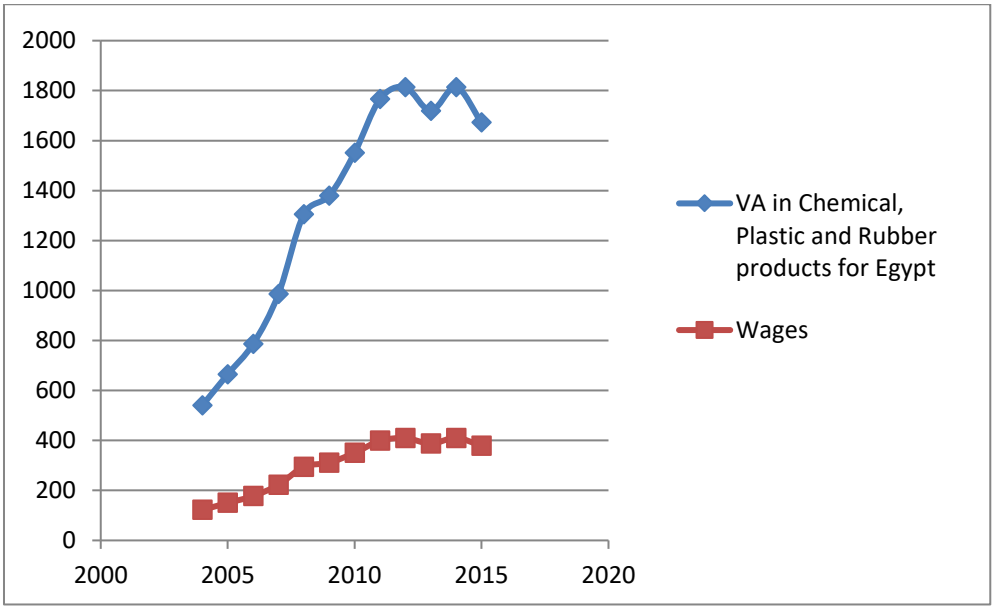
Source: CEIC database (2019)

Figure F.17 VA & Wage bill in the textile and clothing sector (million EUR) in Egypt



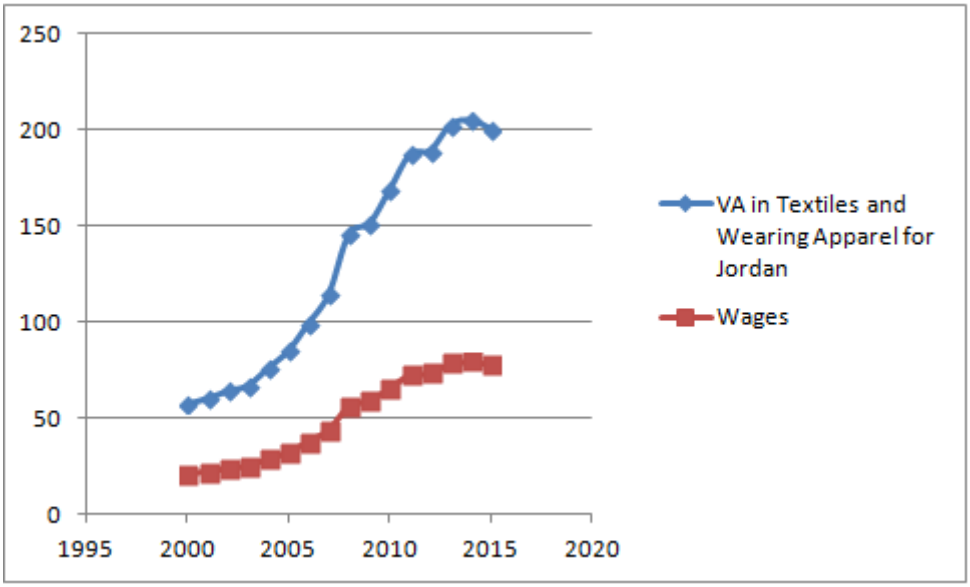
Source: Eora global supply chain database (2019).

Figure F.18 VA & Wages in the Chemical, rubber and plastic products sector (million EUR) in Egypt



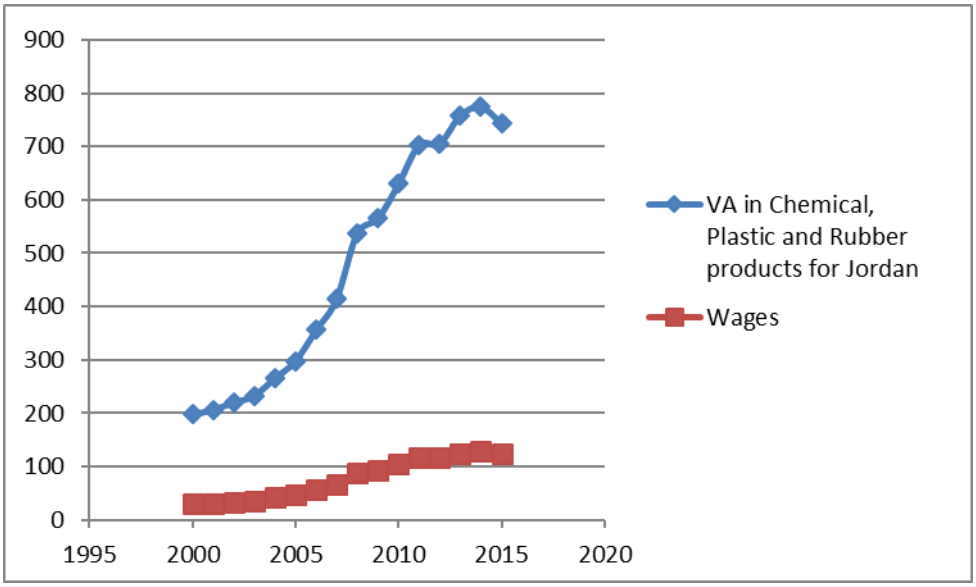
Source: Eora global supply chain database (2019).

Figure F.19 VA & Wage bill in the textile and clothing sector (million EUR) in Jordan



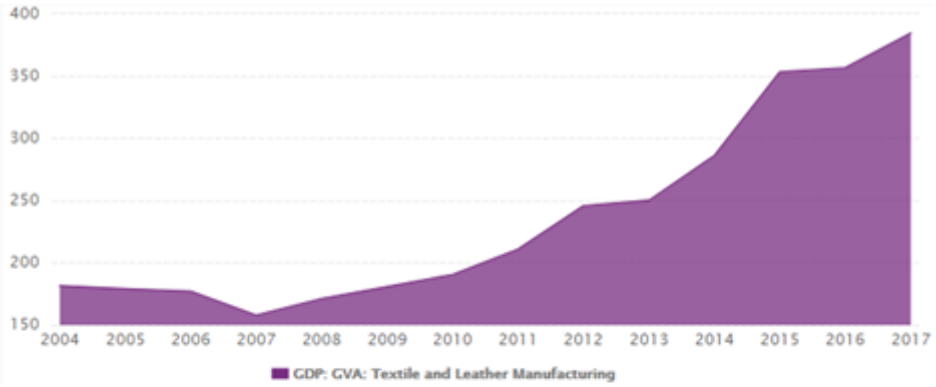
Source: Eora global supply chain database (2019).

Figure F.20 VA & Wage bill in the Chemical, rubber and plastic products sector (million EUR) in Jordan



Source: Eora global supply chain database (2019).

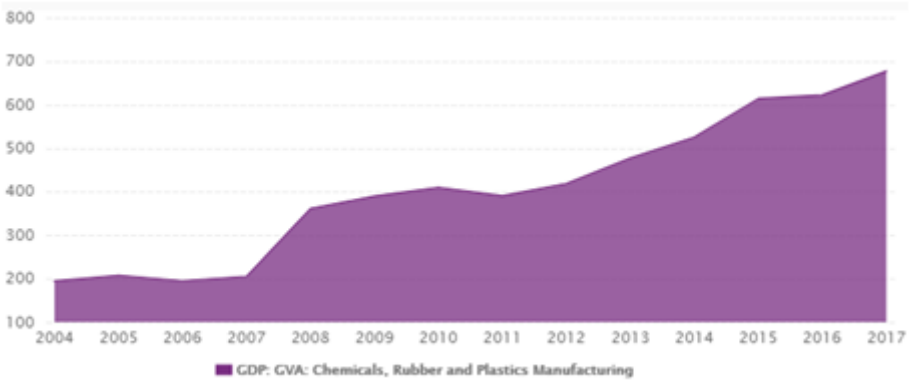
Figure F.21 VA (billion LBP) & Wages (million EUR) in the textile and clothing in Lebanon



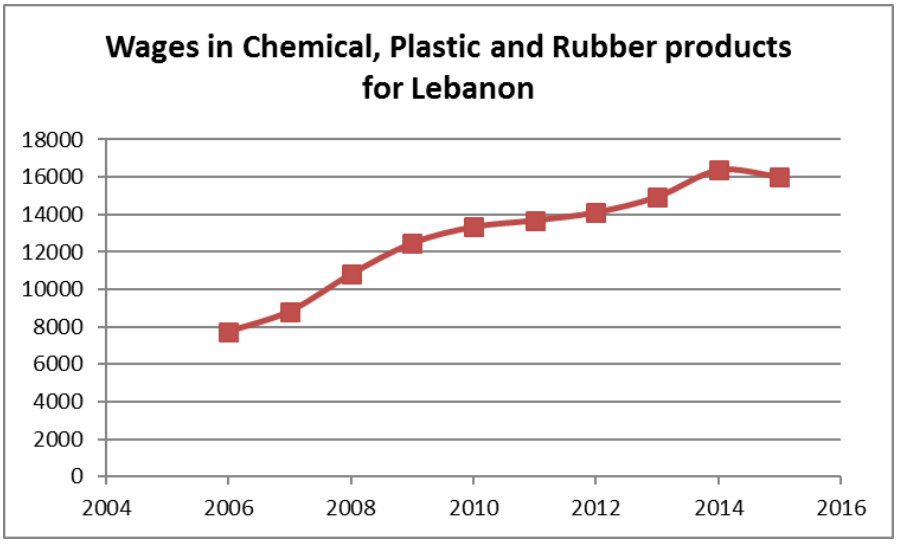
Source: CEIC database (2019)

Source: Eora global supply chain database (2019)

Figure F.22 VA(billion LBP) & Wages(million EUR) in the Chemical, rubber and plastic products sector in Lebanon

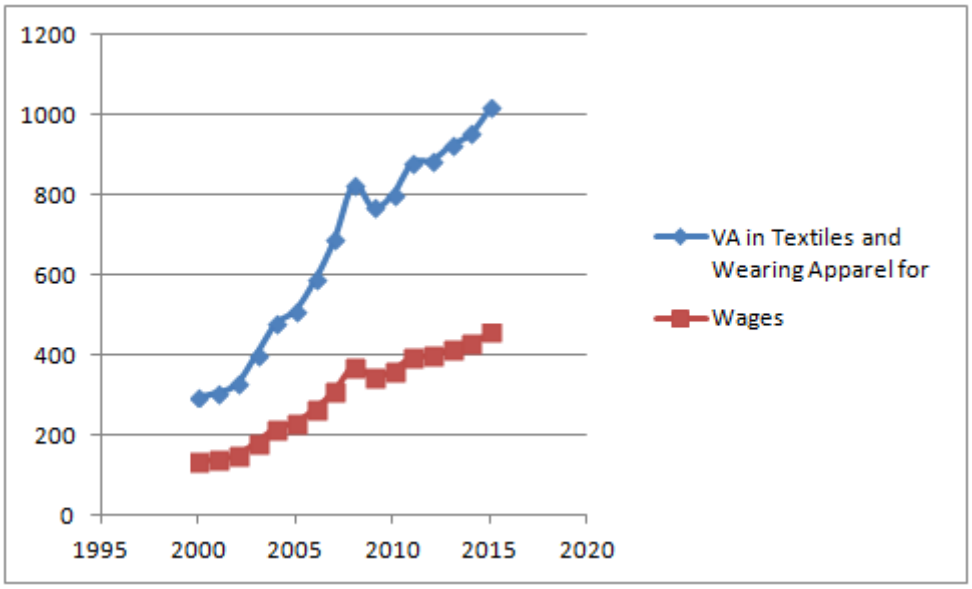


Source: CEIC database (2019)



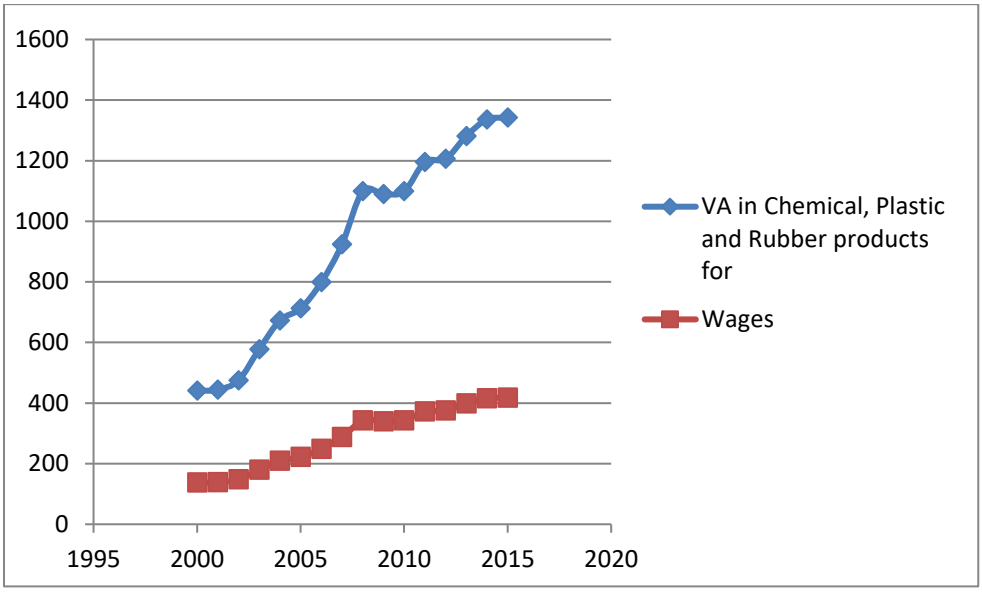
Source: Eora global supply chain database (2019).

Figure F.23 VA & Wages in the textile and clothing sector (million EUR) in Morocco



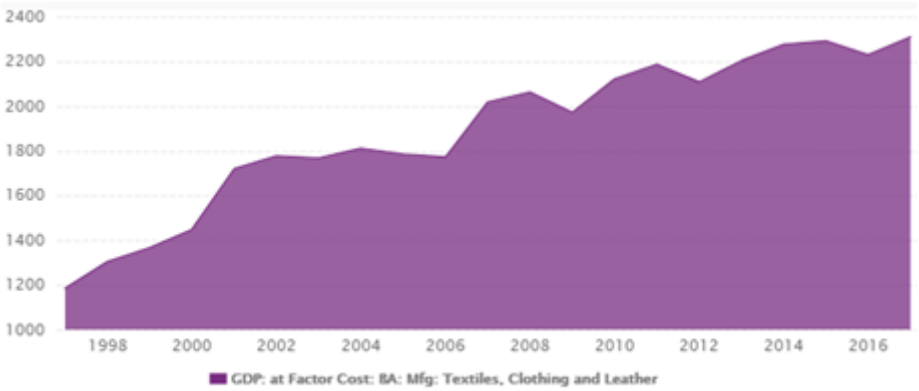
Source: Eora global supply chain database (2019).

Figure F.24 VA & Wages in the Chemical, rubber and plastic products sector (million EUR) in Morocco

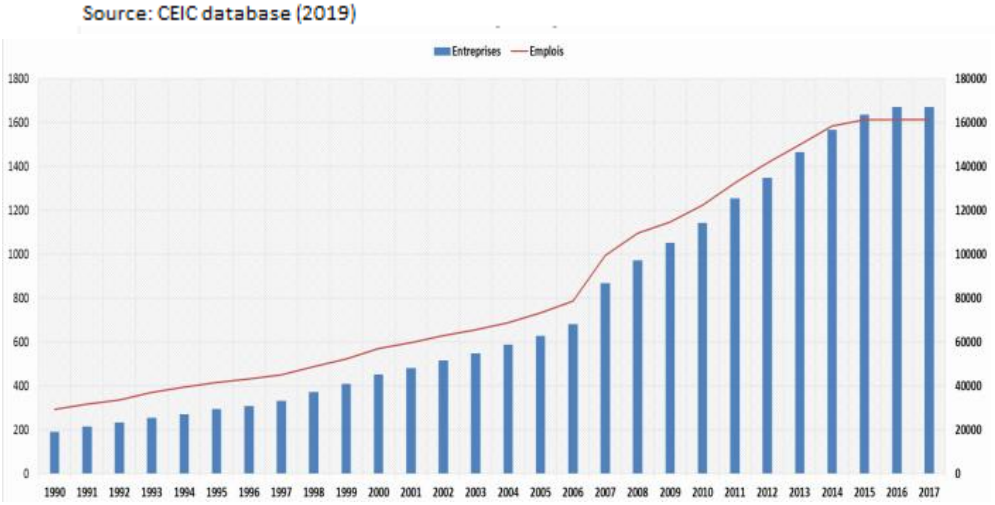


Source: Eora global supply chain database (2019).

Figure F.25 VA (million TND) & employment in the textile and clothing sector in Tunisia

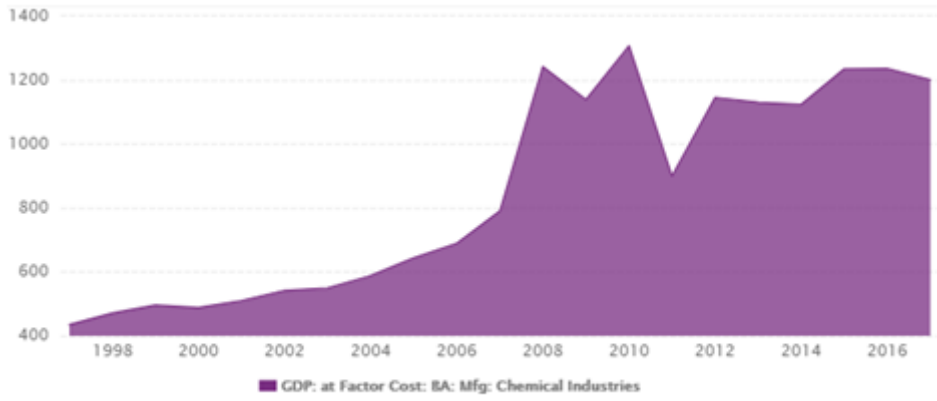


Source: CEIC database (2019)

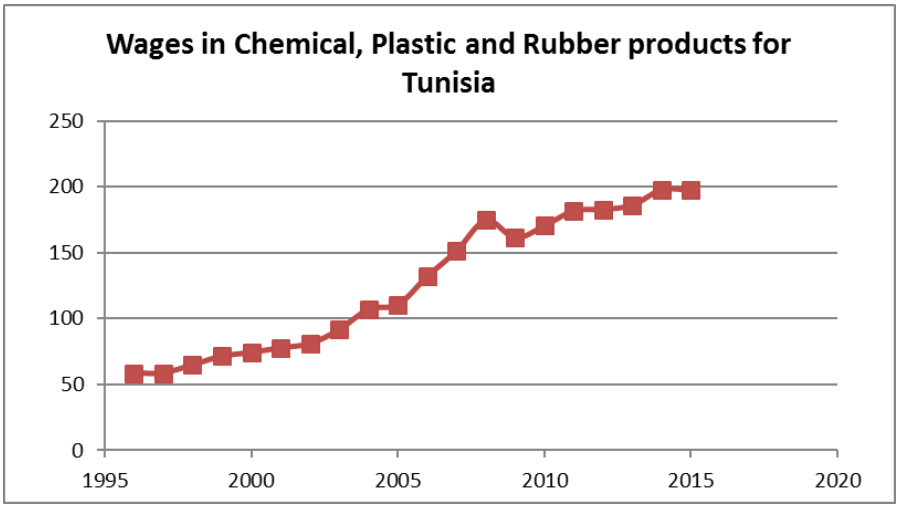


Source: Agence de Promotion de l'Industrie et de l'Innovation [*Agency for the Promotion of Industry and Innovation*]. Note: the scale on the left-hand side is for the number of enterprises (in blue), the scale on the right-hand side is for the number of jobs (in black).

Figure F.26 VA (million TND) & Wages (million EUR) in the Chemical, rubber and plastic products sector in Tunisia



Source: CEIC database (2019)



Source: Eora global supply chain database (2019).

F.4 Additional information for social and human rights impacts of the EuroMed FTAs- case study on gender

Table F.13 Rural Population, Arable Land, Agricultural Land and Renewable Freshwater in SMCS and Worldwide

Country	Rural population (% of total population)	Arable land (hectares per person)	Agricultural land (% of land area)	Renewable internal freshwater resources per capita (cubic meters)
Egypt, Arab Rep.	57.16	0.03	3.73	19.91
Morocco	39.74	0.24	68.54	848.14
Tunisia	32.23	0.26	64.84	379.19
Lower middle income	**61.33**	**0.14**	**45.90**	**3012.74**
Algeria	29.78	0.19	17.40	289.03
Jordan	10.00	0.03	11.98	76.46
Lebanon	12.05	0.02	64.32	766.48
Upper middle income	**37.05**	**0.21**	**35.17**	**8210.02**
Middle East & North Africa	36.00	0.13	33.30	553.39
European Union	25.18	0.21	43.10	2960.96

Source: World Development Indicators, 2020.
Data: Rural Population, 2018; Arable Land, 2016; Agricultural Land, 2016; Renewable water: 2014.

Table F.14 Distribution of the Informal Employment[a] by Sector – SMCs

Sector[b]	Jordan		Egypt		Lebanon		Morocco	
	Population Share	% Informality	Population Share	% Informality	Population Share	% Informality	Population Share	% Informality
Primary Sector	6.4	92.6	25.5	94.1	6.6	94.4	28.4	94.1
Secondary Sector	32.7	63.1	21.3	65.8	24.5	75.3	12.6	78.9
Tertiary Sector	49	75.1	28	62.7	68.9	46	54.5	82.2
PA and Social Services	12	30.7	25.3	11	NA	NA	4.5	18.5

1.1 Source: Angel-Urdinola and Tanabe, 2012.
1.2 a.Informality is measured as the share of population contributing to social security.
1.3 b.Primary Sector = Agriculture; Secondary Sector = Manufacturing and Construction; Tertiary Sector = Wholesale, transport and services; PA and social services = Public Administration, education and health.

Table F.15 Overview of Children's Work in Agriculture

Country	Overview of Children's Work in agriculture
Algeria	Planting and harvesting argan, grain, olives, vegetables, and fruits
	Herding goats, cattle, and sheep and raising them for the production of fertilizer, and cattle for the production of milk and butter
	Fishing
	Forestry, activities unknown
Egypt	Farming, including the production of cotton
	Caring for livestock
	Fishing, activities unknown
Jordan	Farming, including weeding, planting, and harvesting tomatoes and olives
Lebanon	Farming, including picking potatoes, cucumbers, almonds, plums, olives, beans, figs, grapes, eggplants, and cannabis
	Production of tobacco
	Fishing, activities unknown
Morocco	Planting and harvesting argan, grain, olives, vegetables, and fruits
	Herding goats, cattle, and sheep and raising them for the production of fertilizer, and cattle for the production of milk and butter
	Fishing
	Forestry, activities unknown
Tunisia	Farming
	Fishing
	Animal husbandry
	Forestry

Source: US department of Labor (2020).

Table F.16 Algeria - Change in the Employment Level before & after the AA implementation (1997-2017)

Variables in Level	Before AA	After AA	Difference in pp	AA-2008	Difference in pp
Employment to population ratio, 15+, total (%)	32.35	37.42	**15.67**	36.78	**13.69**
Employment to population ratio, 15+, female (%)	8.89	12.05	**35.53**	10.90	**22.69**
Gender Gap in Employment (in pp)	-46.51	-50.45	**-3.94**	-51.39	**-4.89**
Employment in agriculture (% of total employment)	21.74	12.07	**-44.47**	16.49	**-24.14**
Employment in agriculture, female (% of female employment)	12.52	4.26	**-65.96**	6.83	**-45.44**
Agriculture Employment Gender Gap (in pp)	-10.68	-9.28	**13.09**	-11.33	**-6.10**
Employment in industry (% of total employment)	25.07	29.78	**18.78**	27.53	**9.84**
Employment in industry, female (% of female employment)	29.10	24.12	**-17.11**	25.69	**-11.70**
Industry Employment Gender Gap (in pp)	4.65	-6.77	**-245.61**	-2.16	**-146.49**
Employment in services (% of total employment)	53.19	58.15	**9.32**	55.97	**5.23**
Employment in services, female (% of female employment)	58.39	71.62	**22.67**	67.48	**15.57**
Service Employment Gender Gap (in pp)	6.03	16.27	**169.97**	13.49	**123.90**
Vulnerable employment, total (% of employment)	30.57	28.06	**-2.51**	28.59	**-1.97**
Vulnerable employment, female (% of female employment)	35.05	25.61	**-9.44**	27.96	**-7.09**
Vulnerability Gender Gap (in pp)	5.18	-2.93	**-8.11**	-0.74	**-5.92**

Source: World Development Indicators.
Before AA: 1997 – 2004; After AA: 2005 – 2017; AA-2008= 2005 – 2008.

Table F.17 Algeria - Change in Employment Growth Rates before and after the AA implementation (1998-2017)

Variables in % Growth	Before AA	After AA	Difference in pp	AA-2008	Difference in pp
Employment to population ratio, 15+, total (%)	0.87	0.30	**-0.57**	1.59	**0.72**
Employment to population ratio, 15+, female (%)	2.48	1.13	**-1.36**	2.36	**-0.12**
Gender Gap in Employment (in pp)	-0.10	0.02	**0.13**	-0.65	**-0.55**
Employment in agriculture (% of total employment)	-1.54	-5.55	**-4.01**	-8.03	**-6.49**
Employment in agriculture, female (% of female employment)	-3.98	-8.02	**-4.04**	-15.25	**-11.27**
Agriculture Employment Gender Gap (in pp)	-0.20	0.34	**0.54**	0.24	**0.44**
Employment in industry (% of total employment)	0.18	1.46	**1.28**	3.02	**2.84**
Employment in industry, female (% of female employment)	-2.35	-1.23	**1.12**	-0.94	**1.41**
Industry Employment Gender Gap (in pp)	-0.84	-0.84	**0.00**	-1.23	**-0.40**
Employment in services (% of total employment)	0.55	0.74	**0.19**	1.13	**0.58**
Employment in services, female (% of female employment)	2.00	1.22	**-0.79**	2.22	**0.21**
Service Employment Gender Gap (in pp)	0.14	1.07	**0.93**	0.84	**0.70**
Vulnerable employment, total (% of total employment)	-1.35	-0.53	**0.82**	-0.09	**1.27**
Vulnerable employment, female (% of female employment)	-2.51	-1.77	**0.74**	-3.68	**-1.17**
Vulnerability Gender Gap (in pp)	-0.52	-0.40	**0.12**	-1.23	**-0.71**

Source: World Development Indicators and authors' calculations.
Before AA: 1997 – 2004; After AA: 2005 – 2017; AA-2008= 2005 – 2008.

Table F.18 Egypt- Change in the level of employment variables before and after the AA (1994-2018)

Variables in Level	Before AA	After AA	Difference in pp	AA-2008	Difference in pp
Employment to population ratio, 15+, total (%)	41.55	42.93	**1.39**	42.50	**0.95**
Employment to population ratio, 15+, female (%)	15.66	17.08	**1.42**	16.34	**0.68**
Gender Gap in Employment	-52.07	-51.67	**0.40**	-52.38	**-0.31**
Employment in agriculture (% of total employment)	30.73	28.59	**-2.15**	31.49	**0.76**
Employment in agriculture, female (% of female employment)	37.67	42.47	**4.80**	45.79	**8.12**
Agriculture Employment Gender Gap	8.58	17.33	**8.75**	17.70	**9.12**
Employment in industry (% of total employment)	21.54	23.90	**2.36**	21.73	**0.19**
Employment in industry, female (% of female employment)	8.71	5.71	**-3.00**	5.68	**-3.03**
Industry Employment Gender Gap	-15.83	-22.72	**-6.89**	-19.88	**-4.05**
Employment in services (% of total employment)	47.73	47.51	**-0.22**	46.78	**-0.95**
Employment in services, female (% of female employment)	53.62	51.82	**-1.80**	48.53	**-5.09**
Service Employment Gender Gap	7.25	5.39	**-1.86**	2.18	**-5.07**
Vulnerable employment, total (% of total employment)	24.10	24.09	**0.00**	25.73	**1.63**
Vulnerable employment, female (% of female employment)	36.45	43.12	**6.66**	46.07	**9.62**
Vulnerability Gender Gap	15.28	23.73	**8.45**	25.19	**9.91**

Source: World Development Indicators and authors' calculations.
Before AA: 1994 – 2003; After AA: 2004 – 2018; AA-2008= 2004 – 2008.

Table F.18 Egypt - Change in the growth rates of employment variables before and after the AA (1994-2018)

Variables in % Growth	Before AA	After AA	Difference in pp	AA-2008	Difference in pp
Employment to population ratio, 15+, total (%)	-0.48	0.34	**0.67**	1.61	**1.94**
Employment to population ratio, 15+, female (%)	-1.63	1.26	**2.24**	3.77	**4.75**
Gender Gap in Employment	-0.13	0.12	**0.14**	-0.20	**-0.18**
Employment in agriculture (% of total employment)	-1.71	-1.14	**0.57**	1.24	**2.95**
Employment in agriculture, female (% of female employment)	-0.47	-0.10	**0.37**	3.56	**4.02**
Agriculture Employment Gender Gap	-0.40	0.24	**0.64**	1.23	**1.63**
Employment in industry (% of total employment)	-0.90	2.07	**2.97**	3.04	**3.94**
Employment in industry, female (% of female employment)	2.05	1.27	**-0.78**	-1.28	**-3.33**
Industry Employment Gender Gap	0.13	-0.55	**-0.68**	-1.01	**-1.14**
Employment in services (% of total employment)	1.71	-0.23	**-1.94**	-2.05	**-3.76**
Employment in services, female (% of female employment)	2.26	0.38	**-1.88**	-2.02	**-4.27**
Service Employment Gender Gap	0.28	0.31	**0.04**	-0.22	**-0.49**
Vulnerable employment, total (% of total employment)	-0.95	-0.46	**0.49**	0.81	**1.76**
Vulnerable employment, female (% of female employment)	0.39	-0.20	**-0.59**	3.31	**2.91**
Vulnerability Gender Gap	-0.67	-0.13	**0.54**	1.37	**2.03**

Source: World Development Indicators and authors' calculations.
Before AA: 1994 – 2003; After AA: 2004 – 2018; AA-2008= 2004 – 2008.

Table F.19 Jordan - Change in the level of employment variables before and after the AA (1997-2018)

Variables in Level	Before AA	After AA	Difference in pp	AA-2008	Difference in pp
Employment to population ratio, 15+, total (%)	36.26	35.07	**-1.19**	35.41	**-0.85**
Employment to population ratio, 15+, female (%)	9.75	10.69	**0.94**	9.92	**0.17**
Gender Gap in Employment	-50.68	-47.62	**3.06**	-49.26	**1.42**
Employment in agriculture (% of total employment)	4.09	3.79	**-0.30**	3.99	**-0.10**
Employment in agriculture, female (% of female employment)	3.27	1.40	**-1.87**	1.69	**-1.59**
Agriculture Employment Gender Gap	-0.94	-2.81	**-1.87**	-2.66	**-1.72**
Employment in industry (% of total employment)	21.23	24.93	**3.70**	24.71	**3.49**
Employment in industry, female (% of female employment)	13.20	16.06	**2.86**	16.19	**2.99**
Industry Employment Gender Gap	-9.21	-10.44	**-1.23**	-9.86	**-0.65**
Employment in services (% of total employment)	74.68	71.28	**-3.40**	71.29	**-3.39**
Employment in services, female (% of female employment)	83.53	82.54	**-0.98**	82.13	**-1.40**
Service Employment Gender Gap	10.15	13.25	**3.10**	12.53	**2.38**
Vulnerable employment, total (% of total employment)	9.63	8.95	**-0.68**	9.31	**-0.33**
Vulnerable employment, female (% of female employment)	1.96	1.79	**-0.16**	1.88	**-0.07**
Vulnerability Gender Gap	-8.81	-8.41	**0.40**	-8.59	**0.22**

Source: World Development Indicators and authors' calculations.
Before AA: 1997 – 2001; After AA: 2002 – 2018; AA-2008= 2002 – 2008.

Table F.20 Jordan - Change in the employment variables' growth rates before and after the AA (1997-2018)

Variables in % Growth	Before AA	After AA	Difference in pp	AA-2008	Difference in pp
Employment to population ratio, 15+, total (%)	-0.53	0.34	**0.67**	1.61	**1.94**
Employment to population ratio, 15+, female (%)	0.72	1.26	**2.24**	3.77	**4.75**
Gender Gap in Employment	0.37	0.12	**0.14**	-0.20	**-0.18**
Employment in agriculture (% of total employment)	-1.36	-0.80	**0.56**	-0.31	**1.05**
Employment in agriculture, female (% of female employment)	-1.39	-5.12	**-3.73**	-10.71	**-9.32**
Agriculture Employment Gender Gap	0.01	-0.11	**-0.12**	-0.31	**-0.32**
Employment in industry (% of total employment)	-0.30	1.01	**1.31**	3.00	**3.30**
Employment in industry, female (% of female employment)	-0.64	1.14	**1.79**	4.08	**4.72**
Industry Employment Gender Gap	-0.05	-0.11	**-0.06**	-0.15	**-0.11**
Employment in services (% of total employment)	0.16	-0.25	**-0.41**	-0.88	**-1.04**
Employment in services, female (% of female employment)	0.16	-0.03	**-0.18**	-0.34	**-0.50**
Service Employment Gender Gap	0.04	0.22	**0.18**	0.46	**0.43**
Vulnerable employment, total (% of total employment)	-0.16	-0.66	**-0.50**	-1.06	**-0.90**
Vulnerable employment, female (% of female employment)	-0.05	-0.81	**-0.76**	-1.16	**-1.11**
Vulnerability Gender Gap	0.00	0.04	**0.04**	0.06	**0.07**

Source: World Development Indicators and authors' calculations.
Before AA: 1997 – 2001; After AA: 2002 – 2018; AA-2008= 2002 – 2008.

Table F.21 Lebanon - Change in the level of employment variables before and after the AA (1997-2016)

Variables in Level	Before AA	After AA	Difference in pp	AA-2008	Difference in pp
Employment to population ratio, 15+, total (%)	18.16	19.88	**1.72**	19.04	**0.88**
Employment to population ratio, 15+, female (%)	41.22	43.13	**1.90**	42.53	**1.30**
Gender Gap in Employment	-46.36	-45.53	**0.83**	-45.55	**0.81**
Employment in agriculture (% of total employment)	14.82	13.07	**-1.75**	13.70	**-1.12**
Employment in agriculture, female (% of female employment)	19.02	16.83	**-2.19**	17.61	**-1.42**
Agriculture Employment Gender Gap	5.41	4.86	**-0.55**	4.99	**-0.41**
Employment in industry (% of total employment)	23.48	23.01	**-0.47**	23.11	**-0.37**
Employment in industry, female (% of female employment)	11.43	10.49	**-0.94**	10.78	**-0.64**
Industry Employment Gender Gap	-15.48	-16.16	**-0.68**	-15.74	**-0.26**
Employment in services (% of total employment)	61.71	63.92	**2.22**	63.19	**1.49**
Employment in services, female (% of female employment)	69.55	72.68	**3.13**	71.61	**2.06**
Service Employment Gender Gap	10.07	11.31	**1.23**	10.75	**0.68**
Vulnerable employment, total (% of total employment)	31.28	27.72	**-3.57**	28.26	**-3.02**
Vulnerable employment, female (% of female employment)	13.98	15.29	**1.31**	15.37	**1.39**
Vulnerability Gender Gap	-17.30	-12.42	**4.88**	-12.89	**4.41**

Source: World Development Indicators and authors' calculations.
Before AA: 1997 – 2005; After AA: 2006 – 2016; AA-2008= 2006 – 2008.

Table F.22 Lebanon - Change in the growth rate of employment variables before and after the AA (1997-2016)

Variables in % Growth	Before AA	After AA	Difference in pp	AA-2008	Difference in pp
Employment to population ratio, 15+, total (%)	0.69	0.34	**0.67**	1.61	**1.94**
Employment to population ratio, 15+, female (%)	0.35	1.26	**2.24**	3.77	**4.75**
Gender Gap in Employment	-0.14	0.12	**0.14**	-0.20	**-0.18**
Employment in agriculture (% of total employment)	-1.21	-1.13	**0.08**	-1.30	**-0.09**
Employment in agriculture, female (% of female employment)	-1.20	-1.07	**0.13**	-1.32	**-0.13**
Agriculture Employment Gender Gap	-0.08	-0.03	**0.05**	-0.05	**0.02**
Employment in industry (% of total employment)	-0.37	-0.29	**0.08**	0.10	**0.47**
Employment in industry, female (% of female employment)	-1.03	-0.83	**0.20**	-0.78	**0.25**
Industry Employment Gender Gap	0.00	-0.07	**-0.07**	-0.19	**-0.19**
Employment in services (% of total employment)	0.43	0.34	**-0.09**	0.25	**-0.18**
Employment in services, female (% of female employment)	0.50	0.37	**-0.12**	0.45	**-0.05**
Service Employment Gender Gap	0.07	0.10	**0.03**	0.24	**0.17**
Vulnerable employment, total (% of total employment)	-0.32	-0.88	**-0.55**	-3.30	**-2.98**
Vulnerable employment, female (% of female employment)	0.25	0.55	**0.30**	2.33	**2.08**
Vulnerability Gender Gap	0.14	0.34	**0.20**	1.32	**1.18**

Source: World Development Indicators and authors' calculations.
Before AA: 1997 – 2005; After AA: 2006 – 2016; AA-2008= 2006 – 2008.

Table F.23 Morocco- Change in the level of employment variables before and after the AA (1994-2018)

Variables in Level	Before AA	After AA	Difference in pp	AA - 2008	Difference in pp
Employment to population ratio, 15+, total (%)	21.01	22.07	**1.07**	22.80	**1.79**
Employment to population ratio, 15+, female (%)	43.52	44.13	**0.61**	44.75	**1.24**
Gender Gap in Employment	-46.03	-45.32	**0.71**	-45.17	**0.87**
Employment in agriculture (% of total employment)	46.13	41.46	**-4.67**	44.02	**-2.12**
Employment in agriculture, female (% of female employment)	58.51	59.68	**1.17**	59.28	**0.77**
Agriculture Employment Gender Gap	16.44	24.50	**8.06**	20.70	**4.26**
Employment in industry (% of total employment)	19.89	20.88	**1.00**	20.16	**0.27**
Employment in industry, female (% of female employment)	19.43	14.40	**-5.02**	16.81	**-2.61**
Industry Employment Gender Gap	-0.61	-8.70	**-8.09**	-4.55	**-3.94**
Employment in services (% of total employment)	33.98	37.66	**3.67**	35.83	**1.85**
Employment in services, female (% of female employment)	22.06	25.91	**3.85**	23.91	**1.85**
Service Employment Gender Gap	-15.83	-15.80	**0.02**	-16.15	**-0.32**
Vulnerable employment, total (% of total employment)	56.54	52.68	**-3.85**	55.20	**-1.34**
Vulnerable employment, female (% of female employment)	71.30	65.06	**-6.24**	66.18	**-5.12**
Vulnerability Gender Gap	19.59	16.64	**-2.96**	14.88	**-4.71**

Source: World Development Indicators and authors' calculations.
Before AA: 1994 – 1999; After AA: 2000 – 2018; AA-2008= 2000 – 2008.

Table F.24 Morocco- Change in the growth rate of employment variables before and after the AA (1994-2018)

Variables in % Growth	Before AA	After AA	Difference in pp	AA - 2008	Difference in pp
Employment to population ratio, 15+, total (%)	0.01	-0.27	**-0.28**	0.40	**0.39**
Employment to population ratio, 15+, female (%)	0.80	-0.55	**-1.35**	0.88	**0.08**
Gender Gap in Employment	0.29	0.00	**-0.29**	0.00	**-0.29**
Employment in agriculture (% of total employment)	-0.47	-0.92	**-0.45**	-1.03	**-0.56**
Employment in agriculture, female (% of female employment)	-0.33	0.13	**0.46**	0.50	**0.84**
Agriculture Employment Gender Gap	0.07	0.58	**0.51**	1.04	**0.97**
Employment in industry (% of total employment)	-0.14	0.46	**0.60**	0.73	**0.87**
Employment in industry, female (% of female employment)	-0.33	-2.51	**-2.18**	-3.39	**-3.06**
Industry Employment Gender Gap	-0.05	-0.64	**-0.59**	-0.99	**-0.94**
Employment in services (% of total employment)	0.72	0.80	**0.08**	0.89	**0.17**
Employment in services, female (% of female employment)	1.18	1.30	**0.12**	1.29	**0.10**
Service Employment Gender Gap	-0.02	0.06	**0.08**	-0.05	**-0.03**
Vulnerable employment, total (% of total employment)	-0.03	-0.77	**-0.74**	-0.93	**-0.91**
Vulnerable employment, female (% of female employment)	-0.04	-0.66	**-0.63**	-1.07	**-1.03**
Vulnerability Gender Gap	0.04	-0.06	**-0.10**	-0.24	**-0.28**

Source: World Development Indicators and authors' calculations.
Before AA: 1994 – 1999; After AA: 2000 – 2018; AA-2008= 2000 – 2008.

Table F.25 Tunisia- Change in the level of employment variables before and after the AA (1991-2017)

Variables in Level	Before AA	After AA	Difference in pp	AA-2008	Difference in pp
Employment to population ratio, 15+, total (%)	41.14	39.83	**-1.31**	39.97	**-1.17**
Employment to population ratio, 15+, female (%)	18.83	19.42	**0.60**	19.67	**0.84**
Gender Gap in Employment	-44.63	-41.36	**3.27**	-40.92	**3.72**
Employment in agriculture (% of total employment)	20.46	17.89	**-2.57**	19.11	**-1.35**
Employment in agriculture, female (% of female employment)	22.50	18.28	**-4.22**	21.11	**-1.38**
Agriculture Employment Gender Gap	2.64	0.52	**-2.12**	2.67	**0.02**
Employment in industry (% of total employment)	33.15	32.92	**-0.23**	32.72	**-0.43**
Employment in industry, female (% of female employment)	38.40	34.68	**-3.73**	35.57	**-2.83**
Industry Employment Gender Gap	6.81	2.33	**-4.48**	3.77	**-3.04**
Employment in services (% of total employment)	46.39	49.19	**2.80**	48.17	**1.78**
Employment in services, female (% of female employment)	39.10	47.04	**7.94**	43.31	**4.21**
Service Employment Gender Gap	-9.45	-2.85	**6.60**	-6.44	**3.01**
Vulnerable employment, total (% of total employment)	20.63	22.96	**2.33**	23.73	**3.10**
Vulnerable employment, female (% of female employment)	15.08	19.80	**4.72**	21.63	**6.56**
Vulnerability Gender Gap	-7.20	-4.19	**3.02**	-2.77	**4.43**

Source: World Development Indicators and authors' calculations.
Before AA: 1991 – 1995; After AA: 1996 – 2017; AA-2008= 1996 – 2008.

Gender Gap in Employment	0.46	0.05	**-0.41**	0.28	**-0.18**
Employment in agriculture (% of total employment)	-0.99	-1.26	**-0.27**	-0.83	**0.16**
Employment in agriculture, female (% of female employment)	-0.71	-2.64	**-1.93**	-1.30	**-0.60**
Agriculture Employment Gender Gap	0.06	-0.34	**-0.40**	-0.15	**-0.21**
Employment in industry (% of total employment)	-0.24	0.02	**0.26**	0.16	**0.39**
Employment in industry, female (% of female employment)	-0.84	-0.51	**0.33**	-0.75	**0.09**
Industry Employment Gender Gap	-0.31	-0.25	**0.05**	-0.42	**-0.11**
Employment in services (% of total employment)	0.61	0.47	**-0.14**	0.23	**-0.38**
Employment in services, female (% of female employment)	1.26	1.49	**0.23**	1.27	**0.02**
Service Employment Gender Gap	0.25	0.59	**0.35**	0.56	**0.32**
Vulnerable employment, total (% of total employment)	-0.50	0.04	**0.54**	1.15	**1.65**
Vulnerable employment, female (% of female employment)	0.07	0.45	**0.38**	2.08	**2.01**
Vulnerability Gender Gap	0.12	-0.01	**-0.13**	0.06	**-0.05**

Source: World Development Indicators and authors' calculations.
Before AA: 1991 – 1995; After AA: 1996 – 2017; AA-2008= 1996 – 2008.

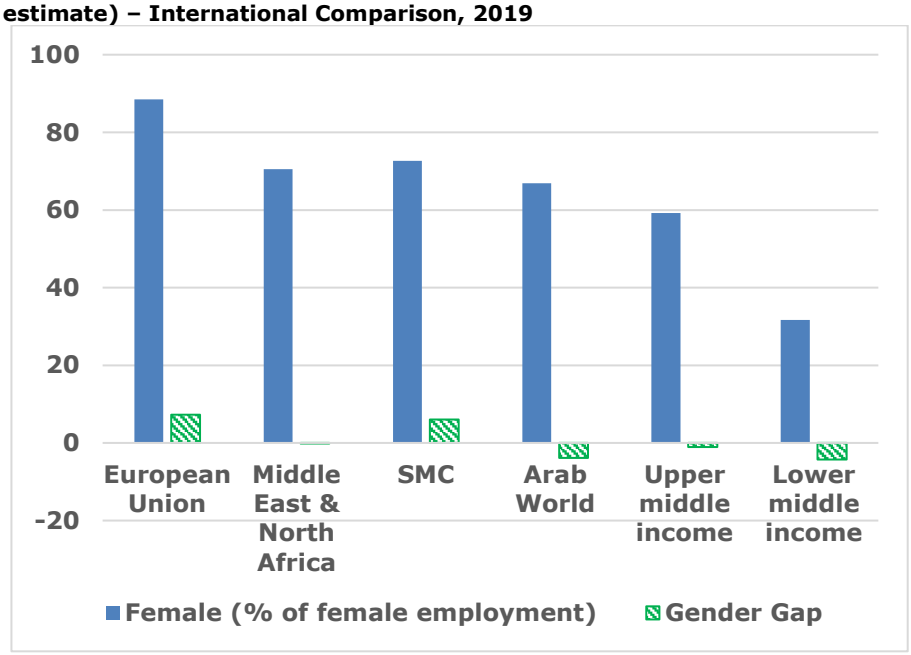
Table F.26 Shares of Agricultural Trade in Agricultural GDP - MENA & World

	Agric Exports/Agric-GDP (%)				Agric Imports/Agric-GDP (%)			
Region	1990-91	2000-2001	2006-07	2016-17	1990-91	2000-01	2006-07	2016-17
Egypt and Morocco	10.7	13.8	14	18.6	23.6	21.8	26.1	26.8
SMCs	19	22.7	25.5		58.4	72.4	71.9	
MENA	15.9	26.2	26.5		76.9	95	104.5	
World	51.1	63.9	71.3		39.7	57.3	72.9	

Note : trade ratios are computed as simple averages in the country groups.

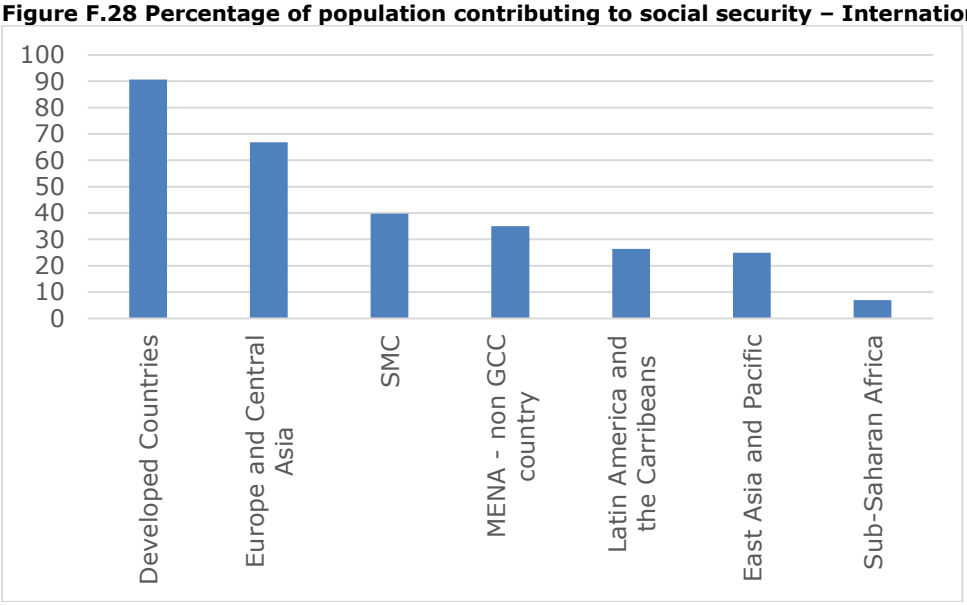
Figures:

Figure F.27 Wage and Salaried Workers (% of female and male employment) (modelled ILO estimate) – International Comparison, 2019



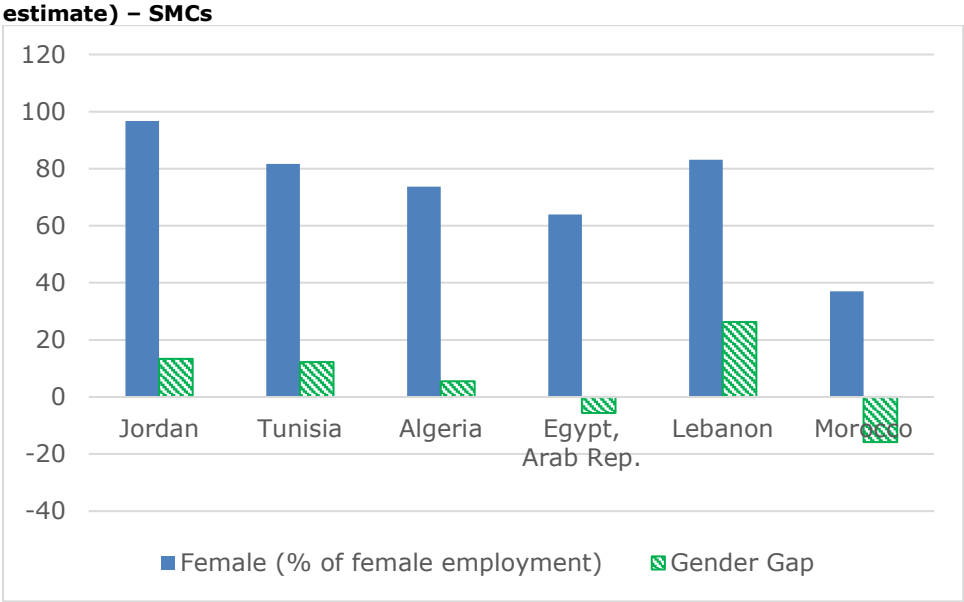
Source: World Development Indicators, 2020.
Note: Countries are ranked on the base of % of wage and salaried workers on total employment.

Figure F.28 Percentage of population contributing to social security – International Comparison



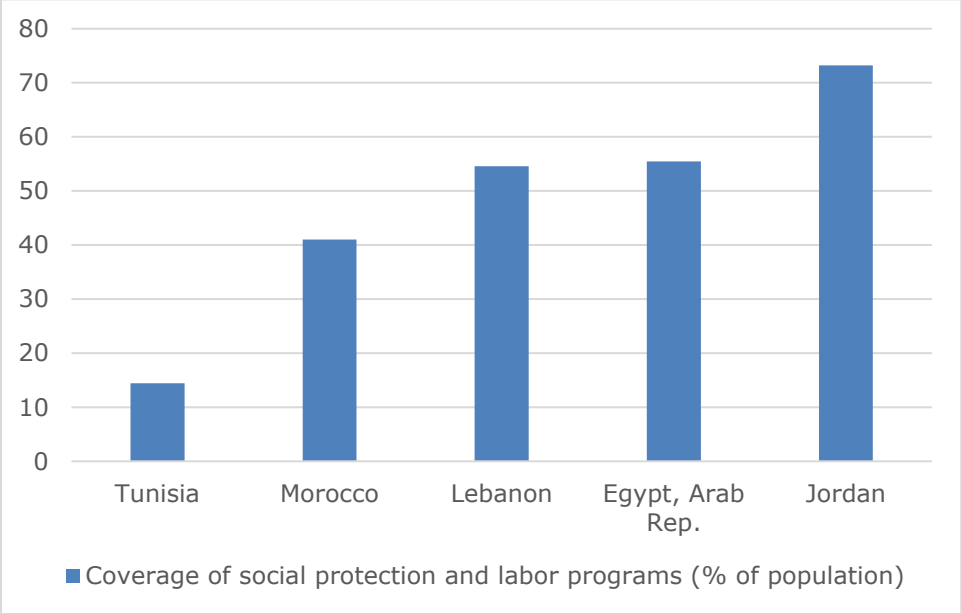
Source: Gatti, Angel-Urdinola, Silva, and Bodor (2014), WDI data and authors calculations.
The periods covered are the latest years in 2000–10.

Figure F.29 Wage and Salaried Workers (% of female and male employment) (modelled ILO estimate) – SMCs



Source: World Development Indicators, 2020.
Note: Countries are ranked on the base of % of wage and salaried workers on total employment.

Figure F.30 Percentage of population contributing to social security – SMCs



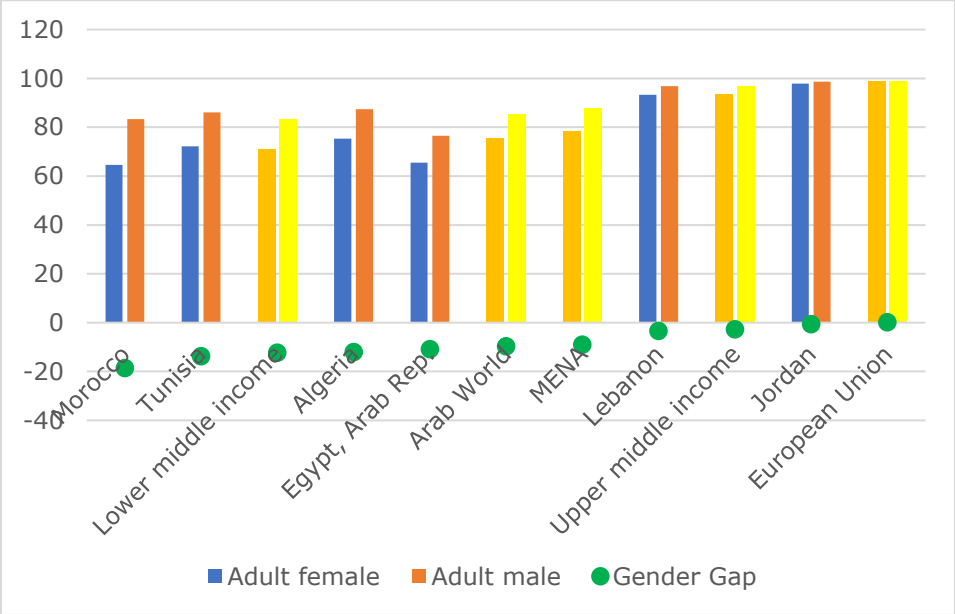
Source: World Development Indicators.
Note: Tunisia (2008), Morocco (2010), Lebanon (2010), Egypt (2009) and Jordan (2004).

Constraints faced by Women

Education

Low female literacy rates are is one of the factors that is holding back women from benefitting from trade liberalisation: in SMCs only 78% of women can write and read versus 88% of men (Figure 6.52). Disparities across MED countries are very large: Morocco and Tunisia perform worse than LMI both in terms of literacy rate among women and gender disparity. Egypt, although presents a lower literacy rate than LMI, perform better in terms of gender gap. Algeria lags behind Lebanon and Jordan, and more generally UMI on both aspects. The literacy rate and gender gap in Jordan and Lebanon is closer to the EU standard. All SMCs countries except Lebanon and Jordan report lower female literacy rate and larger gender gaps than the Arab World and MENA.

Figure F.31 Literacy rate, adult female and male (% of female and males ages 15 and above), 2018§



Source: WDI (2020), authors calculations.
§ Data for Egypt = 1997; Tunisia = 2014; Arab World and MENA = mean computed on the most recent available year from 2004 to 2018.

The higher level of illiteracy among women is reinforced by the educational attainment at the primary level: only 68% of women have finished the primary school (versus 82% of male) and the gap between women and men goes from 20 pp in Tunisia to 7.8 pp in Lebanon. Not surprising the education attainment decreases with the level of education: on average 46.3% of girls finish secondary school, 14.5% get a post-secondary certificate and only 10.2% receive a short-cycle tertiary degree.

The gender gap is much lower among people with a short-cycle tertiary degree than with a secondary education, suggesting that women from disadvantaged backgrounds and limited access to education are more disadvantaged than others. This result is in line with the large share of skilled female workers that is employed in the public sector. Jordan report the largest gender gap among people with a post-secondary and tertiary education (6.9 and 6.4 pp), Egypt the lowest (0.6 and 0.5 pp). The discrimination against women in term of access to education seems higher among unskilled people.

Across all level of education, SMCs countries report an average lower share of female education attainment and a larger gender gap than MENA countries. Only Jordan performs better than MENA countries in term of female attainment share in primary, secondary and post-secondary education but the gender gap is always much higher than in MENA.

Table F.27 Education Attainment per level of education, Female and Gender Gap – Average 2007-2017

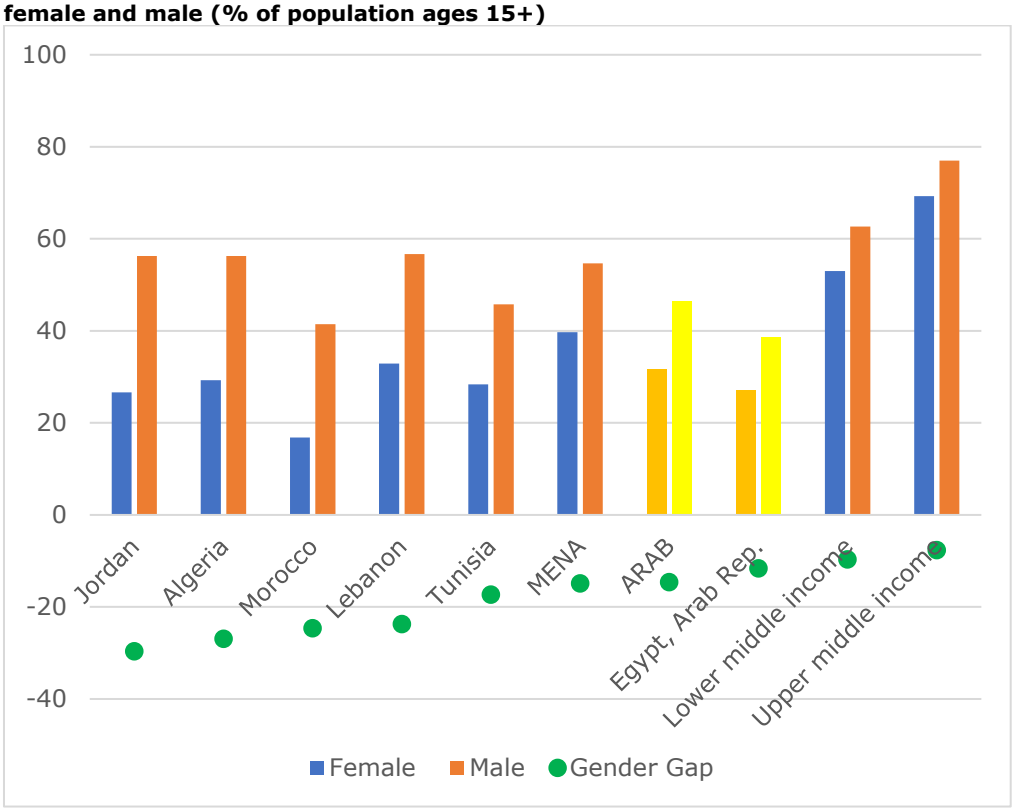
	Primary		Secondary		Post-Secondary		Short-cycle tertiary	
	Education Attainment (%)	*Gender Gap*	Education Attainment (%)	*Gender Gap*	Education Attainment (%)	*Gender Gap*	Education Attainment (%)	Gender Gap
Algeria	55.2	*-18.3*	31.1	*-10.4*	7.4	*-1.3*	7.4	-1.3
Egypt, Arab Rep.	NA	*NA*	70.5	*0.8*	12.7	*-0.6*	5.9	-0.5
Jordan	77.3	*-10.8*	53.1	*-8.0*	26.6	*-6.9*	11.9	-6.4
Lebanon	74.7	*-7.8*	42.8	*-1.6*	14.3	*-2.3*	14.3	-2.3
Tunisia	63.5	*-20.2*	33.9	*-13.0*	11.5	*-3.0*	11.5	-3.0
MENA	73.4	*-8.4*	51.0	*-3.1*	23.5	*-0.1*	19.1	-0.4

Source: WDI (2020), authors calculations i.e. means of available education attainment data over the period 2007-2018, Morocco is not available.

However, while it is generally believed that participation by women in the labour force strongly increases with education, this has not been the case in the SMCs region. In fact, the female share of total gross enrolment in the tertiary sector has jumped only 11% in 1990 to 40% in 2017, with an even stronger jump than in secondary education that went from 52% to 75%. While their enrolment in education could be expected to boost women's participation in economic activity, the link between improvement in education and participation in the labour market appears to be relatively weak among SMCs countries with a much smaller increase in female labour force participation (+ 12%). However, for men, over the same period, there was a slight decrease in the labour force participation (-2.5%). This has reduced slightly the gender gap in labour participation but it still remains high (labour force participation in 2017 is 45% in total and 20% for women). This gap also partly reflects the gap in unemployment rate among the youth (in 2017, 29% in total and 38% for girls in the SMCs versus 16% in total and 16% also for girls in EU).

Access to finance and land ownership

Figure F.32 Account ownership at a financial institution or with a mobile-money-service provider, female and male (% of population ages 15+)



Source: WDI (2020), authors calculations.

There is a clear gender gap with regards to access to finance, as women in developing economies are more excluded from the financial sector than men. The difference is even greatest in SMCs, and in particular in Jordan, Algeria, Morocco, Lebanon and Tunisia that report a larger gender gap than MENA, Arab countries, LMI and UMI countries (Figure 6.53). Lack of access to finance significantly constraints women's participation in trade-related activities, because these generally require capital, such as investing in modern seeds and fertiliser to increase their yields. On the other side, the limited access to credit impedes women from offsetting weather and employment-related shocks (World Bank, 2015).

Often the lack of collateral, and especially restrictions of land ownership, limits access to finance by women. The WEF GGG's report (2020) shows that access to land's use, control and ownership is generally more restricted in SMCs than in the EU countries and eastern European countries (with the exception of Greece and Moldova). However, while most SMCs countries report a low level of restriction (0.25 on a scale 0-1), in Lebanon and Egypt the constraints faced by women are much higher (0.50 and 0.75, respectively). The high level of constraints to access to land in Lebanon and Egypt would impose sever limits to female economic activity in these countries.

Access to distribution networks

Women can be excluded from traditional, male-dominated distribution networks which is detrimental for their exporting or importing business activities (WB, 2015). Women's access to distributional networks is constrained by social and traditional norms, law, physical barriers[1342], and poor education. Information and communication technology by overcoming some of these impediments can help women to access markets and improve their networking capabilities. Although internet penetration has sharply increased worldwide, women lag behind men in their access to internet (68.6% versus 71.2%). Some of the largest gaps in technology access are in regions where women are also struggling the most to participate in the workforce such as MENA countries and sub-Saharan Africa. Data for SMCs are available only for Algeria, Egypt and Morocco and show that the gap with the European Union is huge, both in terms of quantity and equality in internet access.

In Algeria and Egypt, the gender gap in access to internet is slightly narrower than in neighbouring countries (-11 pp vs -15 pp) but internet penetration is lower (48% vs 63%). In Morocco, the population can benefit from a wider and more even access to internet (65% and 7pp). In Europe 83.5% of the population has access to internet and the gender gap is irrelevant (1.63pp).

Table F.28 Individuals using the Internet by gender (%), 2018

Country	All	Gender		Gender Gap
		Male	Female	
Algeria	49.0	55.1	42.9	-12.20
Egypt	46.9	52.4	41.3	-11.10
Morocco	64.8	68.5	61.1	-7.40
MENA	78.94	82.98	75.01	-7.97
MENA exc. high income	63.44	71.00	55.79	-15.21
***European* Union**	83.50	84.33	82.70	-1.63
World	68.43	71.69	68.60	-3.09

Source: ITU.

Women living in rural areas in several of these regions face an even larger technological disadvantage. For example, in rural Northern Africa, 88 per cent of men and 70 per cent of women say they have a mobile phone for personal calls; in the Arab States 80 per cent of men versus 67 per cent of women. However, in both regions the gaps among urban men and women are about half as large (Gallup-ILO, 2017).

[1342] Women's gender role limit not only their time but also their mobility and impede them to move away from home.

Improving internet access in rural areas and closing the gender digital divide may help women in playing a more active role in the economy and benefit from the trade liberalisation process.

Social norms and law

Social norms and law may strongly affect the process of generating greater economic opportunities with trade liberalisation for women (OECD, 2012[1343]). Among these elements, we will focus on the age of marriage, proportion of time spent on unpaid domestic and care work, and discriminatory law.

The age of marriage can be negatively related to income and more generally to (social and economic) women empowerment. Indeed, marriage and subsequent family life often play a role in an individual's career trajectory. Especially for women, it marks the beginning of heavier household and domestic chores and the occupation of time with childcare.

Women generally get married at a younger age than men, however the gender gap is much larger in SMCs than in the EU. While the gender age gap for first marriage is about 2.5 years in the EU, it approaches 4 years for Algeria, Tunisia and Lebanon and reaches 5 years for Jordan, Morocco and Egypt. Egypt reports the youngest age of first marriage for women in SMCs, followed by Jordan: 22 and 25 years, respectively, versus almost 33 in the EU. The age of first marriage is higher in Lebanon, Tunisia and Algeria. Overall, SMCs perform worse than MENA and the Arab World both in terms of year of first marriage and gender gap. In SMCs women get married at a time in life when professional investment can lead to access to high-level positions.

Table F.29 Age at first marriage, female and male

	Female	Male	Gender Gap	Most Recent Year Available
Algeria	29.1	32.9	-3.8	2008
Egypt, Arab Rep.	22	27.5	-5.5	2014
Jordan	25	29.8	-4.8	2012
Lebanon	28.3	32.3	-4	2007
Morocco	26.3	31.2	-4.9	2011
Tunisia	28.7	32.6	-3.9	2004
MENA	25.9	29.3	-3.3	
Arab World	25.1	29.0	-3.9	
European Union	29.8	32.28	-2.48	

Source: World Development Indicators and authors' calculations.

One of the factors that hold back married women from entering in the job market is the time spent doing housework and caring for household members.

In the EU, the time spent by women in these tasks is 1.8 times higher than the time spent by men (i.e. almost double). This figure is significantly higher in the four SMCs for which data are available. Women spend about 6 (the case of Algeria) to 9 (the case of Egypt) times as much as men on unpaid domestic and household care activities. On average the gender gap in MENA countries is lower (although the value for MENA refer to a more recent year). This factor is thus probably an important explanation of the difficulty women encounter in taking advantage of the opportunities that a greater opening to trade can offer them.

[1343] OECD (2012). Gender Equality in Education, Employment and Entrepreneurship: Final report to the MCM 2012, C/MIN (2012)5, OECD Publishing.

Table F.30 Proportion of time spent on unpaid domestic and care work, female and male (% of 24-hour day)

	Female	Male	Gender Gap	Most Recent Year Available
Algeria	21.67	3.75	5.8	2012
Egypt, Arab Rep.	22.36	2.43	9.2	2015
Morocco	20.83	2.99	6.9	2012
Tunisia	21.94	2.71	8.1	2006
MENA	20.46	4.84	4.2	2019
European Union	18.23	10.06	1.8	

Source: SMCs: World Development Indicators; MENA: OECD (2019).
EU: OECD.stat.

Empirical analysis shows that female labour force participation is higher where the law ensures greater equality of economic opportunity between women and men (WB, 2020). Field et al. (2016), Amin and Islam (2015), Htun, Jensenius, and Nelson-Nuñez (2019) show that reforms and policies aimed at achieving gender equality are related to an improvement in women's economic outcomes. For example, removing barriers that restrict the ability of women to move freely, sign contracts, work outside the home, or manage assets has been associated with a higher female participation in the labour force. The World Bank offers an index to measure legal equality between men and women that's related to women's ability to work or own businesses. The Women, Business and the Law Index covers 35 formal law and regulations in 190 countries1344.The country ranking shows that women in SMCs face significantly more legal obstacles relative to men and to women in Europe and Central Asia, but on average the situation is better than in the MENA group. Among the SMCs, two groups of countries can be distinguished. The first group includes Jordan, Egypt, Lebanon and Algeria. These countries are characterised by large legal disparities between men and women: women have only half the legal rights of men. All these countries perform much worse than countries in similar income groups and MENA. The second group contains Tunisia and Morocco where gender disparities are smaller and even lower than in LMI countries.

Jordan and Tunisia are listed among the countries that have improved the most in legal equality. Jordan removed legal restrictions on women's ability to work at night, Jordan introduced three days of paid paternity leave and enacted the principle of equal remuneration for work of equal value. Tunisia improved the protection of women at work by introducing legislation and criminal penalties for sexual harassment and implemented a legislation protecting women from domestic violence. Morocco introduced a legislation specifically addressing domestic violence (Hyland, Djankov, and Goldberg 2019 and WB, 2020).

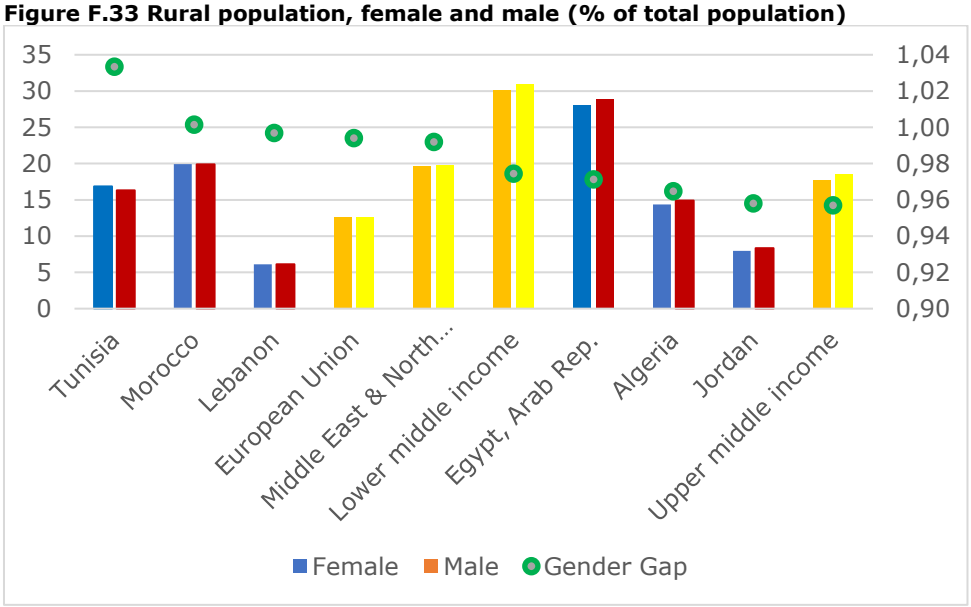
[1344] Thirty-five aspects of the law are scored across eight indicators of 4 or 5 binary questions, with each indicator representing a different phase of a woman's career. https://wbl.worldbank.org/en/methodology#1.

Table F.31 Women, Business and Law (WB, 2020)

Economy	WBL INDEX	MOBILITY	WORKPLACE	PAY	MARRIAGE	PARENTHOOD	ENTREPRENEURSHIP	ASSETS	PENSION
Algeria	57.5	75	75	50	60	60	75	40	25
Jordan	40.63	0	0	75	20	40	75	40	75
Lebanon	52.5	100	50	50	60	20	75	40	25
Upper Middle Income	74.9	87.73	74.55	67.73	83.27	53.82	80.91	86.18	65
Egypt, Arab Rep.	45	50	75	0	0	20	75	40	100
Morocco	75.63	100	100	50	60	80	100	40	75
Tunisia	70	100	100	25	60	60	75	40	100
Lower Middle Income	68.83	87.23	73.94	53.19	72.34	42.55	81.38	74.04	65.96
Middle East & North Africa	49.56	52.5	58.75	37.5	33	33	80	43	58.75
Europe & Central Asia	84.23	99	85	66	96.8	80	93	100	54

Being in a rural area

Figure F.33 Rural population, female and male (% of total population)



Source: World Development Indicators and authors' calculations.

Generally, slightly more men than women live in rural areas (gaps are generally lower than one). Morocco and Tunisia are two exceptions: although the share of population living in rural areas is lower than in LMICs, more women than men live there. Also, in Lebanon the share of population living in rural areas is lower than in UMICs but the gender gap is higher. Algeria and Jordan present lower shares of rural population than UMI but a similar gender gap. Egypt reports a similar pattern as LMIs both in terms of share of rural population and gender gap. The share of women living in rural area in Egypt is the highest across SMCs, followed by Morocco and Tunisia. These patterns may imply that women working in the agricultural sector in Tunisia, Morocco, Lebanon and Egypt are more exposed to the negative effects and have less opportunities to size the benefits of trade liberalisation. Indeed, in case of work displacement, they have less opportunities to convert to other paid jobs owing to the more limited job offer in rural than urban areas. Given that human and physical capital are usually lower than in other areas and often women work as subsistence farmers, it is hard for them to move from non-tradable goods production to the agri-food business. (WB, 2015). Finally, women in rural area have lower chances of being able to participate effectively in trading activities as connections to markets are difficult owing to poor infrastructure.

F.5 Results of the literature review: environmental impacts of the EuroMed FTAs

As part of this contract, the literature review aims to identify studies that highlight the environmental impacts of EU FTAs with the six Mediterranean countries. As expected, research where impacts of the EU FTAs are disentangled from other factors impacting the environment are very scarce for the six countries we are studying. We have therefore expanded the field to consider studies that take into account the environmental effects of trade in general (all partners, including the EU) both in term of positive and negative impacts and considered effects on environmental legislations at national level; we also consider studies not focusing only on the 6 Mediterranean countries but also researches with larger geographical scope wherein the Mediterranean region is included. Ex-post studies are privileged but ex-ante researches are also briefly reviewed with the intention to bring information on environmental issues of concern during negotiations of the Euro-Med FTAs.

The literature review concludes that effect of RTA may generate positive or negative environmental impacts (directly or indirectly) on certain specific environmental issues (CO2 emissions, air pollution, water, etc.), depending on the period, type of model and approach used. Only few studies succeed in quantifying impacts due to trade with the EU which also make difficult to firmly conclude on the direction and severity of impacts. Studies in general highlight the importance of environmental legislation in the trade relationships. As environmental goods are concerned, several studies are identified about renewable energy equipment's and a study of the UNCTAD more specifically assess the potential of organic products in the Moroccan trade.

Environmental impacts of trade

As positive impact in general, according to the Economist Intelligence Unit (2019), FTAs in general can lead to limitation of trade-related "bad practices" such as illegal logging or fishing or even complete withdrawn of ineffective subsidies on fossil fuels or agriculture. Effectively, this could positively impact a more sustainable economic growth. The Grossman–Krueger model used for this assessment also helps in proving that open borders boost regional integration. For example, in case of Sub-Saharan Africa, this could mean pooling of electricity markets eventually leading to more sustainable and efficient usage of resources (and therefore to less pollution and natural resources extractions).

In a more direct way and while considering CO_2 emissions, regional agreements impact on environment is assessed positively too by Baghdadi, Martinez-Zarzoso and Zitouna (2013). RTAs which include detailed environmental provisions are believed to significantly boost convergence of CO2 emissions according to these authors. In fact, the authors who used "a propensity score matching approach combined with difference-in-differences techniques to effectively isolate the effect of RTA variable" found out that "emissions pollution gap is 22% lower for pairs of countries involved in Euro-Mediterranean Agreements than for similar pairs of countries not involved in RTAs".

Note that this result is in contradiction with Omri's (2013) findings. This author includes a trade openness variable in his attempt to examine the nexus between CO2 emissions, energy consumption and economic growth using simultaneous-equations models with panel data of 14 MENA countries over the period 1990-2011. One of the results of interest in the context of our impact assessment is that the trade openness has an insignificant negative impact on CO2 emissions for all MENA countries except Iran. This indicates that trade openness has no impact on carbon dioxide emissions.

Dogan and Aslan (2017) conclude differently. In their study, although undertaken for a broader geographical space (candidate countries), and with different methods (heterogeneous panel estimation techniques with cross-sectional dependence), they confirm that energy consumption resulting from trade increase has a negative impact on environment given higher CO_2 emissions.

The recent study of Hafeez et al. (2019) focuses on impact of FTAs on bilateral CO_2 emissions. The result of the study is based on a gravity model analysis and use a panel of 39 countries covering the period from 1995 to 2009. The gravity model is used by considering groups of countries based on their income. For high income countries, FTAs have a negative impact on CO_2 emissions according to the empirical study. This can be explained by the fact that FTAs are beneficial for high income countries, which induces that they can implement highly efficient, and thus not polluting, productions. On the contrary, FTAs are revealed not to be beneficial for upper middle income countries. Therefore, the authors claim that in the scope of increasing their market share, those

countries can get involved in pollution intensive productions. This is particularly the case for the lower middle countries.

Along similar lines, specifically for Morocco and Tunisia, Hakimi and Hamdi (2016) discovered that FDIs, trade liberalisation, and ultimately FTAs implementation, negatively impact environment in both countries. Several econometric models including: a VECM and cointegration techniques for single country case study, a Panel vector error correction model (VECM) and Panel cointegration have been supported by a "dummy variable" to better understand the true impacts of trade openness of both countries. It has been concluded that FDIs even in relatively low-emission technologies, are not always beneficial for the beneficiary countries' sustainable development. Correspondingly, in order to ensure a truly green growth, Morocco and Tunisia should start investing in green technologies themselves as only this can boost benefits for all FTAs parties.

A different approach to the topic is applied by Muhammad Shahbaz et al. (2012). The authors test the theoretical framework of the Environmental Kuznets Curve (EKC)[1345] on the example of Tunisia. In doing so, the authors use annual time series data for the period of 1971-2010 together with different econometric models (VECM, innovative accounting approach (IAA) and ARDL bounds testing approach to cointegration). The findings of the study suggest the existence of the Environmental Kuznets Curve between economic growth and CO2 emissions in Tunisia. More specifically, the results show that trade openness has positive and significant impact on CO2 emissions (0.2035 per cent increase of CO2 emissions are associated with 1 per cent increase in trade openness).

As for the food safety, in an article published in 2011, Najib Akesbi denounces the negative impact of the FTAs signed by Morocco on this particular issue. The author claims that the FTA signed with the EU in 2003 which banned tariffs on agricultural products, has not been followed by enough implementation of reforms of the agricultural sector. Those reforms would have been necessary as Moroccan agricultural sector shows several structural problems: a low level of production and productivity, climatic hazards, limited natural resources and an archaic and inefficient production system. The liberalisation of the agricultural market in this context led to an increase of food dependency as the national production of raw food covers less and less the needs of the population but the country's food demand relies more and more on exports (2011, Najib Akesbi).

Relations between trade and environment may also be visited by looking at the impact on trade of national environmental legislation (following the approach of the Porter Hypothesis)[1346]. In that particular concern, an interesting example of both an ex-ante and ex-post assessment related to environmental impacts of FTAs with all MENA countries (and as a result with the SMCs), covering 2001-2014 period, can be found in Ramzy and Zaki study (2018)[1347]. Thanks to using an augmented gravity model and application of the Zero Inflated Poisson (ZIP) model with proxies for exporting and importing countries' environmental regulation stringency, the authors conclude that an increase in the stringency of environmental regulations enhances the probability of trade between both regions, by stimulating innovative efforts in green technologies. Hence, more productive exporters become more able to absorb the fixed costs imposed by environmental regulations and to break down the barriers to exporting. This finding is in line with the revisionist Porter Hypothesis (PH; 1995) positing that appropriately designed environmental regulations stimulate innovation and minimise the negative effects of higher fixed abatement costs in international trade.

Ex ante impact studies

Exante FTA impact studies are worth to be mentioned, even if the purpose of the project is an ex-post evaluation, since they inform about environmental issues of concerns which have been discussed at the level of the Mediterranean region.

Slightly divergent conclusions can be drawn from two ex-ante studies released by ECORYS (2013b) using a Computable General Equilibrium (CGE) model. By analysing the potential impact of a Deep and Comprehensive Free Trade Area (DCFTA) between the EU and Tunisia and Morocco on

[1345] This hypothesis assumes that environmental degradation increases as per capita income rises, but after a certain level starts to decrease due to investments back into the environment.
[1346] Even if the causality direction is out of the scope of this project, the small number of researches about the relationship between the environment and trade in the euro-Mediterranean area makes it worth to mention it.
[1347] Authors however do not conclude about the impact of FTAs on the development of national environmental legislation (which is the relevant direction of the causality in this study).

environmental indicators, the studies predict the following results: in Tunisia, air pollution will increase in the long run due to an increase in economic activity. However, a shift towards sectors with lower air pollution leads to a decline in NOx and SOx emissions in the short run. When it comes to waste, households are expected to produce more, while the industrial sector as the largest waste producer is predicted to lower down its activity. A significant impact can be spotted in the amount of Tunisia's water use. With irrigation already responsible for 80% of the country's water use, the pressure on scarce water resources will increase - together with the production of vegetables, fruit and oils. Closely connected to this development are potential threats to ecosystem and biodiversity: an intense use of land accelerates water scarcity and thus desertification.

The second ECORYS study (2013a) draws a slightly different picture for Morocco. The authors expect the DCFTA to have a positive impact on air pollution due to a dominant composition effect. According to CGE results, the Moroccan economy is expected to see a shift from primary energy and polluting industrial sectors to agricultural ones. Linked to this development are also positive outcomes in terms of water pollution. In Morocco, chemical and petrochemical industries are by far the biggest polluters when it comes to liquid waste. As the DCFTA is expected to lead to a decrease in the economic activity of those sectors, the study estimates a positive impact on seawater pollution. Similar to the above- mentioned case of Tunisia, an increase in economic activities of the agricultural sector will put more pressure on already scarce water resources and increase the stress on biodiversity and ecosystems. Furthermore, the study estimates a rising pressure on fishing resources as well an upward trend in illegal trade in wildlife. Finally, both studies on Tunisia and Morocco conclude that a DCFTA could have a positive impact on greening the economy, because "the EU as a demand market for green products will become even more important and compliance with EU (environmental) product standards may become a prerequisite for successful exports."

The impact of free trade on water resources is a topic also discussed by Clive George (2012). In a chapter on the environmental impacts of the Euro-Mediterranean Free Trade Area, he discusses Sustainability Impact Assessment (SIA) studies covering the Mediterranean in general and the countries involved in the Barcelona Process and Libya in particular. George underlines that an increase in water use is the greatest trade-related environmental concern, particular in countries where the export of agricultural products expands. As a result, he expects further negative impacts on biodiversity due to land conversion and aggravated water scarcity.

Trade in environmental goods

Trade is expecting to participate to the greening of the environment through the exchange of equipment's such as for instance, renewable energy, which are based on less environmental harmful technologies than fossil fuel electricity generation equipment's.

As Ait Ali A. et al. (2019) stress, the 2015 Paris Agreement on climate change forces the SMCs to implement measures boosting the share of renewables in the final energy mix and strategies aimed at reducing their CO2 emissions post-2020. These should also be reflected in trade relations. At the same time, multiple weaknesses of the multilateral WTO framework have been identified in this respect (Dröge and Schenuit, 2018), despite the fact that recently an increasing awareness on the trade-climate nexus has been identified. Effectively, having the experience in implementation of FTAs with SMCs, the EU could lead the process of WTO institutional reform so that environmental considerations are fully in place in their multilateral setups reflecting the significance of global resource protection in trade issues.

Although this is not specific for the SMCs only, the Economist Intelligence Unit (2019) believes that an overall harmonisation and removal of tariffs in FTAs gives entrepreneurs dealing with renewable energies and more efficient appliances an opportunity to cooperate with suppliers offering better products, prices, skills or financing options crucial for further expansion. For end users, this comes along with more competitive prices for energy i.e. from solar panels and for lower prices for more eco-friendly appliances or cars (electric vehicles) what boosts the demand. This assumption once again has been based on the Grossman–Krueger model.

This might also explain why two crucial projects aimed at exporting solar and wind energy from the SMCs to the northern Mediterranean countries - Desertec and the Mediterranean Solar Plan, failed. Ait Ali A. et al. (2019) in their qualitative assessment specifically point out at high electricity generation costs and shortage of gas interconnectors both between the SMCs and EU as main reasons of the projects failure, despite the fact that six countries on the southern Mediterranean shore are believed to be among the best places worldwide to develop solar and wind energies (IRENA, 2015). At the same time, according to the authors (Ait Ali A. et al.), a holistic liberalisation

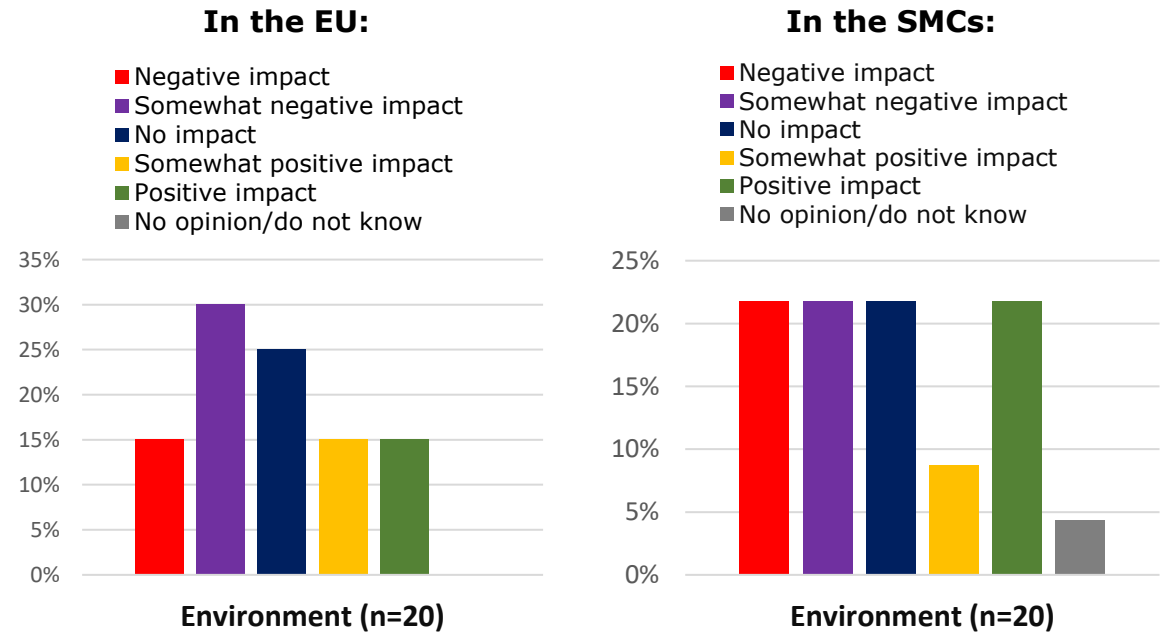
of the energy market in SMCs will not be fully effective if not supported by bilateral negotiations between the EU and countries at stake when it comes to resolving regulatory inconsistencies (i.e. private sector's engagement) needed to fully benefit from EU-SMCs FTAs given country specificities and sensitivities. Although SMCs are already largely dependent on European solutions related to renewables, particularly when it comes to wind energy, such bilateral negotiations would boost the interest in RES and lead to additional exports from the EU. On a different note, cheaper and greener energy is likely to boost the economic development of the six countries – an ultimate essential of deepening economic and trade ties with Europe.

Green goods may also include products which are produced in a way which minimise the impact on the environment. A typical example is the trade in organic food. Although the study does not isolate the effect of the EU-FTA, a report of the UNCTAD (2017) analyses rather precisely two important agricultural sectors in Morocco: olive cultivation and rosemary and thyme culture. The organic culture of olive tree to make olive oil has an important positive impact on employment, environment protection and food security of Morocco as the EU is one of the most important importers of Moroccan organic olive oil (UNCTAD 2017). Two EU countries, France and Spain, are also among the most important importers of rosemary and thyme. This sector is an asset for Moroccan economy, as the prices of these products when exported tend to increase. Moreover, The National Assessment of Green Export for Morocco conducted by the UNCTAD in 2016, highlights the great growth potential of the sector of green goods and services such as organic food, ecotourism and waste recycling. More precisely, Morocco has a room for manoeuvre in the exports of organic products. The reason is that this sector is still underdeveloped, but with a great potential to adjust to the global needs, whereas the world demand is growing.

F.6 Insights from the stakeholder consultations on environmental impacts of the EuroMed FTAs

Respondents to the OPC, interviewees, and workshop participants pointed out various environmental issues specifically in the countries of the SMCs. Input from stakeholders covered the issues of waste, natural resources, the greening of the economy and in a few cases also air pollution and impacts on the energy mix in the SMCs. The OPC showed that in general stakeholders have a slightly more negative view on the impact of the agreements on the environment. A majority of respondents (45%) see the agreements as having a (somewhat) negative impact on the environment in the EU and similarly a majority (44%) think they negatively affected the environment in the SMCs. This might be explained by the general view that increased trade and the associated transportation of goods increase GHG emissions. However, specifically for the SMCs but also for the EU, there are many respondents who think that the agreements had also a positive impact. In the case of SMCs, individual responses show that this positive impact is often associated with the improvement of environmental standards in the SMCs.

Figure F.34 Impact of the FTAs on the environment



One stakeholder from an NGO noted that a major issue with the agreements is the increased trade in live animals which is concerning as all SMCs have lower animal welfare rules than the EU.

Looking at the environmental impacts per country, one stakeholder from academia mentioned that in **Algeria** increased imports from the EU led also to increased waste and specifically plastic packaging in the streets. While not an impact of the FTA, interviewees pointed out Algeria's reliance on petrochemical exports. Combined with the growth of its own internal market and thereby its energy needs this might not only affect Algeria's balance of trade in energy but also worsen Algeria's energy mix. However, one interviewee mentioned that the country can also attract multinational petrochemical companies, which might bring energy-saving technologies and improve energy efficiency overall. In addition, while environmental issues are not on top of the agenda of the Algerian government, energy efficiency is, since it affects also the trade balance. Animal protection was another issue mentioned by a stakeholder, since Algeria apparently received a low score on the Animal Protection Index, which is concerning in light of live animal exports from the EU to Algeria. On the more positive side, a representative from an Algerian civil society organisation focusing on environmental issues pointed out that the agreement had a small and indirect positive effect on the environment by increasing trade and investment in environmental goods. Building on this the interviewee suggested to include in future agreements environmental provisions in order to facilitate the transition of the Algerian economy towards more sustainability. They also added that specifically Algerian enterprises, which were able to meet the high European environmental standards, benefitted from the agreement by entering in commercial relationships with their European counterparts. Finally, some interviewees also felt that the closer cooperation with European countries (especially Germany) and EU-based NGOs in the field of environmental protection had an indirect positive impact. However, they stressed that by far not enough has been done, due to the absence of a clear governmental strategy.

For **Egypt**, stakeholders pointed out various environmental issues. On the one hand, representatives from the agricultural sector thought the FTA had a positive impact through the promotion of efficient resource use, reducing waste, and the use of more environmentally friendly fertilisers. Another stakeholder also emphasised that limiting waste water and limiting CO2 emissions are also priorities in Egypt from an economic point of view, as it increases efficiency and lowers costs. In agriculture, they see that farmers have adopted modern agricultural processes, which have subsequently spread in the domestic market. The sector reduced water use as well as fertiliser use. Similarly, the transport sector has reduced CO2 emissions in response to foreign regulations. However, on the other hand, one stakeholder mentioned that one particular environmental aspect relevant for the trade between the EU and the SMCs (in particular Egypt) is the substantial amount of waste trade. The volume of trade has gone up quite drastically after China stopped importing waste with waste import from the EU doubling or tripling in Egypt. These plastic waste exports to countries like Egypt are said to be for recycling purposes, but the recycling capacity in MENA countries is very low. In fact, Eurostat data shows that between 2004 and 2018 EU waste exports to Egypt increased by 225% to 1.7 million tonnes in 2018.[1348] Another interviewee mentioned in regard to natural resources that FDI has mainly taken place in depletable resources such as oil and natural gas. However, stakeholders noted also some more positive impacts. For example, requirements in the EU market (both voluntary and regulatory standards) and compliance therewith could have had a positive impact on the environment in Egypt. In particular, stricter requirements for pesticides were beneficial to the environmental impact of Egypt's agricultural sector. In addition, a stakeholder noted that, traceability requirements could have had a positive impact on the environment and finally one interviewee mentioned that the FTA increased production of organic products, due to the demand in the EU market.

In **Jordan**, a stakeholder from an environmental NGO noted that waste management in the textile sector has been improved. Recycling has become an important issue while in the past textile waste was disposed by burning or on landfills. The stakeholder explained that waste management is supported through projects (e.g. by the German government) and that there exists also a zero waste legislation for the textile industry. Though not all companies comply with it. In particular, GIZ support of Jordanian stakeholders in meeting EU environmental standards was mentioned as beneficial. However, the same stakeholder noted that cement factories from an EU company have led to additional emissions. The stakeholder appreciated though that the company compensated

[1348] Eurostat (2019) Turkey and China main destinations for EU's waste. Available at: https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20190311-2?inheritRedirect=true.

the local community. In the workshop, a stakeholder also voiced concerns over water scarcity in Jordan and that the agreement promotes industrialisation which might contribute further to depleting Jordan's scarce water resources. On a positive impact, an interviewee mentioned that the agreement encourages Jordanian producers to enhance the quality of their products through implementing environmental standards. Finally, an NGO raised concerns over animal welfare in light of the increasing livestock exports from the EU to Jordan since 2006 and poor conditions in Jordanian slaughterhouses.

Stakeholders in **Lebanon** did not provide much information on environmental impacts, however a few noted several negative environmental aspects without linking them to the FTA though. One interviewee noted that the main environmental issue in Lebanon is related to solid waste and wastewater. Specifically, a private sector representative noted that lot of agricultural production is water-intensive and uses up much of Lebanon's limited water resources. As much of Lebanon's export take place in agriculture, the FTA could potentially worsen this situation, however at the same time the livelihood of many people depends on agricultural production. Moreover, on agriculture, a government representative mentioned also that the quality of the crops produced in Lebanon is often not optimal, which is often related to the overuse of pesticides.

In the case of **Morocco**, during the workshop stakeholders were supportive of the agreement as it helped to raise awareness of environmental problems among local actors, who in turn decreased Morocco's carbon footprint in a significant manner. An interviewee noted also that Moroccan producers invested into the production of organic olive oil and higher quality products due to the agreement and the market opportunities it provided. Stakeholders raised however the question of the sustainability of increased agricultural exports and the effect the increased production might have on the environment. Some stakeholders were not sure if this would necessarily be a negative effect. However, during the interviews others noted that the liberalisation of the Moroccan economy led to a specialisation in agricultural production of very water-intensive crops (e.g. oranges, watermelons, tomatoes), which have a negative effect on the country's scarce water supplies.

Finally, in the case of **Tunisia** stakeholders were mostly positive on the environmental impacts. Similar to Morocco though, stakeholders were not sure about the environmental impact of increased agricultural production due to the increased exports. Moreover, like for other SMCs, concern were raised over animal welfare and rising imports of live animals. On the positive side, three independent experts operating in the environmental sector, believed the environmental impact to be mostly positive. They pointed out that thanks to the FTA, Tunisian exporting companies have been able to improve their environmental management system (ISO 14000) and were able to access the international market. Moreover, the EU companies functioning in Tunisia introduced changes to their operational strategies in order to reduce air and water pollution and to encourage the use of renewables energies. Finally, similar to Morocco one stakeholder noted the investment into organic olive oil thanks to the demand coming from the EU market.

F.7 Environmental performance: detailed environmental indicators

Table F.32 EPI scores: 2018 score and baseline scores compared, SMCs

Country	EPI Current Score	EPI Baseline Score	Environmental Health Current Score	Environmental Health Baseline Score	Ecosystem Vitality Current Score	Ecosystem Vitality Baseline Score
Algeria	57,18	58,46	80,95	72,15	41,34	49,33
Egypt	61,21	56,71	68,61	63,86	56,28	51,94
Jordan	62,20	58,95	86,69	83,38	45,87	42,66
Lebanon	61,08	59,13	83,25	83,82	46,30	42,67
Morocco	63,47	57,06	67,43	59,62	60,82	55,35
Tunisia	62,35	57,18	81,12	73,29	49,83	46,44

Note: baseline score are the score of about one decade earlier.
Source: https://epi.envirocenter.yale.edu/.

Table F.33 EPI scores 2018 – detailed indicators, SMCs

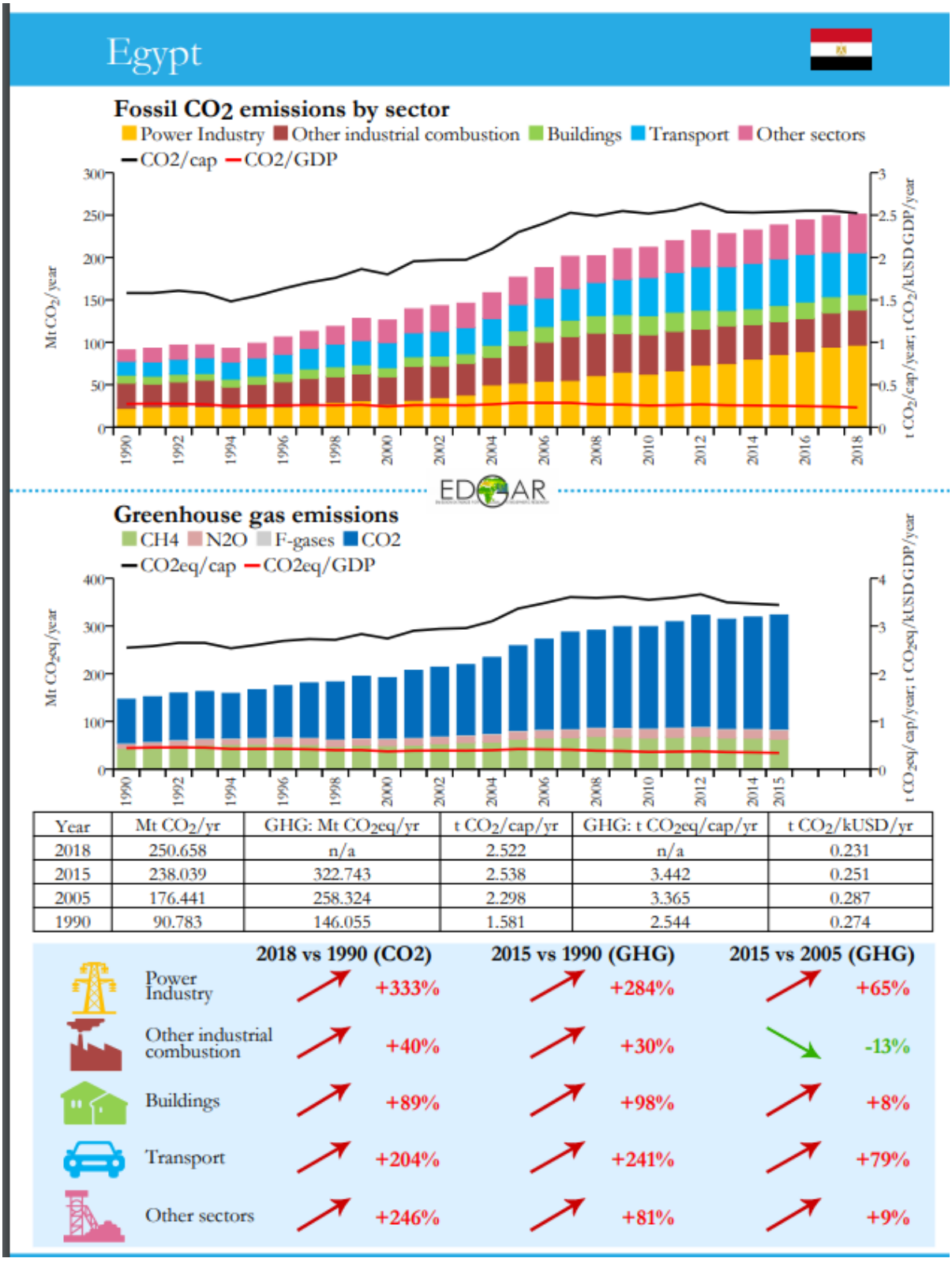
Current Score	Algeria	Egypt	Japan	Lebanon	Morocco	Tunisia
Air Quality	93,98	88,88	90,78	95,18	81,39	95,45
Water & Sanitation	60,26	32,78	96,6	60,31	42,24	57,6
Heavy Metals	35,6	20,03	100	65,9	37,03	36,02
Biodiversity & Habitat	49,33	62,39	90,34	30,11	88,43	47,41
Forests	9,96	44,95	37,89	25,15	29,57	7,91
Fisheries	44,39	37,92	36,79	85,34	57,39	58,12
Climate & Energy	26,94	55,68	45,08	43,86	49,66	51,3
Air Pollution	46,15	47,55	72,34	55,29	50,69	63,53
Water Resources	91,6	86,32	94,06	76,47	85,38	88,17
Agriculture	34,26	46,15	45,41	27,83	30,25	16,25
Household Solid Fuels	87,42	82,79	100	100	57,8	88,68
PM2.5 Exposure	100	94,35	82,76	91,36	100	100
PM2.5 Exceedance	96,72	91,55	86,49	92,56	94,25	99,93
Sanitation	64,36	31,46	100	66,01	45,41	59,72
Drinking Water	56,17	34,09	93,21	54,62	39,06	55,48
Lead Exposure	35,6	20,03	100	65,9	37,03	36,02
Marine Protected Areas	57,46	91,36	97,6	24,56	70,41	82,52
Biome Protection (National)	43,41	72,34	100	16,99	99,91	32,01
Biome Protection (Global)	46,6	44,06	100	16,99	99,68	36,82
Species Protection Index	53,93	48,05	99,19	40,04	98,14	37,46
Representativeness Index	10,06	15,3	41,63	19,53	67,58	5,71
Species Habitat Index	80,45	96,97	68,18	84,39	80,45	90,76
Tree Cover Loss	9,96	44,95	37,89	25,15	29,57	7,91
Fish Stock Status	28,21	69,88	20,15	70,67	93,06	93,62
Regional Marine Trophic Index	60,58	5,96	53,42	100	21,72	22,61
CO2 Emissions – Total	17,14	51,56	24,43	30,15	44,84	44,4
CO2 Emissions – Power	46,35	45,92	16,8	24,36	32,99	43,55
Methane Emissions	37,76	67,94	98,94	86,18	70,62	73,33
N2O Emissions	23,99	68,16	98,86	63,44	62,51	59,04
Black Carbon Emissions	6,93	74,33	95,4	70,05	67,96	55,41
SO2 Emissions	83,63	34,97	62,89	51,97	43,78	56,64
NOX Emissions	8,68	60,13	81,78	58,62	57,61	70,42
Wastewater Treatment	91,6	86,32	94,06	76,47	85,38	88,17
Sustainable Nitrogen Management	34,26	46,15	45,41	27,83	30,25	16,25

Table F.34 EPI scores: 2018 score and baseline scores compared, EU

Country	EPI Current Score	EPI Baseline Score	Environ-mental Health Current Score	Environmental Health Baseline Score	Ecosystem Vitality Current Score	Ecosystem Vitality Baseline Score
Austria	78,97	74,12	86,38	83,96	74,03	67,57
Belgium	77,38	77,47	89,37	86,38	69,39	71,52
Bulgaria	67,85	64,51	69,6	68,02	66,68	62,17
Croatia	65,45	63,29	67,04	71,68	64,39	57,69
Cyprus	72,6	69,54	87,96	88,41	62,37	56,95
Czech Republic	67,68	70,36	68,69	72,13	67,01	69,18
Denmark	81,6	78,76	98,2	95,53	70,53	67,58
Estonia	64,31	71,21	73,24	69,69	58,35	72,22
Finland	78,64	79,29	99,35	94,91	64,83	68,88
France	83,95	80,67	95,71	91,67	76,11	73,34
Germany	78,37	78,23	88,68	88,19	71,5	71,59
Greece	73,6	75,72	91,03	89,62	61,98	66,44
Hungary	65,01	68,93	57,67	66,06	69,9	70,84
Ireland	78,77	76,83	95,92	92,07	67,34	66,66
Italy	76,96	75,17	85,88	88,44	71,02	66,32
Latvia	66,12	73,68	72,8	69,46	61,66	76,49
Lithuania	69,33	75,23	72,57	72,74	67,18	76,88
Luxembourg	79,12	75,62	95,07	92,83	68,48	64,15
Malta	80,9	76,29	93,8	90,14	72,3	67,06
Netherlands	75,46	75,9	92,26	89,86	64,25	66,6
Poland	64,11	66,4	58,71	62,56	67,72	68,96
Portugal	71,91	67,27	90,47	84,99	59,53	55,46
Romania	64,78	62,3	58,67	59,49	68,85	64,17
Slovakia	70,6	70,92	63,87	68,72	75,08	72,39
Slovenia	67,57	72,43	72,34	72,76	64,4	72,2
Spain	78,39	71,5	94,21	90,63	67,85	58,75
Sweden	80,51	79,89	94,41	92,82	71,24	71,27
United Kingdom	79,89	77,24	96,03	89,97	69,13	68,76

F.8 Additional tables and figures for the sustainability analysis- case study on air emissions

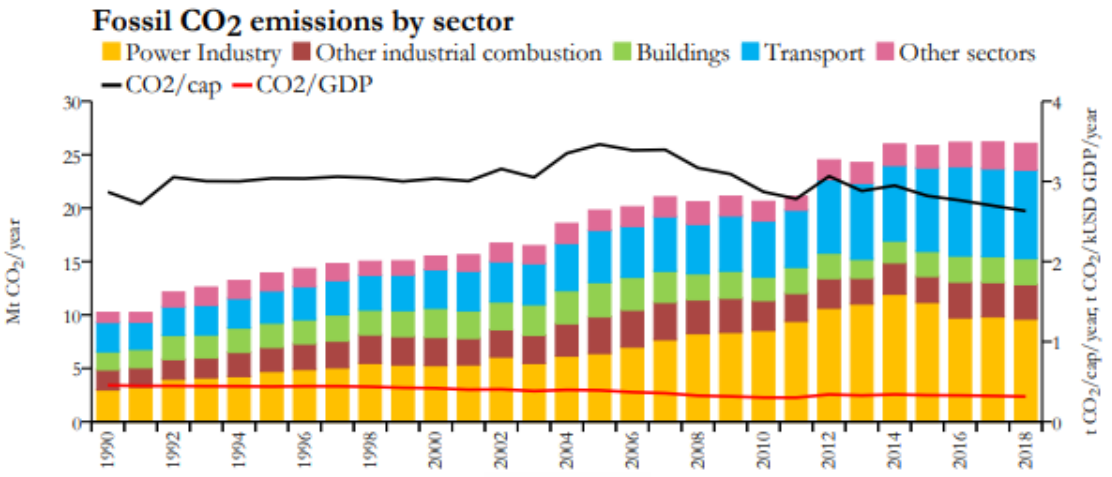
Table F.35 Emission of CO2 and GHG graphs from EDGAR database, Egypt



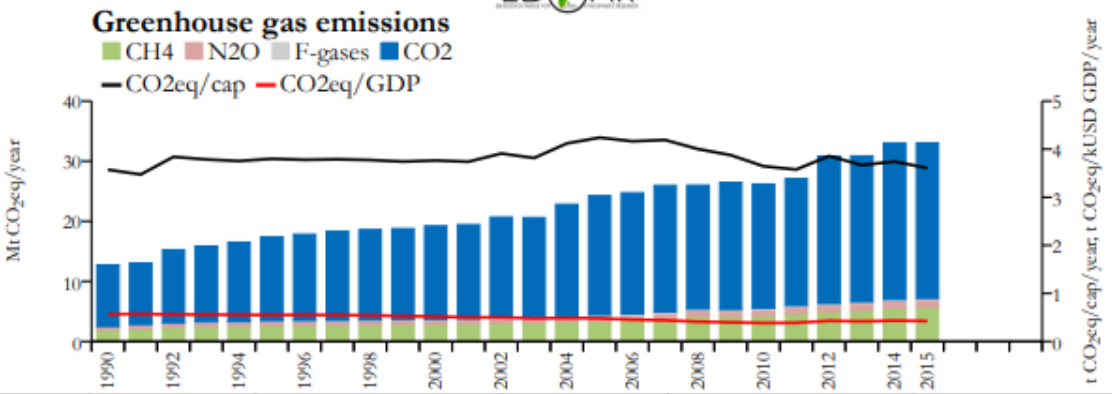
Year	Mt CO_2/yr	GHG: Mt CO_2eq/yr	t CO_2/cap/yr	GHG: t CO_2eq/cap/yr	t CO_2/kUSD/yr
2018	250.658	n/a	2.522	n/a	0.231
2015	238.039	322.743	2.538	3.442	0.251
2005	176.441	258.324	2.298	3.365	0.287
1990	90.783	146.055	1.581	2.544	0.274

Table F.36 Emission of CO2 and GHG graphs from EDGAR database, Jordan

Jordan



EDGAR



Year	Mt CO_2/yr	GHG: Mt CO_2eq/yr	t CO_2/cap/yr	GHG: t CO_2eq/cap/yr	t CO_2/kUSD/yr
2018	26.044	n/a	2.630	n/a	0.315
2015	25.823	33.027	2.819	3.606	0.331
2005	19.782	24.233	3.462	4.241	0.393
1990	10.208	12.721	2.867	3.573	0.455

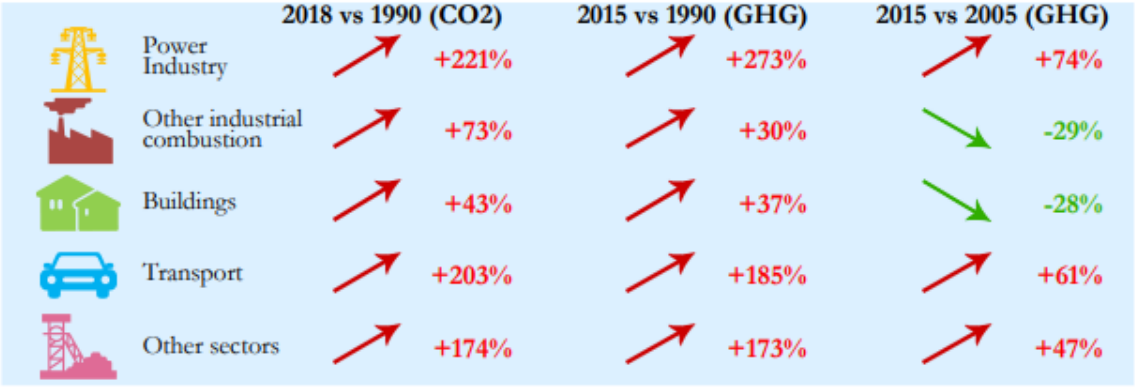
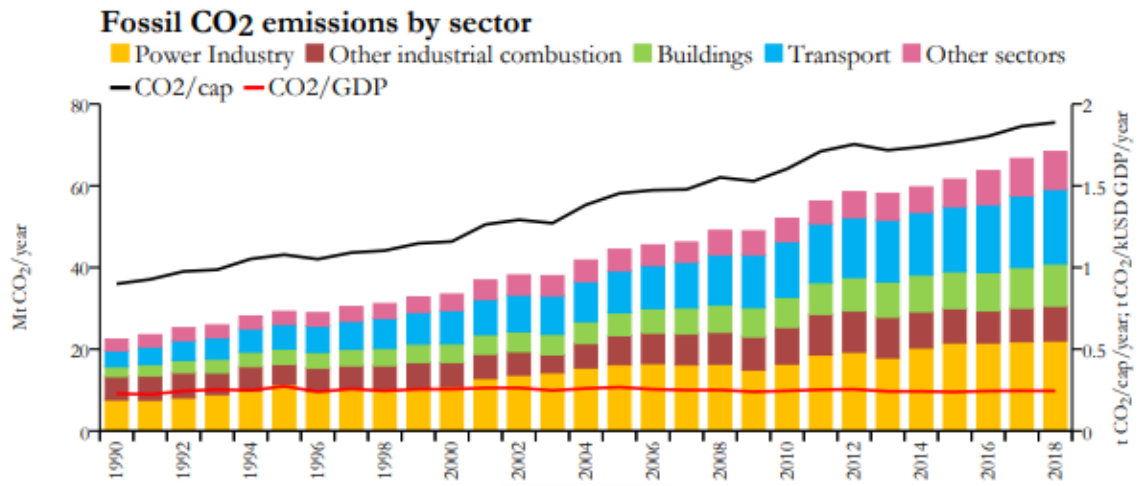
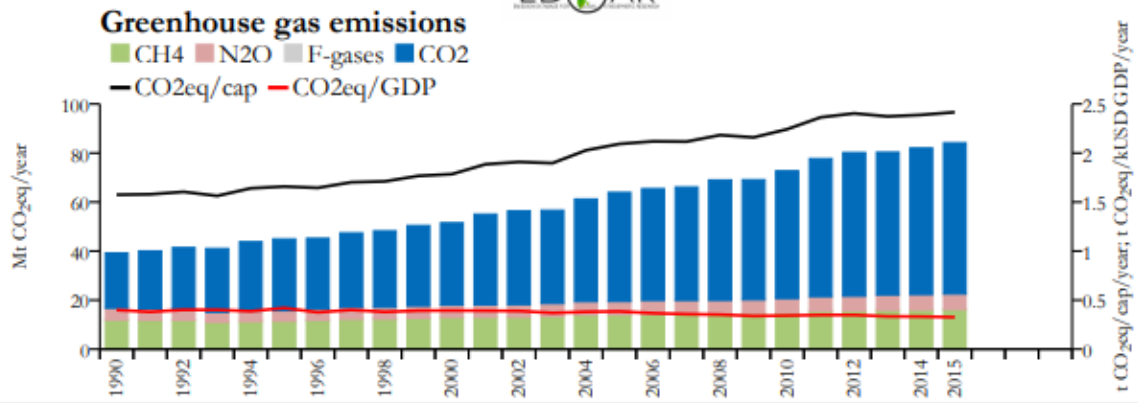


Table F.37 Emission of CO2 and GHG graphs from EDGAR database, Morocco

Morocco



EDGAR

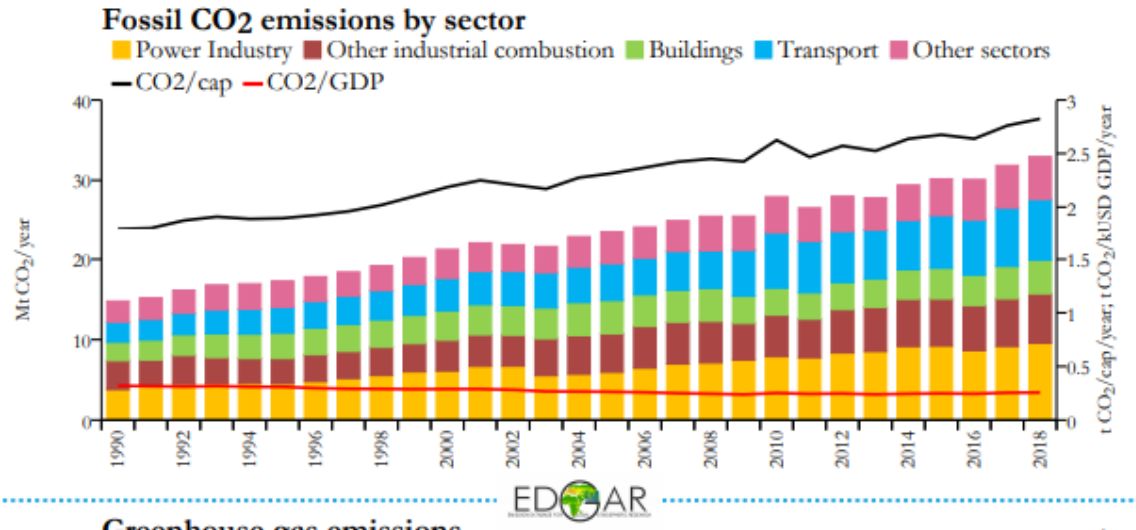


Year	Mt CO_2/yr	GHG: Mt CO_2eq/yr	t CO_2/cap/yr	GHG: t CO_2eq/cap/yr	t CO_2/kUSD/yr
2018	68.308	n/a	1.887	n/a	0.245
2015	61.534	84.102	1.768	2.417	0.239
2005	44.368	63.878	1.454	2.093	0.267
1990	22.386	39.175	0.900	1.575	0.228

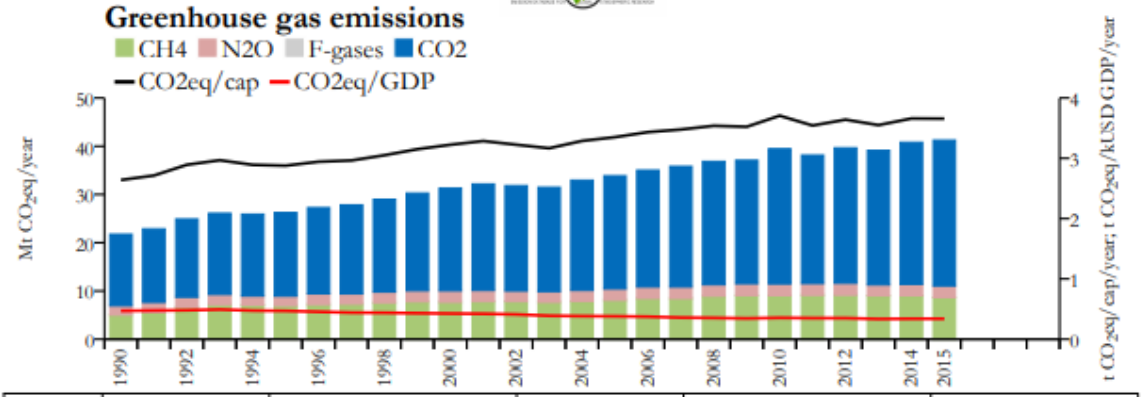
	2018 vs 1990 (CO2)	2015 vs 1990 (GHG)	2015 vs 2005 (GHG)
Power Industry	+189%	+183%	+33%
Other industrial combustion	+50%	+48%	+18%
Buildings	+322%	+238%	+48%
Transport	+368%	+307%	+56%
Other sectors	+235%	+49%	+20%

Table F.38 Emission of CO2 and GHG graphs from EDGAR database, Tunisia

Tunisia



EDGAR



Year	Mt CO_2/yr	GHG: Mt CO_2eq/yr	t CO_2/cap/yr	GHG: t CO_2eq/cap/yr	t CO_2/kUSD/yr
2018	32.926	n/a	2.824	n/a	0.257
2015	30.155	41.236	2.675	3.658	0.248
2005	23.388	33.848	2.315	3.350	0.263
1990	14.774	21.737	1.795	2.640	0.320

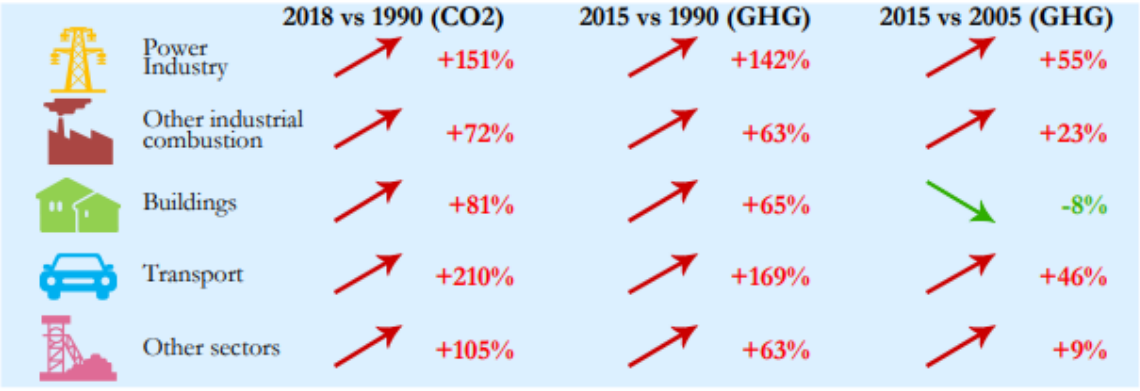
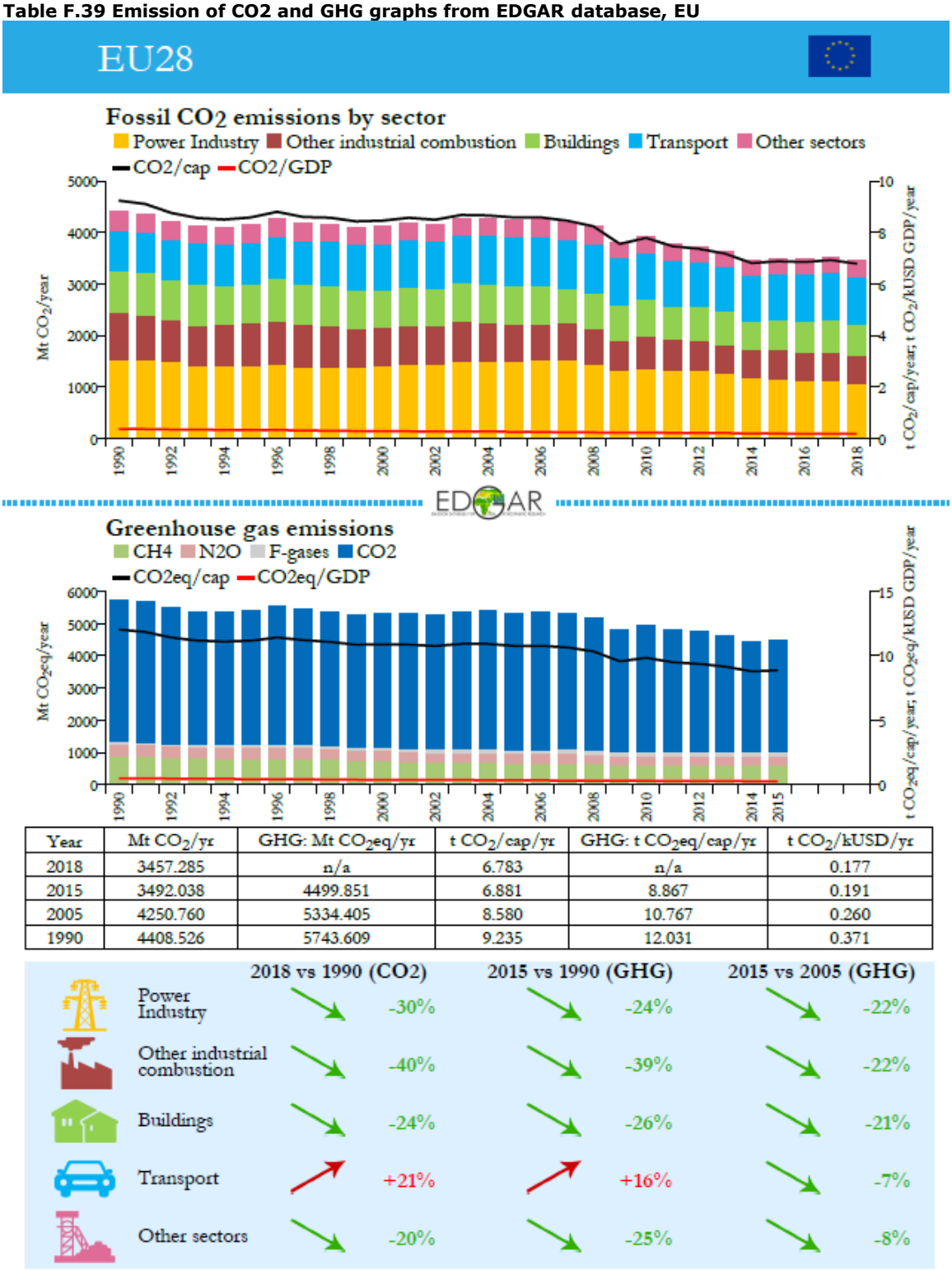


Table F.39 Emission of CO2 and GHG graphs from EDGAR database, EU



Year	Mt CO_2/yr	GHG: Mt CO_2eq/yr	t CO_2/cap/yr	GHG: t CO_2eq/cap/yr	t CO_2/kUSD/yr
2018	3457.285	n/a	6.783	n/a	0.177
2015	3492.038	4499.851	6.881	8.867	0.191
2005	4250.760	5334.405	8.580	10.767	0.260
1990	4408.526	5743.609	9.235	12.031	0.371

Methodological description

The principle of the quantitative analysis for air quality and greenhouse gas emissions is quite straightforward and similar for both topics: we want to calculate environmental coefficients by sectors and by type of air pollutant emissions and GHG and apply these coefficients to the output changes induced by the FTA in each country as provided by the CGE model. In practice, this work requires to combine environmental data with economic activity data, which is called environmental accounting. The main challenge is to combine the data at the most disaggregated level while using existing information and correspondence tables between the various classifications involved. Our constraint is to match the sectors as they are provided in the GEM results.

Environmental data by sector from EORA MRIO:

We used the Eora multi-region input-output (Eora MRIO) database that provides a time series of high-resolution Input-Output (IO) tables with matching environmental and social satellite accounts for 187 countries, including Morocco, Tunisia, Egypt and Jordan. The IO tables for the different countries record inter-industry transactions for a (usually) large number of economic sectors or industries for a particular year. They also record the inputs of primary sources of production and imports into the sectors. The rows of the IO table depict the sales of goods and services to other sectors and to final demand (including exports). The columns of the IO table depict the purchases of the sectors of intermediate inputs from other sectors, from primary factors of production, and from imports. Our interest in this study is that Eora MRIO provides satellite accounts for a large number of environmental indicators. These "environmental indicators" are linked to the specific sectors of the IO table. They are placed as additional rows below the original IO table, representing them, as it were, as 'inputs' into production of a particular sector. Environmental indicators include – among other - GHG emissions (affecting the global climate) and air pollutant emissions (affecting local air quality). Four series are available: CDIAC, EDGAR, PRIMAP and I-AIR/I-GHG. After a consistency and completeness check, it appears that only I-AIR/I-GHG is of interest in our study; it should, however, be kept in mind that these data are computed from various sources and should be used with caution[1349].

I-AIR and I-GHG are desegregated by activity; we have aggregated all the data available in lines I-AIR and I-GHG to compute the total emissions in each gas by sector.

Aggregation of data by sectors compatible with the GEM of the EC:

The MRIO EORA Tables for the 4 countries include 25 sectors (organised according to a specific aggregation based on the ISIC Rev 3 classification are available), while the DG trade GEM model provides output for 26 sectors (aggregated from the sectors available in the GTAP database, themselves build from the ISIC classification). In an ideal situation, to measure the composition effect with precision, we would need emission data of GHG and airborne pollutants disaggregated into the same sectors as in the CGE model. Unfortunately, the definitions of the sectors in MRIO EORA tables and in the CGE model are not fully similar.

We therefore proceeded to a reconciliation by aggregating several sectors together while keeping the level of desegregation as detailed as possible. To build this specific correspondence table, we used existing correspondences tables between GTAP sectors/CGE model and ISIC sectors and between EORA sectors and ISIC sectors. We ended up with 10 sectors for the environmental analysis. Note that the aggregation of sectors is constraint by the output data provided by the CGE model and not build according to environmental concern. This is the reason why, for instance, we cannot isolate the sector related to "electricity, gas and water". Aggregation of sectors are shown in the table below.

[1349] According to an exchange of e-mail with the EORA help desk.

CGE sector		GTAP Sectors	ISIC Rev 4	ISIC Rev 3	EORA sectors	Sector for the environment analysis with EORA
1	Live ruminants and horses	ctl	01,'02,'03	01	Agriculture	Agriculture
5	Vegetables, fruit and nuts	v_f		01	Fishing	
7	Wheat	wht		01		
12	Fishery and forestry	frs, fsh		05 and 02		
4	Dairy products	rmk, mil		01 (rmk) and 15 (mil)		
8	Other Cereals	pdr, gro, pcr		01		
11	Other agri-food products	osd, c_b, pfb, ocr, oap, wol, sgr		01 and 15 (sgr)		
13	Fossil fuels	coa, oil, gas, p_c	"05 to "09	10, 11, 23	Mining and Quarrying	Mining, quarrying , petroleum, chemical and non metallic mineral product
14	Minerals	omn, nmm	"08, "09, 23	14, 26	Petroleum, Chemical and Non-Metallic Mineral Products	
15	Chemical, rubber and plastic products	crp	19 to 23	23, 24, 25		
2	Red Meat	cmt	10, 11, 12	15	Food & Beverages	Food industry and beverage
3	White Meat	omt		15		
6	Vegetable oils	vol		15		
9	Processed food	ofd		15		
10	Beverages and tobacco	b_t		15 and 16		
16	Textiles	tex	13, 14, 15	17	Textiles and Wearing Apparel	Textile and wearing apparel
17	Wearing apparel	wap		18		
18	Leather products	lea		19		
19	Metals and metal products	i_s, nfm, fmp	24, 25	27, 28	Metal Products	Metal Products
20	Electronic equipment	ele	26, 27, 28	30, 32	Electrical and Machinery	Electrical and Machinery
23	Other Machinery and equipment	ome		29, 31, 33		
21	Motor vehicles and parts	mvh	29, 30	34	Transport Equipment	Transport equipment
22	Other transport equipment	otn		35		

CGE sector		GTAP Sectors	ISIC Rev 4	ISIC Rev 3	EORA sectors	Sector for the environment analysis with EORA
24	Other manufactures	lum, ppp, omf, **ely**, gdt	31, 33, 37, 39	36, 37	Other Manufacturing	Other manufacture, electricity and gas
			35	40	Electricity, Gas and Water	
				20, 21, 22	Wood and Paper	
25	Transport services	otp, wtp, atp	49 to 53	60, 61, 63	Transport	Transport services
26	Other services	wtr, cns, trd, cmn, ofi, isr, obs, ros, osg, dwe	41, 42,43, 45 to 47, 55 to 98	40, 41, 45, 50, 51, 52, 62, 64, 65, 66, 67, 68, 74, 92, 75, 80, 85, 92, 95, 93	Post and Telecommunications	Other services
					Financial Intermediation and Business Activities	
					Public Administration	
					Education, Health and Other Services	
					Private Households	
					Others	

Source: Own compilation based on existing tables available on the GTAP website, the EORA website, the Eurostat AEA manual 2015, the RAMON classification web site and OECD corespondance table (ISIC Rev 3.1 to ISIC rev 4 at 2 digit level.

Calculation of environmental indicators

We have calculated "Environmental indicator" coefficients by dividing the value of the environmental indicator by the value added of the sector (e.g. CO2 emission in 1000 tonnes (kton) per unit of output of the textile sector in USD). We have used the value added as indicator of economic activity as it was previously done in the 2013 SIA study for Morocco. This indicator is preferred over gross output, as it is most directly linked to the economic activity performed within a sector itself. Using gross output values instead would run the risk of double counting, assigning too much weight to certain sectors based on their intermediate input use. The emissions resulting from the production of intermediate inputs should be assigned to the respective sectors producing these intermediates. Value added weighting of sectors ensures that this logic is followed.

For the quantitative analysis, it is assumed that the 'environmental indicator' coefficients are constant over time. Coefficients of the year 2013 are used. The possible evolution of the values of the coefficients over time and its impacts on the environmental consequences are qualitatively discussed.

We used the value-added data from EORA MRIO database when no data is available from other sources of proven good quality (this is the case for Egypt and Jordan). For Tunisia and Morocco, we used VA data by branch as available in the OECD database; specifically, we used the ISIC Rev 3.1 to ISIC Rev 4 correspondence table available from the OECD to redispatch the VA data available at the OECD according to the aggregation we need to match (as much as possible) the sectors of the GEM.

We strictly followed the approach used in the 2015 ex-post study for Mexico[1350]: The quantitative modelling of FTA-induced environmental impacts is based on the analysis of the scale and composition effects. These two channels link changes in emissions directly to changes in economic activity. As explained before, we abstract from changes in underlying technology that may reduce emission intensities per unit of output, since aspects of technological change are not explicitly modelled.

The scale effect represents the changes in the emissions resulting from the increased scale of production. All things being equal, emissions are proportional to total GDP and increase or decrease by the same factor as economic activity as a whole. The FTA-induced level of airborne emissions with the scale effect is equal to:

$EiSC = ei0 \cdot YSCY0 = ei0 \cdot (1 + gYSC)$ (1)

where $ei0$ is emission of pollutant i in the baseline year, Y is total value added, and $gYSC$ is the change in percentages of total value added as compared with the base year.

Since we use the changes in GDP as our proxy for the growth in total economic activity, our final formula for the scale effect is:

$EiSC = ei0 \cdot (1 + \Delta\ GDP\ in\ \%)$ (2)

a) Composition effect

As a result of the DCFTA the economic structure of the country is expected to change with activities shifting to less or more pollution intensive sectors to some extent. Environmental impact analysis should take this composition effect into account. For a given scenario, the composition effect for a particular pollutant is:

$$E_i^{SC} = \sum_k \left(e_k^0 \cdot \frac{y_k^{SC}/Y^{SC}}{y_k^0/Y^0} \cdot \frac{Y^{SC}}{Y^0} \right) - \sum_k \left(e_k^0 \cdot \frac{Y^{SC}}{Y^0} \right) = \frac{Y^{SC}}{Y^0} \cdot \sum_k e_k^0 \cdot \left(\frac{y_k^{SC}/Y^{SC}}{y_k^0/Y^0} - 1 \right) \qquad (3)$$

where *k* denotes a sector and *y* is value added per sector.

In an ideal situation, to measure the composition effect with precision we would need emission data of airborne pollutants disaggregated into the same sectors as our CGE model. Given the limited availability of emission data as well as its level of the detail, we had to introduce new economic sectors for the environmental analysis based on the EORA sectors and CGE model sectors (see paragraph "**Aggregation of data by sectors compatible with the GEM of the EC)**. This exercise leaves us with 10 sectors (see Table above).

Finally, the total effect combines the scale and composition effects and demonstrates the net changes in the emissions of airborne pollutants:

$$E_j^{SC} = \sum_k \left(e_k^0 \cdot \frac{w^{SC}}{w^0} \cdot (1 + g_Y^{SC}) \right) \qquad (4)$$

where *w* is a sector share based on total value added. Since we use the change in GDP as a proxy for changes in total value added. our final equation is:

$$E_j^{SC} = \sum_k \left(e_k^0 \cdot \frac{w^{SC}}{w^0} \cdot (1 + \Delta\ GDP\ in\ \%) \right) \qquad (5)$$

Note the data provided include only the effect of activities of different economic sectors; emissions resulting from final consumption of households are not considered.

[1350] Ex-post evaluation of the implementation of the EU-Mexico Free Trade Agreement, 2015.

F.9 Additional tables and figures for the sustainability analysis- case study on trade in environmental goods

Table F.40 Additional indicators related to green growth, SMCs

1. Algeria

Indicator	Value	Year (last available)	Reference data	Reference data
Natural Asset Base				
Average annual deforestation	-1.44% change in forest area (compared to 2011)	2015	0.57 (2011)	0.54 (2000)
Annual freshwater withdraws per capita	216.4 cubic meters	2014	178.9 (2002)	165.6 (1992)
Agricultural land	17.4% of land area	2013	16.8 (2000)	16.2 (1990)
Terrestrial and marine protected areas	7.46% of total territorial area	2014	5.98 (2000)	5.97 (1990)
Environmental and Resource Productivity				
CO_2 emissions per capita	3.51 metric tons	2013	2.82 (2000)	3.01 (1990)
Carbon productivity	3.79 GDP per kg of CO_2 emissions	2013	3.62 (2000)	3.4 (1990)
Environmental Quality of Life				
Population exposure to air pollution (PM2.5)	7.67 micrograms per cubic meter	2012	8.48 (2006)	8.28 (2000)
Access to improved sanitation	87.6% of population	2015	83.6 (2000)	80.3 (1990)
Access to improved water source	83.6% of population	2015	89.5 (2000)	91.5 (1990)
Access to electricity	100% of population	2012	98 (2000)	94 (1990)
Policies and economic opportunities				
Fossil fuel consumption subsidies	20.2 billion USD	2014	13.4 (2011)	5.6 (2007)
Environmentally related tax revenue	lack of data			
Renewable electricity	1.08% of electricity mix	2012	0.21 (2000)	0.84 (1990)

Source: https://www.greengrowthknowledge.org.

2. Egypt

Indicator	Value	Year (last available)	Reference data	Reference data
Natural Asset Base				
Average annual deforestation	-1.43% change in forest area (compared to 2011)	2015	-1.73 (2011)	-2.98 (2000)
Annual freshwater withdraws per capita	870.7 cubic meters	2014	963.2 (2002)	909.1 (1997)
Agricultural land	3.78% of land area	2013	3.31 (2000)	2.66 (1990)
Terrestrial and marine protected areas	9.58% of total territorial area	2014	3.76 (2000)	0.38 (1990)
Environmental and Resource Productivity				
CO2 emissions per capita	3.51 metric tons	2013	2.07 (2000)	1.35 (1990)
Carbon productivity	4.13 GDP per kg of CO2 emissions	2013	3.65 (2000)	4.47 (1990)
Environmental Quality of Life				
Population exposure to air pollution (PM2.5)	17.5 micrograms per cubic meter	2012	17.1 (2006)	17.6 (2000)
Access to improved sanitation	94.7% of population	2015	84.3 (2000)	73.4 (1990)
Access to improved water source	99.4% of population	2015	95.9 (2000)	93.4 (1990)
Access to electricity	100% of population	2012	97.7 (2000)	95.5 (1990)
Policies and economic opportunities				
Fossil fuel consumption subsidies	20.2 billion USD	2014	24.5 (2011)	19.4 (2007)
Environmentally related tax revenue	lack of data			
Renewable electricity	9.04% of electricity mix	2012	17.7 (2000)	23.5 (1990)

Source: https://www.greengrowthknowledge.org.

3. Jordan

Indicator	Value	Year (last available)	Reference data	Reference data
Natural Asset Base				
Average annual deforestation	0% change in forest area (compared to 2011)	2015	0 (2011)	0 (2000)
Annual freshwater withdraws per capita	126.9 cubic meters	2014	163.4 (2007)	262.8 (1992)
Agricultural land	11.9% of land area	2013	12.1 (2000)	11.8 (1990)
Terrestrial and marine protected areas	2.13% of total territorial area	2014	1.9 (2000)	1.05 (1990)
Environmental and Resource Productivity				
CO2 emissions per capita	3.44 metric tons	2013	3.25 (2000)	3.1 (1990)
Carbon productivity	2.97 GDP per kg of CO2 emissions	2013	2.38 (2000)	2.15 (1990)
Environmental Quality of Life				
Population exposure to air pollution (PM2.5)	12.7 micrograms per cubic meter	2012	10.7 (2006)	10.1 (2000)
Access to improved sanitation	98.6% of population	2015	97.8 (2000)	97.3 (1990)
Access to improved water source	96.9% of population	2015	96.8 (2000)	96.3 (1990)
Access to electricity	99.5% of population	2012	99.5 (2000)	94.8 (1990)
Policies and economic opportunities				
Fossil fuel consumption subsidies	lack of data			
Environmentally related tax revenue	lack of data			
Renewable electricity	0.42% of electricity mix	2012	0.57 (2000)	0.33 (1990)

Source: https://www.greengrowthknowledge.org.

4. Lebanon

Indicator	Value	Year (last available)	Reference data	Reference data
Natural Asset Base				
Average annual deforestation	-0.31% change in forest area (compared to 2011)	2015	-0.45 (2011)	0 (2000)
Annual freshwater withdraws per capita	233.4 cubic meters	2014	406.8 (2002)	418.1 (1997)
Agricultural land	64.3% of land area	2013	58.5 (2000)	59.1 (1990)
Terrestrial and marine protected areas	0.93% of total territorial area	2014	0.8 (2000)	0.17 (1990)
Environmental and Resource Productivity				
CO_2 emissions per capita	4.27 metric tons	2013	4.71 (2000)	3.04 (1990)
Carbon productivity	3.29 GDP per kg of CO2 emissions	2013	2.62 (2000)	2.55 (1990)
Environmental Quality of Life				
Population exposure to air pollution (PM2.5)	14.1 micrograms per cubic meter	2012	12.9 (2006)	12.8 (2000)
Access to improved sanitation	80.7% of population	2015	82.7 (2000)	N/A (1990)
Access to improved water source	99% of population	2015	85.7 (2000)	83.3 (1993)
Access to electricity	100% of population	2012	95 (2000)	92.8 (1990)
Policies and economic opportunities				
Fossil fuel consumption subsidies	lack of data			
Environmentally related tax revenue	lack of data			
Renewable electricity	6.79% of electricity mix	2012	4.6 (2000)	33.3 (1990)

Source: https://www.greengrowthknowledge.org.

5. Morocco

Indicator	Value	Year (last available)	Reference data	Reference data
Natural Asset Base				
Average annual deforestation	-0.81% change in forest area (compared to 2011)	2015	-0.23 (2011)	-0.08 (2000)
Annual freshwater withdraws per capita	307.5 cubic meters	2014	501.8 (2002)	426.8 (1992)
Agricultural land	68.1% of land area	2013	68.7 (2000)	68 (1990)
Terrestrial and marine protected areas	20.1% of total territorial area	2014	0.35 (2000)	0.09 (1990)
Environmental and Resource Productivity				
CO2 emissions per capita	1.75 metric tons	2013	1.17 (2000)	0.94 (1990)
Carbon productivity	4.11 GDP per kg of CO2 emissions	2013	3.86 (2000)	4.17 (1990)
Environmental Quality of Life				
Population exposure to air pollution (PM2.5)	7.25 micrograms per cubic meter	2012	7.68 (2006)	8.52 (2000)
Access to improved sanitation	76.7% of population	2015	64 (2000)	52.4 (1990)
Access to improved water source	85.4% of population	2015	78.3 (2000)	72.6 (1990)
Access to electricity	100% of population	2012	71.1 (2000)	49.2 (1990)
Policies and economic opportunities				
Fossil fuel consumption subsidies	lack of data			
Environmentally related tax revenue	lack of data			
Renewable electricity	8.63% of electricity mix	2012	6.08 (2000)	12.7 (1990)

Source: https://www.greengrowthknowledge.org.

6. Tunisia

Indicator	**Value**	**Year (last available)**	**Reference data**	**Reference data**
Natural Asset Base				
Average annual deforestation	-1.46% change in forest area (compared to 2011)	2015	-1.86 (2011)	-2.67 (2000)
Annual freshwater withdraws per capita	300.5 cubic meters	2014	292.3 (2002)	362.2 (1992)
Agricultural land	64% of land area	2013	61.5 (2000)	55.6 (1990)
Terrestrial and marine protected areas	3.68% of total territorial area	2014	0.97 (2000)	0.93 (1990)
Environmental and Resource Productivity				
CO2 emissions per capita	2.54 metric tons	2013	2.09 (2000)	1.63 (1990)
Carbon productivity	4.18 GDP per kg of CO2 emissions	2013	3.7 (2000)	3.5 (1990)
Environmental Quality of Life				
Population exposure to air pollution (PM2.5)	7.68 micrograms per cubic meter	2012	8.21 (2006)	8.47 (2000)
Access to improved sanitation	91.6% of population	2015	81.9 (2000)	72.6 (1990)
Access to improved water source	97.7% of population	2015	89.9 (2000)	82.5 (1990)
Access to electricity	100% of population	2012	95 (2000)	92.6 (1990)
Policies and economic opportunities				
Fossil fuel consumption subsidies	lack of data			
Environmentally related tax revenue	1.15% of GDP (compared to 1.17% in 2013)	2014	1.34 (2007)	1.72 (2000)
Renewable electricity	1.73% of electricity mix	2012	0.82 (2000)	0.79 (1990)

Source: https://www.greengrowthknowledge.org.

Table F.41 List of environmental goods

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
1. AIR POLLUTION CONTROL					
209	Condensers for steam or other vapour power units.	840420		Used to cool gas streams to temperatures which allow the removal of contaminants, e.g. volatile organic compounds (VOC) like benzene.	Canada, Japan, New Zealand, United States
210	Parts for auxiliary plant for boilers, condensers for steam, vapour power unit.	840490		These parts are used in the repair and maintenance of the equipment classified under item 208 above. This secondary equipment is also used to support waste heat recovery processes, such as boilers mentioned above, in waste treatment, or renewable energy resource recovery applications.	United States
211	Producer gas or water gas generators, with or without their purifiers; acetylene gas generators and similar water process gas generators, with or without their purifiers.	840510	Include only those with purifiers.	Purifiers remove contaminants (such as cyanide or sulphur compounds) produced in the manufacture of gases.	Canada, Korea, New Zealand, United States
235	Vacuum pumps.	841410	Industrial hoods for transportation or extraction of air pollutants such as exhaust gas or dust.	Air handling equipment. Used in a number of environmental applications, e.g. flue gas desulphurisation (the process by which	Canada, Japan, New Zealand, United States

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
				sulphur is removed from combustion exhaust gas).	
237	Compressors of a kind used in refrigerating equipment.	841430	Compressors used in air handling equipment.	Air handling equipment. Transport or extraction of polluted air, corrosive gases or dust.	Japan, New Zealand
238	Air compressors mounted on a wheeled chassis for towing.	841440	Air compressors used in the transportation or extraction of polluted air, corrosive gases or dust.	Air handling equipment. Transport or extraction of polluted air, corrosive gases or dust.	Japan, Korea, New Zealand
239	Fans other than table, floor, wall, window, ceiling or roof fans, with a self-contained electric motor of an output not exceeding 125 W.	841459	*Optional ex-out of fans for the transport or extraction of polluted air and corrosive gases or dust.*	Air handling equipment. Transport or extraction of polluted air, corrosive gases or dust. Transport or extraction of polluted air and corrosive gases or dust.	Canada, European Communities, Japan, Korea, New Zealand, United States
240	Air Pumps, air/oth. gas compressors and fans (excl. of 8414.10-8414.59); ventilating/recycling hoods incorp. a fan, whether or not fitted with filters (excl. of 8414.60).	841480	Industrial hoods; aerators; blowers; and diffusers.	Air handling equipment. Transport or extraction of polluted air, corrosive gases or dust.	Japan, Canada, Chinese Taipei, New Zealand, United States, European Communities, Korea
241		841490			

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
	Air or vacuum pumps, air or other gas compressors and fans; ventilating or recycling hoods incorporating a fan, whether or not fitted with filters: Parts.		Parts for 841410x, 841430, 841440, and 841480x. *Optional ex-out may include: 841459x.*	Air handling equipment. Transport or extraction of polluted air, corrosive gases or dust. Transport or extraction of polluted air and corrosive gases or dust.	Canada, Japan, European Communities, New Zealand
251	Machinery for liquefying air or other gases.	841960		For separation and removal of pollutants through condensation.	Canada, Chinese Taipei, Korea, Japan, New Zealand, United States
252	Machinery, plant or laboratory equipment, whether or not electrically heated (excluding furnaces, ovens and other equipment of heading 85.14). for the treatment of materials by a process involving a change of temperature such as heating, cooking, roasting, distilling, rectifying, sterilising, pasteurising, steaming, drying, evaporating, vaporising, condensing or cooling, other than machinery or plant of a kind used for domestic	841989	Evaporators and dryers, for water and waste water treatment. Condensers and cooling towers. Biogas reactors; digestion tanks and biogas refinement equipment.	For processing water and waste water and the separation and removal of pollutants through condensation. Includes fluidised bed systems (bubbling, circulating, etc.) and biomass boilers. Can also help anaerobic digestion of organic matter.	Canada, European Communities, Japan, New Zealand

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
	purposes; instantaneous or storage water heaters, non-electric.				
259	Filtering or purifying machinery and apparatus for gas (other than intake air filters for internal combustion engines).	842139	*Optional ex-out may include: Catalytic converters / Gas separation equipment / Pneumatic fluid power filters rated at 550 kPa or greater / Industrial gas cleaning equipment / Electrostatic filters (precipitators).*	Physical, mechanical, chemical or electrostatic filters and purifiers for the removal of COV, solid or liquid particles in gases, etc.	Canada, European Communities Chinese Taipei, Japan, Korea, United States
399	Instruments for measuring or checking the flow, level, pressure or other variables of liquids or gases.	902610	Air quality monitors; and dust emissions monitors.	Monitors to measure air pollution; basis for possible correcting measures (notably in view of health effects).	European Communities
2. MANAGEMENT OF SOLID AND HAZARDOUS WASTE AND RECYCLING SYSTEMS					
68	Other plates, sheets, film, foil and strip, of polymers of ethylene, non-cellular and not reinforced, laminated, supported or similarly combined with other materials: Plates, sheets, film, foil and strip of plastics, not self-adhesive, non-cellular, not reinforced or	392010	HDPE or flexible membrane landfill liners and/or covers for methane collection; Plastic and polyethylene geomembranes for soil protection, water tightness, anti-erosion of soil.	Used to line landfills to prevent leachate (water run-off) from contaminating groundwater resources. Also used to cover landfills and prevent methane from escaping into atmosphere. These membrane systems are also used for the reinforcement and protection of soil, including under oil refineries, gas stations etc.	United States, European Communities

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
	laminated etc., of polymers of ethylene.				
193	Aluminium casks, drums, cans, boxes and similar containers (including rigid or collapsible tubular containers). for any material (other than compressed or liquefied gas). of a capacity not exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment.	761290	Waste containers, including those for municipal or dangerous waste.	Containers of any material, of any form, for liquid or solid waste, including for municipal or dangerous waste.	European Communities
200	Steam or other vapour generating boilers (other than central heating hot water boilers capable also of producing low pressure steam); super-heated water boilers: and part of the boilers of 840211 – 840220.	840219	Biomass boilers.	Boilers for the production of heat and power on the basis of (renewable) biomass fuels.	European Communities
206	Steam or other vapour generating boilers (other than central heating hot water boilers capable also of producing low pressure steam); super-heated water boilers.	840290	Parts for 840219x.	Parts for the biomass boilers described above.	European Communities

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
208	Auxiliary plant for use with boilers of heading 84.02 or 84.03 (for example, economisers, super-heaters, soot removers, gas recoverers); condensers for steam or other vapour power units.	840410	Auxiliary plant for use with 840219x.	Components of industrial air pollution control plant which minimise the release of pollutants into the atmosphere. This equipment is also used to support waste heat recovery processes in waste treatment, or renewable energy resource recovery applications.	Canada, European Communities, Japan, Korea, New Zealand, United States
244	Other industrial or laboratory furnaces and ovens, including incinerators, non-electric.	841780	*Optional ex-outs may include: waste incinerators; heat or catalytic incinerators.*	These products are used to destroy solid and hazardous wastes. Catalytic incinerators are designed for the destruction of pollutants (such as VOC) by heating polluted air and oxidation of organic components.	Canada, Chinese Taipei, New Zealand, Korea, Japan, United States
245	Industrial or laboratory furnaces and ovens, including incinerators, non-electric: Parts.	841790	*Optional ex-outs may include: parts for 841780*x.	These parts can help maintain and repair products that are used to destroy solid and hazardous wastes. Similarly, the parts for catalytic incinerators can help maintain and repair items that can assist in the destruction of pollutants (such as VOC) by heating polluted air and oxidation of organic components.	Canada, Chinese Taipei, European Communities, Japan, Korea, New Zealand, United States
249	Distilling or rectifying plant.	841940	*Optional ex-outs may include: desalination systems; biogas refinement equipment; and solvent recycling plants.*	Desalination plants remove salt from water and are particularly important in conditions of water scarcity. Proper disposal of by-products is also required. - Biogas refinement equipment "upgrades" biogas	Canada, Chinese Taipei, European Communities, Japan, New

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
				resulting from organic matter to give it the same properties as natural gas. Allows the recovery and reuse of solvents, e.g. solvents used in the printing, painting or dry cleaning industries.	Zealand, United States
263	Machinery for cleaning or drying bottles or other containers.	842220		Used to clean and dry bottles so that they can be recycled and re-used.	Canada, European Communities, Japan, Korea, United States
264	Machinery for cleaning or drying bottles or other containers: Parts.	842290	Parts for 842220.	Parts are used to assemble and maintain the above equipment.	European Communities
271	Tamping machines and road rollers.	842940	Self-propelled sanitary landfill compactors.	Used in solid waste treatment or recycling.	United States
277	Hydraulic presses for working metal.	846291	Shredders/balers/compactors for waste metals; hydraulic.	Assists in compacting and compressing metals, including for recycling.	Japan, Korea, United States, European Communities
279	Splitting, slicing or paring machines.	846596	Splitting, slicing or paring machines (specifically portable recyclers (grinders/shredders) portable (wood and waste recycling machinery)).	Used for recycling wood and other waste.	United States
280	Other machine tools not elsewhere specified or included.	846599	Other parts of splitting, slicing or paring machines (specifically tree delimber/ debarker/ chipper	Assists in recycling as with item 279.	United States

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
			machinery (portable recyclers (grinders/ shredders))		
281	Parts and accessories suit. for use solely/princ. with the machines of 84.62/84.63.	846694	Parts for 846291x.	See above for item 277.	European Communities
285	Crushing or grinding machines.	847420		Used for solid waste treatment or recycling.	Chinese Taipei
290	Mixing, kneading, crushing, grinding, screening, sifting, homogenising, emulsifying or stirring machines not elsewhere specified in Chapter 84.	847982	Waste sorting, screening, crushing, grinding, shredding, washing and compacting devices. Agitator for wastewater treatment; flash mixer and flocculator.	Used to prepare waste for recycling; mixing of wastewater during treatment; preparing organic waste for composting; (composting can minimise the amount of waste going to landfill as well as recovering the valuable nutrient and energy content of the waste).	Chinese Taipei, European Communities, Japan, Korea, New Zealand, United States
291	Machines and mechanical appliances having individual functions, not specified or included elsewhere in this Chapter: Other.	847989		Machines and appliances designed for a wide range of areas of environmental management including waste, waste water, drinking water production and soil remediation. In-vessel composting systems can handle large amounts of waste and speed up decomposition. Trash compactors reduce the volume of solid waste, allowing more efficient transport and disposal.	Canada, Chinese Taipei, European Communities, Japan, New Zealand, United States

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
292	Parts of the mach. and mech. appls. of 84.79.	847990	Parts for 847982x and 847989x.	See the environmental benefit under entry 291.	Canada, European Communities, New Zealand, Japan, United States
315	Other, including parts.	850590	Electromagnet; parts of magnetic separator; magnetic pulley; suspended magnet and magnet drum.	Used to remove metal content from waste for recycling.	Canada, Chinese Taipei, Japan, New Zealand, United States
322	Resistance heated furnaces and ovens.	851410	*Optional ex-outs may include: waste incinerators and heat or catalytic incinerators.*	These products are used to destroy solid and hazardous wastes. Catalytic incinerators are designed for the destruction of pollutants (such as VOC) by heating polluted air and oxidation of organic components.	Canada, Chinese Taipei, Japan, New Zealand, United States
323	Furnaces and ovens; functioning by induction or dielectric loss.	851420	*Optional ex-outs may include: waste incinerators and heat or catalytic incinerators.*	These products are used to destroy solid and hazardous wastes. Catalytic incinerators are designed for the destruction of pollutants (such as VOC) by heating polluted air and oxidation of organic components.	New Zealand, Japan, Canada, Korea, Chinese Taipei, United States
324	Other furnaces and ovens.	851430	*Optional ex-outs may include: waste incinerators and heat or catalytic incinerators.*	Catalytic incinerators are designed for the destruction of pollutants (such as VOC) by	Canada, Chinese Taipei, European Communities,

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
				heating polluted air and oxidation of organic components.	Japan, New Zealand, United States
325	Parts of industrial or laboratory electric furnaces and ovens; other laboratory induction or dielectric heating equipment.	851490	*Optional ex outs include: Parts for 851410x, 851430x and 851430x.*	Parts for the equipment listed will facilitate the destruction of pollutants (such as VOC) by heating polluted air and oxidation of organic components.	Canada, Chinese Taipei, Japan, Korea, New Zealand, United States
3. CLEAN UP OR REMEDIATION OF SOIL AND WATER					
255	Centrifuges, including centrifugal dryers, other than cream separators and clothes-dryers.	842119	Oil Skimmer.	Equipment used to remove oil floating on water and is commonly used for oil spill remediations.	Canada, Japan, New Zealand, United States, Korea, European Communities
260	Parts of centrifuges, including centrifugal dryers.	842191	Parts for 842119x.	Used for the maintenance and repair of equipment that removes oil floating on water and is commonly used for oil spill remediation.	Canada, EC, Japan, Korea, New Zealand, United States
327	Electric space heating apparatus and electric soil heating apparatus; other.	851629	Electric soil heating apparatus.	Use heat to disinfect or remove organic compounds (e.g. pesticides, hydrocarbons) from soil, and to dry contaminated soil prior to treatment processes.	Japan, Korea, New Zealand

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
383	Other floating structures (for example, rafts, tanks, coffer-dams, landing-stages, buoys and beacons): Other (other than inflatable rafts).	890790	Pollution protection booms, oil absorbent booms, oil containment booms.	Floating barriers to oil can prevent an oil slick from reaching sensitive locations or spreading out further. Oil absorbents soak up and remove the oil.	Canada, Chinese Taipei, European Communities, Japan, Korea, New Zealand, United States
4. RENEWABLE ENERGY PLANT					
173	Towers and lattice masts.	730820	Wind turbine tower.	Used to elevate and support a wind turbine for the generation of renewable energy.	United States, European Communities
192	Aluminium reservoirs, tanks, vats and similar containers, for any material (other than compressed or liquefied gas). of a capacity exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment: tanks etc, over 300 litres capacity, aluminium.	761100	*Optional ex-outs may include: Tanks or vats for anaerobic digesters for biomass gasification; cisterns, vats and reservoirs for waste and potable water; and solar pre-heating storage tank.*	Tanks, vats and containers for the production of biogas, waste water management, drinking water production and solar thermal energy purposes.	United States, European Communities
212	Steam and other vapour turbines (other than turbines for marine propulsion): Of an output exceeding 40 MW.	840681	*Optional ex-outs may include stationary steam turbines over 40 MW; Low temperature/ low pressure steam turbines for geothermal heat pump systems;*	Turbines designed for the production of geothermal energy (renewable energy) and co-generation ((CHP) which allows for a more effective use of energy than conventional generation).	United States, European Communities

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
			and steam turbines for co-generation.		
213	Steam turbines and other vapour turbines (other than for marine propulsion) of an output not exceeding 40 MW.	840682	*Optional ex-outs may include stationary steam turbines not over 40 MW; other vapour turbines; low temperature/ low pressure steam turbines for geothermal heat pump systems; and steam turbines for co-generation*.	Steam turbines are used to drive electrical generators to derive electrical power from environmental energy recovery operations. Note that these have an output capacity "not exceeding 40 MW".	United States, European Communities
214	Parts for steam and other vapour turbines.	840690	*Optional ex-outs may include parts suitable for use with stationary steam turbines over 40MW; stationary steam turbines not over 40 MW, other vapour turbines; parts for 840681x and 840682x.*	Parts used for repair and maintenance of energy recovery turbines listed in items 212 and 213 above.	United States
218	Hydraulic turbines and water wheels of a power not exceeding 1,000 kW.	841011		Hydroelectric power generation produces no greenhouse gas emissions.	Canada, European Communities, Japan, Korea, New Zealand, United States
221	Hydraulic turbines, water wheels, and regulators ; parts, including regulators.	841090	Parts for 841011.	Hydroelectric power generation produces no greenhouse gas emissions.	Canada, European Communities, Japan, Korea, New Zealand, United States

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
222	Other gas turbines of a power not exceeding 5,000 kW.	841181		Gas turbines for electrical power generation from recovered landfill gas, coal mine vent gas, or biogas (clean energy system). Note that these turbines do "not exceed 5,000 kW".	United States
224	Other gas turbines of a power exceeding 5,000 kW.	841182		Gas turbines for electrical power generation from recovered landfill gas, coal mine vent gas, or biogas (clean energy system). Note that these turbines do "exceed 5,000 kW".	United States
247	Instantaneous or storage water heaters, non-electric (other than instantaneous gas water heaters).	841919	Solar water heaters.	Uses solar thermal energy to heat water, producing no pollution. Use of solar water heating displaces the burning of other, pollution-creating fuels.	Canada, European Communities, Japan, New Zealand, United States
253	Parts of machinery, plant and equipment of heading No 84.19.	841990	*Optional ex-outs may include: Parts for 8419.19 ex, including for solar boiler/water heater; insulation, temperature sensor for solar boiler/water heater; Differential temperature controller for solar boiler/water heater; Evacuated glass tubes for solar boiler/water heater; Heat pipes for solar boiler/water heater. Parts of 841940x, 841950x, 841960, 841989x.*	Parts used in the maintenance and repair of solar water heaters (etc). which use solar thermal energy to heat water, producing no pollution. Use of solar water heating displaces the burning of other, pollution-creating fuels.	Canada, Japan

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
300	Gears and gearing, other than toothed wheels, chain sprockets and other transmission elements presented separately; ball or roller screws; gear boxes and other speed changers, including torque converters.	848340	Gearboxes for wind turbines.	Gearboxes transform the (relatively slow) rotation of the blades of wind turbines into the speed required to produce (renewable) electricity.	United States, European Communities
301	Clutches and shaft couplings (including universal joints).	848360	Clutches and shaft couplings imported for use with wind turbines to produce electricity.	Used for initial assembly, repair, and maintenance of wind energy systems.	United States
305	AC generators (alternators). of an output not exceeding 75 kVA.	850161		Used in conjunction with boiler and turbines (also listed here) to generate electricity in renewable energy plants. Must use these turbines and generators in combination to produce electricity from renewable fuels (e.g., biomass). Size is "not exceeding 75 kVA".	United States
306	AC generators (alternator). of an output exceeding 75 kVA but not exceeding 375 kVA.	850162		Used in conjunction with boiler and turbines (also listed under items 212 and 213) to generate electricity in renewable energy plants. Must use these turbines and generators in combination to produce electricity from renewable fuels (e.g., biomass). Size is "exceeding 75 kVA but not exceeding 375 kVA".	United States

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
307	AC generators (alternator). of an output exceeding 375 kVA but not exceeding 750 kVA.	850163		Used in conjunction with boiler and turbines (also listed here under items 212 and 213) to generate electricity in renewable energy plants. Must use these turbines and generators in combination to produce electricity from renewable fuels (e.g., biomass). Size is "exceeding 375 kVA but not exceeding 750 kVA."	United States
308	AC generators (alternator). of an output exceeding 750 kVA.	850164		Used in conjunction with boiler and turbines (also listed under items 212 and 213) to generate electricity in renewable energy plants. Must use these turbines and generators in combination to produce electricity from renewable fuels (e.g., biomass). Size is "exceeding 750 kVA."	United States
310	Other electric generating sets: Wind-powered.	850231		Electricity generation from a renewable resource (wind).	Canada, European Communities, Japan, New Zealand, Switzerland, United States
311	Electric generating sets and rotary convertors: other.	850239	*Optional ex-outs may include: combined heat and power systems using biomass and/or biogas;*	Combined heat and power systems produce usable power (usually electricity) and heat at the same time. Micro combined heat and	New Zealand, European

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
			Portable solar power generation equipment; solar power electric generating sets; Small hydro powered generating plant; Wave power generating plant; and Gas turbine sets for biomass plants.	power systems are very efficient for domestic use, particularly in places where reticulated natural gas and hot water central heating are the norm. 'Distributed generation' also minimises transmission losses through national grids, reducing the need to increase centralised generating capacity and transmission networks.	Communities, United States
313	Parts suitable for use solely or principally with the machines of heading 85.01 or 85.02.	850300	Parts for 850231 *and optional ex-out may include : 850239x.*	Parts of the generators and generating sets listed under item 310 (for renewable energy systems). Relevant parts include for instance nacelles and blades for wind turbines.	European Communities, Switzerland, United States
314	Static converters.	850440	Inverters for use with machines of 850239 and 854140 to produce electricity.	Converts solar energy into electricity and can be used to convert DC current from the photovoltaic/solar cells into conventional AC electricity which can run many household and office products such as, kitchen appliances, microwaves, TV's, radios, computers and so on.	European Communities, United States
344	Photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels; light emitting diodes.	854140	Photovoltaic cells, modules and panels.	Solar photovoltaic cells generate electricity in an environmentally benign manner (with no emissions, noise or heat generated). They are particularly suited to electricity generation in locations remote from an electricity grid.	Canada, European Communities, Japan, New Zealand, United States

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
384	Optical fibres and optical fibre bundles; optical fibre cables other than those of heading 85.44; sheets and plates of polarising material; lenses (including contact lenses). prisms, mirrors and other optical elements, of any material, unmounted, other than such elements of glass not optically worked: Other: Lenses prisms mirrors optical element not optically worked.	900190	Solar concentrator systems.	Used to concentrate and intensify solar power in a solar energy system.	United States
385	Lenses, prisms, mirrors and other optical elements, of any material, mounted, being parts of or fittings for instruments or apparatus, other than such elements of glass not optically worked: Other: Prism, mirrors, mounted and parts and accessories, not elsewhere specified or included.	900290	Solar concentrator systems.	Used to concentrate and intensify solar power in a solar energy system.	United States
435	Automatic regulating or controlling instruments, other.	903289	*Optional ex-outs may include: Heliostats, temperature sensor for*	These include other automatic voltage and current regulators which have renewable	Canada, Japan, Korea, New

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
			solar boiler/water heater; Differential temperature controller for solar boiler/water heater.	energy applications as well as other process control instruments and apparatus for temperature, pressure, flow and level, and humidity applications.	Zealand, United States
456	Boards, panels, consoles, desks, cabinets and other bases, equipped with 2 or more app. of 85.35/85.36, for electrical control..., for a voltage not exceeding 1000V.	853710	Photovoltaic system controller.	Device to control the functioning of the PV system.	European Communities
457	Electric accumulators, including separators thereof, whether or not rect. (incl. square). lead-acid (exclusive of 8507.10).	850720	Deep discharge (solar) battery.	Provides for energy storage in off-grid PV systems. Are designed to be discharged down to 50per cent or more without damage so that they can supply power over a long period of time.	European Communities
475	Compression-type refrigerating, freezing equipment whose condensers are heat exchangers; Refrigerating, freezing equipment not elsewhere specified in 84.18; heat pumps and Air-conditioning machines incorporating a refrigerating unit and a valve for reversal of the cooling/heat cycle (reversible heat pumps).	841861; 841869 and 841581	Geothermal heat pump system.	Such systems transfer ("pump") the heat available in land and water masses to either heat or cool buildings.	European Communities

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
5. HEAT AND ENERGY MANAGEMENT					
154	Glass fibres (including glass wool) and articles thereof (for example, yarn, woven fabrics): Mats.	701931	Mats for soundproofing and thermal insulation of buildings.	These mats help save energy and reduce noise levels in buildings.	European Communities
250	Heat exchange units, whether or not electrically heated.	841950	*Optional ex-out may include heat exchangers for use in renewable energy system.*	Some heat exchangers are specifically designed for use in relation to renewable energy sources such as geothermal energy.	Canada, European Communities, Japan, United States
412	Gas meters -including calibrating meters thereof.	902810		Meters are necessary to measure and regulate use and hence enable more efficient use of the resource. In particular, these gas meters are generally designed for use with natural gas and propane, but may include those designed for other gases such as helium.	Canada, European Communities, Japan, New Zealand, United States
413	Liquid meters including calibrating meters thereof.	902820	*Optional ex-out may include: Water consumption meters.*	These liquid meters include those designed to measure potable water consumption to allocate costs, assist the financial management of water systems, and encourage conservation of a scarce resource.	Canada, European Communities, Japan, New Zealand, United States

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
414	Electricity meters.	902830		These products include those designed to measure electricity flow in residential, commercial, and industrial consumption of electricity.	Canada, Japan, New Zealand, United States
415	Parts and accessories for articles of subheading 9028:	902890	*Optional ex-out may include: Parts for 902810, 902820[x], 902830.*	These are parts and accessories for the gas, liquid, and electricity meters classified in 9028 and described above.	Japan, Korea, New Zealand, United States, Canada, European Communities
6. WASTE WATER MANAGEMENT AND POTABLE WATER TREATMENT					
116	Non wovens, whether or not impregnated, coated, covered or laminated: Of man-made filaments: Weighing more than 150 g/m2.	560314	Landfill drainage mats, Fabric of polyethylene, polypropylene, or nylon for filtering wastewater, Filter cloth (PE, PP, Nylon) Filter bag (sleeve).	Used to ensure efficient leachate or gas landfill drainage.	Chinese Taipei, European Communities, United States
146	Ceramic sinks, wash basins, wash basin pedestals, baths, bidets, water closet pans, flushing cisterns, urinals and similar sanitary fixtures: Of porcelain or china.	691010	Waterless urinal, composting toilet.	Waterless urinals and composting toilets minimise water use. Composting toilets also provide self contained sewage treatment on site, with no need for sewers and treatment plants. These items also do not pollute ground or surface water or soil (unlike septic tanks or pit latrines) and produce safe, useful compost.	New Zealand

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
165	Tubes, pipes and hollow profiles, of cast iron:	730300	Cast iron pipes, gutters and manholes for waste and potable water applications.	These items facilitate the delivery of safe drinking water and sanitation.	European Communities
167	Tubes, pipes and hollow profiles, seamless, of iron (other than cast iron) or steel: Other than Line pipe of a kind used for oil or gas pipelines.	730431 to 730490	Iron or steel pipes, gutters and manholes for waste and potable water applications.	These items facilitate the delivery of safe drinking water and sanitation.	European Communities
170	Other tubes, pipes and hollow profiles (for example, open seam or welded, riveted or similarly closed). of iron or steel: Other:	730630 to 730690	Iron or steel pipes gutters and manholes for waste and potable water applications.	These items facilitate the delivery of safe drinking water and sanitation.	European Communities
174	Reservoirs, tanks, vats and similar containers for any material (other than compressed or liquefied gas). of iron or steel, of a capacity exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment; Tanks etc, over 300 litres capacity, iron or steel; Reservoirs, tanks, vats and similar containers, capacity >300L, iron or steel (ex liq/compr gas type);	730900	*Optional ex-outs may include: Tanks or vats for anaerobic digesters for biomass gasification; Solar pre-heating storage tank;; Waste containers including those for municipal or hazardous waste; Cisterns, vats and reservoirs for safe storage of drinking water; Septic tanks, vats and reservoirs for wastewater treatment.*	Containers of any material, of any form, for liquid or solid waste, including for municipal or dangerous waste. The containers can be of assistance in the conversion of waste to gas, which can be used to generate energy.	Canada, European Communities, Korea, United States

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
	Reservoirs, tanks, vats and similar containers, of iron or steel, > 300 litres.				
175	Tanks, casks, drums, cans, boxes and similar containers, for any material (other than compressed or liquefied gas). of iron or steel, of a capacity not exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment: Of a capacity of 50 l or more: Composting systems of organic matter.	731010	Waste containers including those for municipal or hazardous waste. Waste silos.	For handling and storage of wastewater/sewage during treatment. Containers of any material, of any form, for liquid or solid waste, including for municipal or dangerous waste.	Canada, European Communities, Korea, New Zealand
177	Tanks, casks, drums, cans, boxes and similar containers, for any material (other than compressed or liquefied gas). of iron or steel, of a capacity not exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment: Of a capacity of less than 50 l: Other (excluding containers fitted with mechanical or thermal	731029	Waste containers, whether or not combined with a compactor.	Containers of any material, of any form, for liquid or solid waste, including for municipal or dangerous waste.	Canada, European Communities, Korea

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
	equipment, and cans); Other cans which are to be closed by soldering or crimping, capacity less 50L.				
185	Sanitary ware and parts thereof, of iron or steel: Exclusive of 732410 - 732429.	732490	Water saving shower. Water closet pans and flushing cisterns/urinals including dry closets.	Water conserving showers (provided with a specific water-efficiency shower head) and dry closets (operating on the basis of composting) are designed to conserve water.	European Communities
186	Other cast articles of iron or steel; of non-malleable cast iron.	732510	Sewage, water etc systems.	These items facilitate the delivery of safe drinking water and sanitation.	Japan, Canada, Korea, European Communities
188	Other articles of iron or steel: Other.	732690	Perforated buckets and similar articles of sheet used to filter water at the entrance to drains.	These items facilitate the delivery of safe drinking water and sanitation, which are key MDG priorities.	European Communities
229	Hand pumps, other than those of subheading 8413.11 or 8413.19.	841320		For handling and transport of wastewater or slurries during treatment.	Canada, Japan, Korea, New Zealand
230	Other reciprocating positive displacement pumps.	841350	*Optional ex-out may include: Pumps for sewage and wastewater treatment.*	For handling and transport of wastewater or slurries during treatment.	Canada, Japan, Korea, New Zealand, United States

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231	Other rotary positive displacement pumps.	841360	Submersible mixer pump; screw type; flow volume not less than 3m/3min.	For handling and transport of wastewater or slurries during treatment.	Japan, New Zealand, United States, Chinese Taipei, Canada, Korea
232	Other centrifugal pumps.	841370	Centrifugal pumps (RFPP, PVDF, Ti, Viton, Seal) lined to prevent corrosion; motor output power not less than 0.4kw.	For handling and transport of wastewater or slurries during treatment.	Canada, Chinese Taipei, Japan, Korea, New Zealand, United States
233	Pumps for liquids, whether or not fitted with a measuring device; other pumps.	841381	*Optional ex-outs may include: pumps integrated with wind turbines; solar pumping system.*	Water handling equipment. Pumps are integral components of water treatment plants.	Canada, European Communities, Japan, Korea, New Zealand, United States
248	Dryers, other:	841939	Sludge driers.	Device used in waste water management, which requires sludge to be treated.	European Communities
256.	Filtering or purifying machinery and apparatus for liquids: for filtering or purifying water.	842121		Used to filter and purify water for a variety of environmental, industrial and scientific applications, including water treatment plants and wastewater treatment facilities.	Canada, Chinese Taipei, European Communities, Japan, Korea, United States
257	Filtering or purifying machinery and apparatus for liquids: other.	842129			Canada, European

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				Used to remove contaminants from wastewater, by chemical recovery, oil/water separation, screening or straining.	Communities, Korea, Japan, New Zealand, United States
261	Centrifuges, including centrifugal dryers; filtering or purifying machinery and apparatus, for liquids or gases: Parts (other than of centrifuges and centrifugal dryers):Filtering or purifying machinery and apparatus for water and parts thereof.	842199	Parts for 842121 and 842129.	Including sludge belt filter presses and belt thickeners.	Canada, Chinese Taipei, European Communities, Japan, Korea, United States
270	Other continuous-action elevators and conveyors, for goods or materials: Other, belt type.	842833	*Optional ex-out may include troughed belt (cleat type) conveyor, length above 4m, transfer capacity not less than 20m3/hr.*	For transport of waste around the treatment plant.	Japan, Korea, New Zealand, Chinese Taipei, United States
294	Pressure-reducing valves.	848110		For handling and transport of wastewater or slurries during treatment.	Japan, New Zealand, Canada
295	Taps, cocks, valves and similar appliances for pipes, boiler shells, tanks, vats or the like, including pressure-reducing valves and thermostatically	848110 to 848180	*Optional ex-out may include: Taps, cocks and valves for water and wastewater.*	These items facilitate the delivery of safe drinking water and sanitation, which are key MDG priorities.	European Communities

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	controlled valves (other than parts).				
296	Check (non-return) valves.	848130		For handling and transport of wastewater or slurries during treatment.	Canada, Japan, New Zealand
297	Safety or relief valves.	848140		For handling and transport of wastewater or slurries during treatment.	Canada, Japan, New Zealand
298	Other appliances for pipes, boiler shells, tanks, vats or the like.	848180		For handling and transport of wastewater or slurries during treatment for those applied to wastewater facilities.	Japan, New Zealand, Canada
299	Taps, cocks, valves and similar appliances for pipes, boiler shells, tanks, vats or the like, including pressure-reducing valves and thermostatically controlled valves: Parts:.	848190		For effective management, control, handling and transport of water.	Canada
346	Other electrical machines and apparatus having individual functions, not elsewhere specified in chapter 85.	854389	Ozone production system; Ultraviolet water disinfection/treatment systems.	UV light is extremely effective in killing and eliminating bacteria, yeasts, viruses, moulds and other harmful organisms. UV systems can be used in conjunction with sediment and carbon filters to create pure drinking water. Water disinfection Ozone (O3) can be used as an alternative to chlorine for water disinfection.	Chinese Taipei, European Communities, Japan, Korea, New Zealand, United States

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347	Parts of the machines and apparatus of 85.43.	854390	Parts for 854389x.	Water disinfection.	European Communities
7. ENVIRONMENTALLY PREFERABLE PRODUCTS, BASED ON END USE OR DISPOSAL CHARACTERISTICS					
104	Jute and other textile bast fibres (excluding flax, true hemp and ramie). raw or processed but not spun; tow and waste of these fibres (including yarn waste and garnetted stock).	530310		The natural fiber composition differentiates jute from alternative synthetic materials due to its biodegradability and sustainable sources. Jute fibers are used for packaging and woven fabric.	Switzerland
106	Sisal other textile fibres of the genus *Agave* raw.	530410		The natural fibre composition differentiates sisal from alternative synthetic materials due to its biodegradability and sustainable sources. Sisal fibres also used in recycled paper.	United States, Switzerland
107	Sisal and other textile fibres of the genus Agave, processed but not spun; tow and waste of these fibres (including yarn waste and garnetted stock).	530490		The natural fibre composition differentiates sisal from alternative synthetic materials due to its biodegradability and sustainable sources. Sisal fibres also used in recycled paper.	United States, Switzerland
117	Twine, cordage, ropes and cables, whether or not plaited or braided and whether or not impregnated, coated, covered or sheathed with rubber or	560710		More biodegradable than synthetic fibre alternatives and made from a renewable resource.	New Zealand, United States, Switzerland

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
	plastics: Of jute or other textile bast fibres of heading 53.03.				
118	Twine, cordage, ropes and cables whether or not plaited or braided and whether or not impregnated, coated, covered or sheathed with rubber or plastics: Of sisal or other textile fibres of the genus Agave: Binder or baler twine.	560721		More biodegradable than synthetic fibre alternatives and made from a renewable resource.	New Zealand, United States
126	Sacks and bags, of a kind used for the packing of goods: Of jute or of other textile bast fibres of heading 53.03.	630510		More biodegradable than synthetic fibre alternatives and made from a renewable resource.	New Zealand, United States, Switzerland
8. CLEANER OR MORE RESOURCE EFFICIENT TECHNOLOGIES AND PRODUCTS					
183	Cooking appliances and plate warmers: For gas fuel or for both gas and other fuels.	732111	Solar stoves.	Uses solar thermal energy for cooking, thereby producing no air pollution. The use of solar stoves is replacing heating with firewood or other non-renewable energy sources (e.g. oil, gas) and allows for preservation of firewood (especially important in arid areas) and is suitable for off-grid usage.	Switzerland

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
184	Stoves, ranges, grates, cookers (including those with subsidiary boilers for central heating). barbecues, braziers, gas-rings, plate warmers and similar non-electric domestic appliances, and parts thereof, of iron or steel: Parts.	732190	As applicable to solar stoves.	Parts are used in the maintenance and repair of solar stoves (see item 183 for the environmental benefits).	Switzerland
316	Other primary cells and primary batteries.	850680	Fuel cells.	Fuel cells use hydrogen or hydrogen-containing fuels such as methane to produce an electric current, through a electrochemical process rather than combustion. Fuel cells are clean, quiet, and highly efficient sources of electricity.	Canada, Japan, New Zealand, Switzerland
318	Electro-mechanical domestic appliances, with self-contained electric motor: Other.	850980	Garbage degraders with electrical heating systems; or using bacterial decomposing processes or hot-air drying processes.	These items are used to break down food and other garbage from households and the food industry. Such products help *inter alia* to reduce land fill volumes.	Japan
9. NATURAL RISK MANAGEMENT					
389	Photogrammeterical surveying instruments and appliances.	901540		Photogrammetry is an aerial remote sensing technique which forms the baseline of many Geographic Information Systems (GIS) and Land Information Systems (LIS). which are important for monitoring and managing natural risks such as floods, earthquakes.	Canada, Japan, New Zealand, United States
390	Other surveying, hydrographic, oceanographic, hydrological,	901580		Includes instrument and appliances necessary for measuring the ozone layer	Canada, European

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
	meteorological or geophysical instruments and appliances, excluding compasses, not elsewhere specified in 90.15.			and to monitor, measure and assist planning for natural risks such as earthquakes, cyclones, tsunamis etc.	Communities, Japan, New Zealand, United States
391	Parts and accessories of the instruments and appliances of 90.15.	901590	Parts for 901530, 901540 and 901580.	Parts used in maintenance and repair of the items 389, 390 and 388 with the attendant environmental benefits.	Canada, Japan, New Zealand, United States, European Communities
10. NATURAL RESOURCES PROTECTION					
121	Made-up fishing nets of man-made textile materials.	560811	Specifically made-up fishing nets that incorporate turtle excluder devices.	Use of Turtle Excluder Devices (TEDs) reduces turtle mortality by 90-100 per cent.	United States
122	Knotted netting of twine, cordage or rope; made up fishing nets and other made up nets, of textile materials; Other than made-up fishing nets of manmade textile materials: Knot net of twine made-up fish net textile materials not elsewhere specified or included.	560890	Made-up fishing nets that incorporate turtle excluder devices.	Use of Turtle Excluder Devices (TEDs) reduces turtle mortality by 90-100 per cent.	United States
440	Fish-hooks, whether or not snelled.	950720	Circle hooks.	These rounded, "circle-shaped" hooks reduce sea turtle mortality 60-90 per cent over conventional "J-shaped" hooks.	United States

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
11. NOISE AND VIBRATION ABATEMENT					
88	Agglomerated cork (with or without a binding substance) and articles of agglomerated cork: Panels, boards, tiles, blocks and similar articles of agglomerated cork.	450410	Cork underlay in sheets and rolls.	Assists in the reduction of noise levels in buildings.	European Communities, Switzerland
216	Parts suitable for use solely or principally with the engines of heading No. 84.07 or 84.08: Other: Suitable for use solely or principally with spark-ignition internal combustion piston engines.	840991	Industrial mufflers.	Industrial mufflers are used for reducing engine noise.	Chinese Taipei, European Communities, Korea, Japan, United States
217	Parts suitable for use solely or principally with the engines of heading No. 84.07 or 84.08: Other.	840999	Industrial mufflers.	Industrial mufflers are used for reducing engine noiset.	European Communities, Japan, Korea, United States
425	Machines for balancing mechanical parts.	903110		Environmental applications of these machines include balancing of parts and equipment to minimise noise and vibration.	Canada, Japan, New Zealand, United States
12. ENVIRONMENTAL MONITORING, ANALYSIS AND ASSESSMENT EQUIPMENT					
388	Levels: Hydrological, oceanographic, meteorological	901530		Includes levels used for environmental purposes such as measuring the ozone layer, elements of climate change etc.	European Communities

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
	instruments and appliances. Exclusive of 90.31.				
400	Instruments and apparatus for measuring or checking the flow or level of liquid.	902610		Meters, which check and record the level and/or flow of liquids or gases, are routinely used during complex auditing and testing to ensure the efficient operation of environmental systems such as water and wastewater treatment plants, air pollution control systems, and hydroelectric facilities.	Canada, Japan, Korea, New Zealand, United States
401	Instruments and apparatus for measuring or checking pressure.	902620		Manometers (devices that measure pressure) are used in power plants, water delivery systems, and other applications such as monitoring indoor air. There are two principal types: digital manometers and tube manometers, both of which have important environmental applications.	Canada, Japan, Korea, New Zealand, United States
402	Other instruments and apparatus.	902680		These instruments include heat meters that are used to monitor and measure the distribution of heat from geothermal or biomass district heating systems.	Japan, Korea, New Zealand, United States, Canada
403	Parts and accessories for articles of subheading 9026.	902690		These are parts for the instruments and devices in 9026.10, 9026.20, and 9026.80.	Canada, Japan, Korea, New Zealand, United States
405		902710			

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
	Gas or smoke analysis apparatus			Gas analyzers are designed to continuously monitor single or multiple gas components, and such an instrument is used to analyze air emissions from automobiles.	Canada, Chinese Taipei, Japan, United States, New Zealand, European Communities
406	Chromatographs and electrophoresis instruments.	902720		Gas and liquid chromatographs use an analytical method where a physical separation of the sample components occurs prior to detection. These instruments can be use to monitor and analyze air pollution emissions, ambient air quality, water quality, etc. Electrophoresis instruments can be used to monitory and analyze materials such as particulates emitted from incinerators or from diesel exhaust.	Japan, Korea, New Zealand, United States, Canada, Chinese Taipei
407	Spectrometers, spectrophotometers and spectrographs using optical radiations (UV, visible, IR).	902730		Spectrometers are used in a wide range of environmental applications, including to identify and characterise unknown chemicals and in environmental applications to detect toxins and identify trace contaminants. They are also used for qualitative and quantitative analysis inter alia in quality control departments, environmental control, water management,	Canada, Chinese Taipei, Japan, New Zealand, United States

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
				food processing, agriculture and weather monitoring.	
408	Exposure meters.	902740		Exposure meters are used, *inter alia*, to control light sources and for measurements in agriculture, horticulture, and other natural resources applications.	Canada, Japan, Korea, New Zealand, United States
409	Other instruments and apparatus using optical radiations (UV, visible, IR).	902750		These instruments can be used for chemical, thermal, or optical analysis of samples, including water quality photometers which are used to determine the concentration of a solution from its color intensity.	Canada, Japan, Korea, New Zealand, United States
410	Instruments and apparatus for physical or chemical analysis not elsewhere specified in 90.27.	902780	*Optional ex-out may include: For analysing noise, air, water and hydrocarbons and heavy metals in soil.*	These instruments include: magnetic resonance instruments which are used in biologic and geologic analysis; and mass spectrometers which are used to identify elements and compounds.	Canada, Chinese Taipei, European Communities, Japan, Korea, New Zealand, United States
411	Microtomes; parts and accessories of instruments and appliances of 90.27.	902790	*Optional ex-outs may include: Parts for 902710 and 902780x.*	These instruments include microtomes which are devices that prepare slices of samples for analysis. Also included here are parts of the instruments classified in 9027 and described above.	Canada European Communities, Japan, Korea, New Zealand, United States
418		903010		These items are used for the purpose of detecting the presence of ionizing radiation	Canada, Japan, Korea, New

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
	Instruments and apparatus for measuring or detecting ionising radiations.			and may, for instance, include Geiger counters that are useful in performing surveys for radioactivity contamination.	Zealand, United States
419	Cathode-ray oscilloscopes and cathode-ray oscillographs.	903020		Oscilloscopes are used to translate an electronic signal into a pattern on a screen. These instruments are used for testing and calibrating laboratory equipment.	Canada, Japan, New Zealand, United States
420	Multimeters.	903031		These products measure electrical flow, including current, resistance, voltage, frequency, temperature and in this way are used to identify electronic and electrical problems in equipment.	Canada, Japan, Korea, New Zealand, United States
421	Other instruments and apparatus, for measuring or checking voltage, current, resistance or power, without a recording device.	903039	*Optional ex-outs may include: Volt meters, Am meters, Circuit testers, Resistance meters, Galvano meters.*	These instruments include single function meters. An ammeter measures current, a voltmeter measures voltage, and an ohmmeter measures resistance. These instruments are also used to find problems in equipment.	Canada, Japan, Korea, New Zealand, United States
422	Other instruments and apparatus for measuring or checking electrical quantities, with a recording device.	903083		These instruments are similar to those above, but include componentry that is a recording device - these add a further technical element to the process of	Canada, Japan, Korea, New Zealand, United States

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
				identifying electrical problems in equipment.	
423	Other instruments and apparatus for measuring or checking electrical quantities.	903089		These instruments are similar to those above, and are used to identify electrical faults.	Canada, Japan, New Zealand, United States
424	Parts and accessories of Heading 90.30.	903090	*Optional ex-out may include: Parts and accessories for nominated articles of subheading 903010.*	See above goods of subheading 9030.	Canada, European Communities, Japan, Korea, New Zealand, United States
426	Test benches.	903120		Test benches are used to test designs and equipment, such as components or subsystems of a solar power plant.	Canada, Japan, New Zealand, United States
427	Profile projectors.	903130		Profile projectors are used for critical tasks in engineering such as measuring and inspecting high precision, complex parts in many applications and industries.	Canada, Japan, Korea, New Zealand, United States
428	Other measuring and checking instruments, appliances and machines, not specified or included elsewhere in this	903149		Equipment used in the measurement, recording, analysis and assessment of environmental samples or environmental impact.	Canada, Korea, Japan, New Zealand

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
	chapter: ..Other optical instruments, appliances and machines elsewhere specified for measuring or checking.				
429	Other instruments, appliances and machines.	903180	*Optional ex-out may include: Vibrometers, hand vibration meters.*	These products include *inter alia*, items such as vibrometers (that measure vibrations and assess structural and other effects of such vibrations) and electron microscopes for laboratory and testing applications.	European Communities, Japan, New Zealand, United States, Canada
430	Parts and accessories of the instruments and appliances and machines of 90.31.	903190	*Optional ex-out may include: Parts for 903180x.*	These are parts for the equipment classified in 9031 and described above.	European Communities, Canada, Korea, New Zealand, United States, Japan
432	Thermostats.	903210		Products include thermostats that control the efficiency of air conditioning, refrigeration or heating systems.	Canada, Japan, New Zealand, United States
433	Manostats.	903220		Manostats measure and monitor pressure and are used for controlling pumps and chemical feed equipment in applications such as wastewater treatment.	Canada, Japan, Korea, New Zealand, United States
434		903281			

ENTRY	HS CODE DESCRIPTION	HS (2002)	EX-OUT / ADDITIONAL PRODUCT SPECIFICATION	REMARKS / ENVIRONMENTAL BENEFIT	MEMBER
	Hydraulic and pneumatic instruments and apparatus.			These include control-related instruments and apparatus which have many environmental applications such as water treatment, wastewater treatment, air pollution control as well as efficient process controls for many industrial applications.	Canada, Japan, Korea, New Zealand, United States
436	-Parts and accessories for nominated articles of subheading 9032.	903290		These are the parts for the automatic regulating and control instruments classified in 9032 and described.	Canada, Japan, New Zealand, United States, Korea
437	Parts and accessories (not specified or included elsewhere in this Chapter) for machines, appliances, instruments or apparatus of Chapter 90.	903300		These are the parts and accessories for the products described above.	Canada, European Communities, Japan, Korea, New Zealand, United States

ANNEX G: SUMMARY OF STAKEHOLDER CONSULTATIONS

G1. Introduction

Stakeholder consultations have been an essential element of this ex-post evaluation of the impact of trade chapters of the Euro-Mediterranean Association Agreements with six partners: Algeria, Egypt, Jordan, Lebanon, Morocco and Tunisia. The consultations did not apply to one single area of analysis but fed into all parts of the study (economic, social, environmental, human rights, and sectoral analyses, as well as horizontal issues). The consultation process served to engage with all interested parties, contribute to the transparency of the study, and identify priority areas and key issues.

In order to have a balanced view from across society, stakeholders that participated in our consultations were selected taking into account:

1. Different roles and functions they perform, including government representatives and related government agencies, businesses and business associations (exporters, trade-related services, etc.), trade unions, NGOs, academia, civil society, and think tanks;
2. Different thematic areas in which they have expertise: labour and social issues, human rights, environmental issues, sectoral (agriculture, textiles, machinery, chemicals, etc.).

In this Annex, we present the main elements of our stakeholder consultation strategy, the success factors and lessons learned from this strategy, and an overview the main inputs received through consultation activities in the different countries.

G2. Overview of overall stakeholder involvement

This section describes the different consultation tools applied in the ex-post evaluation, as well as the number of stakeholders/participants per consultations tool and per country and potential challenges experienced during implementation of the consultation strategy.

Open Public Consultation

The Open Public Consultation was an online survey that has been open for 12 weeks. It was launched on 4 September 2019 and was open until the end of November 2019. The questionnaire was available in English, French, German, and Arabic. It not only included a general survey of the targeted region (the regional survey), but also six country-specific surveys. Further, the public consultation had stakeholder-specific and topic-specific questions, which allowed stakeholders to only answer those questions that were relevant to them. A total of 50 respondents participated in this survey, though not all respondents answered all questions. 46 of these respondents participated in the regional version, whereas the other four participated in the country-specific ones (i.e. Jordan (2) and Egypt (2)). The countries of origin of the respondents included Algeria, Egypt, Jordan, and Morocco, as well as Austria, Belgium, Cyprus, Denmark, Germany, France, The Netherlands, Poland, Romania Spain, and Ukraine.

Workshops

The consortium has organised seven stakeholder workshops in total: in Algeria, Egypt, Jordan, Lebanon, Morocco, Tunisia, and the EU. These workshops had a dual purpose of presenting and discussing the work conducted so far. They served to share preliminary results and to receive feedback on these, as well as to gather additional input for the study. Most of these workshops lasted for a full day and were hosted at easily accessible locations for attendees. The workshop for EU stakeholders was scheduled to take place in Brussels, but the COVID-19 pandemic prevented the consortium from organising a physical meeting. Instead, an online Webex meeting was organised with the stakeholders, which lasted for three hours.

In each of the workshops, a balanced number and type of participants was targeted to ensure a good representation of the different types of stakeholders. Typically, the local workshops included representatives from the government, the private sector, civil society, labour unions, exporters associations, SMEs and academia.

Furthermore, locally recognised speakers provided more information of the local context (economy, competitiveness, environment, human rights, and other issues) to both attract attendees and to start the discussion during the workshop itself. Sufficient time was made available for an interactive discussion with participants, and a discussion leader ensured that the discussion was balanced, and different views were heard. The table below provides an overview of the seven workshops and the number of workshop participants in each country.

Table G.1 Overview of stakeholder workshops

Country	Workshop data	Number of workshop participants
EU	30 April 2020	34
Algeria	26 February 2020	50
Egypt	16-17 October 2019	46 + 8
Jordan	20 November 2019	60
Lebanon	9 March 2020	47
Morocco	2 October 2019	106
Tunisia	26 September 2019	57

The local workshop in Egypt was split into two events following discussions with local stakeholders. A workshop discussing the economic, environmental and sectoral impact was held on 16 October 2019 and a workshop focusing on the social and human rights impact was held on 17 October 2019. In order to avoid confusion, this second workshop was renamed as a roundtable session with invitations extended only to civil society stakeholders.

While the number of participants in Lebanon was lower than initially anticipated, it was still a good result given the outbreak of COVID-19 and the severe economic and financial situation in Lebanon at the moment of the workshop. While many events in the country, including the ones organised by the EU Delegation, had been cancelled already, the stakeholder workshop could fortunately still take place a few days before the country went in lockdown.

Interviews

For more detailed discussions with stakeholders, the consortium has also conducted personal interviews with stakeholders. These interviews helped to obtain more detailed information on the impact of the trade chapters of the AAs. While the majority of interviews were conducted one-to-one, on some occasions, these took place in the form of group interviews (group meeting, focus group discussion or small roundtables). The interviews complemented the economic, sectoral and sustainability analyses. The interviews were conducted with a balanced representation of the different types of stakeholders, including representatives of trade and industry associations, companies including SMEs, civil society and environmental organisations, government academics and other (sector and/or local) experts. The table below provides an overview of the number of interviews conducted in each country.

Table G.2 Overview of interviews in each country

Country	Number of interviewees
EU	23[1351]
Algeria	15
Egypt	19
Jordan	17
Lebanon	20
Morocco	28
Tunisia	20

The interviews were spread over the following categories: public sector (32%), business associations (24%), large enterprises (2%), SMEs (14%), social stakeholders (9%), human rights stakeholders (3%), environmental stakeholders (6%), and think tanks / academia (10%).

Several challenges were experienced when organising the stakeholder interviews. In general, in all countries there was a lack of knowledge and awareness of the AAs and FTAs, including among EU stakeholders. This made stakeholders targeted hesitant to participate. While actively reaching out to stakeholders with anticipated knowledge on social, human rights and environmental impacts of the agreements, the awareness and interest of these stakeholders turned out to be particularly limited. Furthermore, the political instability in Algeria, the economic and financial situation in Lebanon, political sensitivity of the topic in Morocco and Tunisia, and the COVID-19 pandemic in 2020 did hamper a smooth interview process.

[1351] This number includes roundtable sessions with trade counsellors of EU Member State embassies.

Civil Society Dialogue

The Civil Society Dialogue of DG TRADE provided an additional opportunity to receive further inputs from civil society on the preliminary findings. The Civil Society Dialogue was organised on 30 April 2020 and lasted for two hours. Unfortunately, a physical meeting in Brussels was not feasible due to COVID-19 restrictions, so it was organised virtually through WebEx.

Website, email and social media

Different consultation tools were used for the dissemination of information and for maximizing our outreach. These include an e-mail account, newsletters, a dedicated website as well as a Twitter account. Through these multiple channels, we reached out to stakeholders, kept them up to date and invited them to participate in the consultation activities.

Success factors and lessons learned

When looking back at the success factors and lessons learned from the consultation strategy as set up during the inception phase, a few main conclusions can be drawn. Firstly, the presence of local speakers during the stakeholder workshops helps to attract participants, especially when the awareness of the FTA in a country is on the low side. Secondly, while usually one would prefer to have different types of stakeholders in one room to provoke an interesting discussion during a workshop, in some cases (i.e. Egypt) it is better to split stakeholder groups. Namely, certain topics might be sensitive, leading to restraints of stakeholders to speak and provide information. Hence, it is important to conduct a good stakeholder and context analysis during the design of the consultation strategy, to get most out of it. Thirdly, in cases when FTAs have been concluded a long time ago and/or when they do not cover all sustainability aspects, it turned out to be challenging to mobilise relevant interviewees; interviews should be set up in a slightly different way.

G3. Findings from stakeholder consultations in Algeria

G3.1 Economic impacts

The level of awareness about the FTA is low both among the general population and public and private sector stakeholders. Overall, the discourse surrounding the FTA in Algeria is currently a rather negative one, with the agreement being blamed for lost customs duties revenues and widespread disappointment regarding the lack of foreign investment. Several stakeholders acknowledged that the difficult business environment was responsible for this as well. Overall, the stakeholders interviewed were predominantly of the opinion that Algeria did not benefit from the FTA. Most of them underlined that because of specificity of the Algerian economy, dependant on revenue from sales of petrochemicals and imports of "everything else", it is difficult for Algerian companies to reap benefits from the agreement, as they are not competitive enough. The problem with the existence of the dual (official and black market) exchange rate is also a significant one as far as the benefits from the FTA are concerned. Among the non-tariff measures (NTMs) most often reported by the interviewees was bureaucracy, e.g. long and troublesome bank transfer procedures, complicated export/import procedures on both Algerian and EU side, customs and formalities of foreign trade. SPS standards were repeatedly mentioned as a serious issue as well, especially for SMEs lacking know-how and experience in dealing with foreign trade. Moreover, some interviewees pointed to corruption and legal instability.

G3.2 Sectoral impacts

The interviewees agreed that the car industry in Algeria has a few key characteristics: i) cars are produced for the internal market, not for export; ii) the entire industry is structured around the assembly of ready-made kits (out of which cars are assembled) imported from the EU; iii) it is dominated by a few foreign companies; iv) the cars assembled in Algeria are in fact more expensive than the same models produced in the EU. One car industry representative interviewed believed, however, that the problems in the industry are not directly related to the FTA; on the other hand, they supported the government's plan to incentivise Algerian companies to start producing kits locally by imposing tariffs and barriers on ready-made kits, in order to guide a transition in the industry towards more than "just an assembly line" (a position reiterated by a representative of one of the local business associations).

As for the chemicals (pharmaceuticals in particular), one interviewee reported that as the sector generated a lot of money, it was captured by the former elites. According to interviewees, to this day, import monopolies exist in the country and those attempting to enter the market are prohibited from doing so, e.g. by virtue of withholding "for months" in customs the ingredients they were importing as well as postponing the licences and permissions. According to interviewees, the import monopoly lobby has, therefore, inhibited the development of the internal production of

medications (and similar mechanisms were also reported for other sectors and this is also likely related to the existence of the dual foreign currency market).

G3.3 Sustainability impacts

Stakeholders with knowledge on social aspects believed that the effects of the FTA were predominantly negative, with a few exceptions regarding consumer welfare and working conditions. In case of employment, the impacts were thought to be mostly indirect due to the specificity of the Algerian economy. At the same time, interviewees reported that jobs were lost (or were not being created) as imports of foreign goods increased due to the FTA, and many local businesses were not able to compete and forced to close down. The majority of stakeholders interviewed did not have an opinion on the environmental impacts of the EU-Algeria FTA and were unsure of how these could be measured at all. Moreover, broadly speaking, according to interviewees environmental issues are not high on the agenda of neither the Algerian government, nor of any other stakeholder in the country.

G4. Findings from stakeholder consultations in Egypt

G4.1 Economic impacts

The discussion about economic impacts of the FTA with stakeholders in Egypt was mainly focussed on the question why the impacts had not been higher than is shown by the model. It was often mentioned that EU standards are still severe for Egyptian exporters, and there are remaining NTMs as well, e.g. related to customs administration, on the EU side. There was general agreement on Rules of Origin, which were said to be difficult to understand and comply with for many Egyptian exporters (double transformation). Most stakeholders consulted also acknowledged that it is not always the EU standards and requirements that prevent Egypt from fully utilising the FTA. It is also caused by internal factors, including lack of government support programmes, the business environment and bureaucracy and corruption. On the more positive side, some stakeholders suggested that the FTA paved the way for the establishment of helpful institutions and capacity building within existing institutions.[1352]

G4.2 Sectoral impacts

Regarding the Textiles and Clothing sector, it was suggested that limited trade with the EU, despite the FTA, might be caused by several factors. First, there is a lot of competition from Asia, where costs of production are very low. Secondly, some stakeholders believed that it makes more sense to export textiles through the QIZs to the US than to the EU. The American market has grown, has one culture and language and is not as fragmented as the EU market. This makes trade simpler. For agriculture, it was mentioned that the remaining quota form a trade barrier, both in terms of quantity and time periods for which they apply. Stakeholders provided a few reasons for Egypt's disappointing export performance in the sector of Machinery and Transport Equipment. The main barriers to trade to the EU are technical regulations, and certifications – which are said to be different across EU countries. Although the EU has been touting harmonization of regulations, there are still various regulations across countries that Egyptian companies are struggling with. Regarding chemicals, an explanation provided by stakeholders for the improving trade balance is that this sector has been responsive to the high standards of the EU. It was suggested that the trend is also caused by a replacement effect, as Egypt is now importing raw materials from India instead of the EU. In addition, the trend might also be explained by innovation in the chemicals sector.

G4.3 Sustainability impacts

Interviewees noted that social impacts of the FTA have been limited. The AA did not include any obligations in this respect. Most of the FDI from EU is in the oil and gas sector, which is capital-intensive in nature and does not create jobs. Also, the products exported by Egypt to the EU are said to have limited value added; they did not generate many jobs. Employment of women in some sectors such as textiles and chemicals increased, but this was not necessarily a result of the FTA. A recent study showed that women's situation in Egypt has not improved; businesses are reluctant to employ women, partly because of the legal requirements.[1353] For the textiles and clothing sector specifically, it was mentioned that CSR has grown in importance over time to the extent that companies now speak of "audit fatigue".

[1352] As an example, it was mentioned that five European universities are now also located in Cairo.
[1353] https://www.rand.org/pubs/research_reports/RR2868.html.

During the stakeholder workshop, it was commented that trading in environmental goods is not the only environmental concern of Egypt, as the country is very much interested in new technology and upgrading. It was emphasized that limiting waste water and CO_2 emissions are also priorities in Egypt from an economic point of view, as it increases efficiency and lowers costs. In agriculture, it is observed that farmers start to adopt modern agricultural processes, which have subsequently spread in the domestic market. There was however no agreement among stakeholders on the extent to which the FTA has played a significant role in this process.

G5. Findings from stakeholder consultations in Jordan

G5.1 Economic impacts

Stakeholders consulted in Jordan generally feel that the FTA has caused a trade deficit, which is a major concern to them and steps need to be taken to close the deficit. Trade from Jordan to the EU had not increased significantly as a result of the FTA, and stakeholders mentioned that exporters have difficulties with competing on quality and price on the EU market, and they find it difficult to deal with varying consumer behaviour across the EU. Standards and quality requirements are not a major issue, especially if compared to the difficulties of finding distributors or partners in the EU.

The relaxation of the Rules of Origin regime in 2016 was experienced as very helpful by most of the stakeholders, yet only a limited number of companies were able to make use of it. This relaxation of the RoO requires a certain percentage of Syrian refugees to be employed with a formal contract. This is seen as a challenge, as refugees mostly work in agriculture, but not in other sectors, and not all regions of Jordan have a lot of refugees. Furthermore, the understanding of the definition of formal employment varies between the EU and Jordan, which makes it harder for exporters to comply with the requirements.

G5.2 Sectoral impacts

Regarding chemicals, interviewees expressed that the pharmaceutical sector adds significantly to the Jordanian economy and to direct and indirect employment, but the FTA did not help the pharmaceutical industry. Jordan does not have the necessary economies of scale to export massively to EU, which makes it difficult to supply in a reliable manner to the large EU market. Secondly, qualified EU partners are required to approve the products, but Jordanian companies face difficulties with finding such partners. Thirdly, technical requirements in the EU such as GMP (Good Manufacturing Practice) are difficult to meet. Firms have a high probability of passing the requirements, but the up-front cost of market entry is a major hurdle, in particular obtaining the REACH certificates. There is also no authorized testing lab in Jordan. Creating such a lab in Jordan, in cooperation with the standards organisation, would provide a boost for exports.

In terms of impact on the Textiles and Clothing sector, several interviewees mentioned that many companies, in particular SMEs, did not benefit from the FTA. The sector mainly sells to other Arab countries and the focus is on Islamic clothing, which is a growing niche market. Exports are driven by buyers, who approach the companies. Trade with the EU is often a one-time deal. Furthermore, companies in the sector struggle with the Rules of Origin.

G5.3 Sustainability impacts

The key social issues for Jordan as presented by the stakeholders include the high unemployment, low labour force participation rate, and in particular an extremely low female labour force participation rate. Other key social issues mentioned by stakeholders are the closure of the Iraqi and Syrian border and the influx of refugees.

Stakeholders furthermore indicated that water scarcity is a major issue in Jordan. The agreement is meant to promote industrialization, but industrialization is also contributing to and is limited by water scarcity. A few interviewees mentioned that Jordanian producers were encouraged by the FTA to enhance the quality of their products through implementing environment-friendly requirements and minimum standards requirements.

G6. Findings from stakeholder consultations in Lebanon

G6.1 Economic impacts

One of the main messages from the stakeholder consultations on economic impacts in Lebanon is that they find it difficult to single out the effects of the FTA, as many developments have taken place since the entry into force. First, Lebanon has concluded several trade agreements, and as a result of these FTAs, the trade structure has changed, both for imports and exports. Secondly, the Syrian conflict started in 2011, which had a large impact on the Lebanese economy, as the majority of imports and exports are normally transported over Syrian territory. Finally, Lebanon is internally dealing with an economic crisis, monetary crisis, and banking crisis. These crises

situations have also led to increased "parallel trade flows", due to which the government misses an important revenue source at the ports and airports.

Especially the business environment and competitiveness of Lebanese products are said to hinder a further increase of exports to the EU. The main issue for export is the relatively low competitiveness of Lebanese products. For agricultural products, Lebanon cannot compete with the EU as the production costs in Lebanon are too high, and stakeholders were of the opinion that it is unfair to compete with subsidised EU products. Also, the high energy costs for the industry limits competitiveness of industrial products. Some stakeholders also referred to the lack of trade finance for the Lebanese private sector. For Lebanese exporters, Rules of Origin, SPS and TBT are still experienced as complicated and thereby hinder trade. Next to these barriers, several stakeholders also referred to bureaucracy and corruption.

G6.2 Sectoral impacts

Most of the stakeholders consulted agreed that the Lebanese agricultural sector is not really benefiting from the FTA, as many Lebanese products do not fulfil the EU requirements, mainly related to SPS. Furthermore, it was also mentioned that Lebanese farmers generally do not have big farm lands, hence there are limited possibilities for economies of scale.

The Lebanese Textiles and Clothing sector mainly exports haute couture products. The quantities exported are low, but the prices are very high. These are goods that do not compete on costs. Lebanon also produces relatively high quality middle range clothes next to haute couture; the sector is however struggling with competition from Asia, where the costs of labour are significantly lower.

G6.3 Sustainability impacts

The Lebanese agriculture sector heavily relies on labour provided by Syrian refugees. Without them, the costs of production would be double and the sector would be even less competitive, especially when social security would be introduced. There are also a lot of female workers in the agricultural sector, some of which are not adults yet. There is a lot of informal employment which is not reflected in the statistics. Most farmers do not have high standards when it comes to working conditions and CSR, as they are generally small.

Stakeholders all agreed that there have been many other developments, regulations and programmes (local and international) that had a greater effect on the environment than the FTA. One stakeholder referred to the overuse of pesticides as a common issue in the agricultural sector. Also, wastewater is sometimes used to water crops. Another issue is related to crop patterns, which are not always set in a way to optimise water resources and irrigation. Another stakeholder representing the private sector noted that there are a lot of illegal industries that are very polluting. These operate without licences and permits. Furthermore, the large number of electricity generators in the country as well as the old powerplants are responsible for a lot of air pollution.

G7. Findings from stakeholder consultations in Morocco

G7.1 Economic impacts

Overall, most stakeholders from both private and public sector agreed that thanks to the FTA both trade with and investment from the EU to Morocco increased, and were keen to underline the many benefits resulting from the agreement. At the same time, all interviewees stressed that a number of barriers to trade remain and investment levels remain below expectations. Among the most often reported NTMs were bureaucracy, difficulty to obtain business visas to the EU, complicated and time-consuming export formalities and lengthy customs procedures, as well as insufficiently developed transport and logistics infrastructure, lack of qualified workforce, corruption, and difficult access to financing for Moroccan companies. An obstacle repeatedly stressed by various stakeholders are SPS standards hindering Moroccan exports to the EU (although some reported satisfaction with improved quality of their produce thanks to the higher standards). Internally, there is an issue with the unification of health and safety standards, with the Moroccan consumer protection agency refusing to acknowledge the European certifications and enforcing its own rigid certification processes. Finally, some business associations believed that Europeans are culturally biased against buying Moroccan goods and in that sense, it is easier to export to the US, where "people only care about the price, not the origin of the product".

G7.2 Sectoral impacts

According to the majority of the interviewees, the automotive sector was the one that benefitted most from the increase in trade and investment thanks to the FTA. Representatives of both public and private sector agreed that the automobile industry became the first export sector of the Kingdom, ahead of the agroindustry and phosphates, establishing Morocco as the leading producer of cars in the MENA region and in Africa. Moreover, as a positive spill-over effect, European

production standards, such as ATF, OHSAS 18001 and ISO 1400, were adopted by local business-suppliers to the car factories established by the EU investors.

Interviewees stressed that the textiles and clothing sector is important for Moroccan exports as well. However, it was also underlined that certain barriers to trade remain, most importantly, the quality and technical standards imposed by the Europeans. For instance, Moroccan leather and leather products are not allowed in the EU as they contain certain substances that are banned by the EU.

In the agricultural sector, the stakeholders agreed that despite the removal of tariffs thanks to the FTA, the NTMs prevent them from expanding their exports to the EU. Quotas were mentioned as key obstacle. Equally important, stakeholders stressed difficulties caused by the SPS measures.

G7.3 Sustainability impacts

Stakeholders from the private sector believed that the FTA has had a positive social impact. As Moroccan companies annually receive ratings from their European customers on CSR-related issues such as gender equality, labour laws, child labour etc., they are motivated to improve their performance in these areas. It was also stressed that wages increased, particularly in the automotive sector due to higher qualifications of the employees. Regarding the impact on consumers, it was reported that they benefitted from access to a wider range of higher quality products, available at lower prices. None of the stakeholders interviewed was able to provide insights on the environmental impacts of the FTA in Morocco.

G8. Findings from stakeholder consultations in Tunisia

G8.1 Economic impacts

The interviewees agreed that thanks to the agreement, the trade between EU and Tunisia has increased. Stakeholders reported that a number of NTMs remained in place; most problematic of which were Sanitary and Phytosanitary (SPS) standards and Rules of Origin. While the latter was creating obstacles predominantly in the Textiles and Clothing sector, the SPS measures proved problematic mostly in agricultural and chemical sectors. Interviewees complained that obtaining health and safety certification enabling exports to and sales in the EU was time- and money-consuming, requiring "colossal investments" on part of the Tunisian businesses. On the Tunisian side, the major barriers mentioned were connected to excessive bureaucracy, such as complicated and time-consuming administrative (exports, customs) procedures.

G8.2 Sectoral impacts

Stakeholders from the agricultural sector agreed on the EU's importance as a strategic partner for Tunisia, but believed that their sector has not benefitted from the FTA, mostly because of the strict standards imposed by the EU which "do not fit within the Tunisian agricultural context". One stakeholder mentioned that Tunisian SPS standards were initially based on the American ones and hence currently Tunisian businesses struggle to conform to the much stricter EU ones. Additionally, Tunisian farmers lack resources to invest in advanced equipment that would allow them to be more productive and efficient and to compete with the EU counterparts. Moreover, Tunisian farmers do not enjoy the type of support and subsidies that EU farmers do – and Tunisia does not and is not able to support them on the same scale. The interviewees from the agricultural sector stressed that Tunisian agricultural products are in fact organic and free of chemicals, but complained that "there is no organic label or a support policy taken by the State due to a lack of financial resources".

In the textiles and clothing sector, the interviewees agreed that two time periods must be distinguished: 1995-2005 when the impact of the FTA was positive, and time after 2005 when the benefits from signing the AA were eradicated due to the EU signing free trade agreements with a number of other countries, notably Asian ones. Existing Rules of Origin were perceived as particularly unfavourable to Tunisian T&C producers, especially as competitors from Turkey, China, and other Asian countries do not face the same set of requirements. The poor infrastructure inside the country and the lack of efficient logistics procedures were outlined as other obstacles to the development of the T&C sector. Those were likewise reported problematic by stakeholders from the transport sector itself, who were especially unsatisfied with the way that ports and maritime transport operated.

In the chemical sector, the stakeholders interviewed represented pharmaceutical companies. They agreed on the fact that the export of Tunisian pharmaceutical products is not well developed due to high standards and complicated process of registration of pharmaceutical products in EU countries. Insufficient spending on innovation and development was mentioned as another obstacle preventing Tunisian companies from competing in the EU market.

G8.3 Sustainability impacts

Among those interviewees who had an opinion on the social effects of the FTA, the majority thought it was a positive one. Several stakeholders mentioned positive social effects in terms of job creation, and two stressed that apart from having a positive impact on employment, the FTA contributed to improvements in work conditions and prevention of child labour. A union representative, however, stressed that increased competition with EU companies resulting from trade opening cost a loss of 120,000 jobs. They also stressed that the signing of the FTA meant that many local businesses, unable to change their field of operation, ceased to exist and that many entrepreneurs were forced into debt. Moreover, the FTA contributed to worsening of the already existing territorial inequalities in Tunisia, with EU investments in the country focusing solely on the coastal area. They also reported that higher taxes were imposed on citizens to compensate for the loss in customs revenue. Regarding the impact on consumers, it was underlined that they benefit from a significantly broader choice of products available in the country, as well as a better price-to-quality ratio.

Most interviewees were not able to comment on the impact of the FTA on the environment in Tunisia. Some independent experts operating in the environmental sector believed, however, that the environmental impact was mostly positive, as a result of improved environmental management systems and changes in operational strategies, which were introduced in order to reduce air and water pollution and to encourage the use of renewables energies.

G9. Findings from stakeholder consultations in the European Union

G9.1 Economic impacts

Regarding the economic impacts of the trade chapters of the Association Agreements between the EU and the six Southern Mediterranean countries, the EU stakeholders have mainly asked questions for clarification and consideration, rather than providing concrete inputs. For instance, one stakeholder wondered if the study has covered the decrease of government revenues caused by tariff reduction and whether the model assumed that any tax decrease would increase welfare (which was confirmed by the study team). Moreover, several stakeholders wondered how the current COVID-19 pandemic would affect the implementation of FTAs, which is difficult to predict.

When looking at the exports from the EU into the Mediterranean region, the following aspects were considered as problematic by one interviewee: (i) MENA countries often still require all the hand-written signatures on Rules of Origin documents, (ii) sometimes the MENA countries also ask for an original document instead of a copy, even though they have already received the original.

G9.2 Sectoral impacts

Regarding the Textiles and Clothing sector, one business association mentioned that EU companies are still looking for partnerships with companies in the Euro-Med zone, however it was noted that problems with Rules of Origin as well as NTMs and bureaucracy remained. Morocco and Tunisia are interesting for European investors, as the countries offer favourable conditions and the relatively high skill level in these countries enables investment as well. These two countries can deliver much faster to Europe than other countries due to the ferry connections. Trucks with fabrics are shipped to Morocco and Tunisia, while trucks full of end-products are shipped back to Europe. Another stakeholder noted that, when it comes to CSR, wages are important, as well as medical services for mostly female workers. However, low profit margins of producers in SMCs are so small that the current situation does not allow for improvement of labour conditions. Another concern of an EU stakeholders in this sector is the smuggling and social dumping practices of clothing, which is done to meet the demand for even lower consumption prices. These clothes are produced using inferior labour and environmental standards but audits cannot always detect these processes.

Regarding agriculture, one stakeholder referred the study team to several developments in the Mediterranean countries which are seen as disruptive by EU producers (for instance increased exports of citrus from Egypt, olive oil from Tunisia, and sugar from Morocco). Another EU stakeholder reminded the study team to not focus solely on public standards imposed on imports from the SMCs, but to also take into account private standards of the EU retailers, which sometimes are much more stricter and also influence the attractiveness and/or market access. One interviewee representing the agricultural sector summarised that rules seem to be clear for the SMCs and they seem to be able to meet requirements, however, EU producers face a lot of uncertainty and unclarity on the other side, are often taken by surprise due to sudden changes.

G9.3 Sustainability impacts

One stakeholder reminded the study team that the welfare of animals was not covered by the agreement. However, it was argued that the EU export of live animals has increased since the introduction of the FTAs, which is problematic as animal welfare rules are generally much lower in the SMCs, and these animals therefore suffer significantly. Another EU stakeholder contemplated

that the evaluation report was missing insights into the impacts on vulnerable groups in the SMCs. Another stakeholder noted that an in-depth evaluation on gender impacts is missing.

Regarding the environmental issues related to trade between the EU and the SMCs, several stakeholders referred to investment protection in relation to higher environmental standards (which is not part of the agreement though). Another interviewee referred to the substantial amount of waste trade. The plastic waste exports from the EU to countries like Egypt are said to be for recycling purposes and thereby contribute to the Member States' recycling rates, but the recycling capacity in MENA countries is very low. All the MENA countries have weak waste management systems and they even cannot handle their own waste.

ANNEX H: BIBLIOGRAPHY

Abdelmalki L., Sandretto R, Sadni Jallab M. 2011. Émergence et intégration commerciale :Une illustration à partir de l'accord de libre-échange entre le Maroc et les États-Unis. *Revue d'économie industrielle* 2011/3(n°135).

Abedini, J. and Péridy, N., (2008). The Greater Arab Free Trade Area (GAFTA): an Estimation of Its Trade Effects, Journal of Economic Integration, 23, p. 848-872.

Abou El Hassan, Waleed. (2017). Irrigation Management Assessment from Land Fragmentation Perspective in the Nile Delta. Irrigation and Drainage. 67. 10.1002/ird.2213.

Aden A. Aw-Hassan, Luai Jraisat, Nader Duqmaq, Mourad Rekik. (1/12/2018). Linking Refugees to Agricultural Value Chains in the North of Jordan: Orange, Cucumber, and Small Ruminants' Dairy. Beirut, Lebanon: International Center for Agricultural Research in the Dry Areas (ICARDA).

Adhikari, R., and Yamamoto, Y. (2008). Textile and clothing industry—Adjusting to the post-quota world. In Studies In Trade And Investment, p. 3–48. Retrieved from https://ideas.repec.org/h/unt/ecchap/tipub2500_pt1chap1.html.

Aditya, A., Acharyya A. 2012. Does what countries export matter?, *Journal of Economic Development,* 37(3): 47-74.

AfDB Economic Briefs (2012) Distortions to Agricultural Policy Incentives in Tunisia: A Preliminary Analysis.

Aggarwal, Vinod K. and Simon J. Evenett (2014). Do WTO rules preclude industrial policy? Evidence from the Global Economic Crisis, Business and Politics 16(4), pages 481–509.

Agriculture and Agri-Food Canada (2017) Market Overview. Morocco.

Aguiar, Angel, Badri Narayanan, & Robert McDougall (2016) "An Overview of the GTAP 9 Data Base." Journal of Global Economic Analysis 1(1): 181-208.

Aiginger, Karl, and Dani Rodrik (2020), Rebirth of Industrial Policy and an Agenda for the Twenty-First Century, Journal of Industry, Competition and Trade 20(2), pages 189–207.

Ait Ali A. et al. (2019). "Towards EU-MENA Shared Prosperity", Policy Report, 3rd Edition, Policy Center for the New South and Bruegel.

Ajluni, S., & Kawar, M. (2015). Towards decent work in Lebanon: issues and challenges in light of the Syrian refugee crisis. International Labour Organization, ILO Regional Office for Arab States. Beirut: ILO.

Akesbi (2011). "La nouvelle stratégie agricole du Maroc annonce-t-elle l'insécurité alimentaire du pays?" [Is the new agricultural strategy of Morocco announcing its food insecurity?] in Confluence Méditerranée. p.93-105, available at https://www.cairn.info/revue-confluences-mediterranee-2011-3-page-93.htm?contenu=plan#s1n3.

Akhtar, S., Freire, C. 2014. Economic diversification in Asian landlocked developing countries prospects and challenges. United Nations ESCAP, Economic and Social Commission for Asia and the Pacific, Bangkok, Thailand.

Akman, M. S. (2010). The European Union's Trade Strategy and its Reflections on Turkey: An Evaluation from the Perspective of Free Trade Agreements. Dokuz Eylül Üniversitesi.

Al-Atrash, H.M., and T. Yousef (2000). Intra-Arab trade: is it Too Little? IMF working papers, 00/10.

Alam, M. S., Selvanathan, E. A., Selvanathan, S., and Hossain, M. (2018). The apparel industry in the post-Multifiber Arrangement environment: A review. Review of Development Economics, 23, 454–474.

Alcidi, C., Busse, M., Zaki, C., AbouShady, N., Alshyab, N., El Mekki, A. A., ... and Ayari, H. (2017). Trade and investment in the Mediterranean: Country and regional perspectives.

Anders, S. and Caswell, J.A. 2009. Standards-as-barriers versus standards-as-catalysts: Assessing the impact of HACCP implementation on U.S. seafood imports', American Journal of Agricultural Economics, Vol. 91(2). pp. 310–321.

Anderson, J., (1979). A Theoretical Foundation for the Gravity Equation. American Economic Review, 69(1), p. 106-116.

Anderson, J.; van Wincoop, E. (2003). "Gravity with Gravitas: A Solution to the Border Puzzle". American Economic Review, 93, p. 170–192.

Andersson, A. (2016). Export Performance and Access to Intermediate Inputs: The Case of Rules of Origin Liberalisation, The World Economy, p. 1048-1080. doi: 10.111/twec.12308.

Angeli, M., J. Gourdon, I. Gutierrez and P. Kowalski (2019). Mapping Rules of Origin in Preferential Trade Agreements, forthcoming in Handbook of Deep Trade Agreements.

Anson, J., O. Cadot, A. Estevadeordal, J. De Melo, A. Suwa-Eisenmann and B. Tumurchudur (2005). Rules of Origin in North-South Preferential Trading Arrangements with an Application to NAFTA, Review of International Economics, 13(3), pp. 501-517.

Anwar, Wagida. (2003). Environmental health in Egypt. International journal of hygiene and environmental health.

Arezki, R. et al. (2019). *Reforms and External Imbalances: The Labor-Productivity Connection in the Middle East and North Africa: Middle East and North Africa Economic Update.* World Bank, Washington, DC. Doi: 10.1596/978-1-4648-1408-2. License: Creative Commons Attribution CC BY 3.0 IGO.

Arita, S., Beckman, J. and Mitchell, L. 2017. Reducing transatlantic barriers on US-EU agri-food trade: What are the possible gains?', Food Policy, 68, pp. 233-247.

Asma Alsharif, June 14 2017, In long-awaited move, Egypt central bank scraps currency transfer limit. Reuters.

Atala I., W. Dagher and N. Chehib (2016). Foreign Direct Investment in Lebanon. International Journal of Economy, Management and Social Sciences, Vol (5), No (3), September.

Atallah, Sami, and Ilina Srour (2014), Lebanon's Industrial Policy Must Focus on Developing Highly Sophisticated Exports. The Lebanese Center for Policy Studies Policy Brief 13/2014.

Augier, P. and Gasiorek, M. (2003) The welfare implications of trade liberalisation between the Southern Mediterranean and the EU. Applied Economics, 35(7). pp. 1171-1190.

Augier, P. Gasiorek, M. and Lai Tong, C. (2004) Rules of Origin and the EU-Med Partnership: The case of textile, World Economy, 27(9). pp. 1449-1473.

Augier, P. Gasiorek, M. and Lai Tong, C. (2005) The impact of rules of origin on trade flows, Economic Policy, 20(43) pp. 568–624.

Augier, P., Gasiorek, M., and Lai-Tong, C. (2007). "Multilateralising Regionalism: Relaxing the Rules of Origin Or Can Those Pecs Be Flexed?," CARIS Working Papers 03, Centre for the Analysis of Regional Integration at Sussex, University of Sussex.

Augier, P.; Cadot, O.; Gourdon, J. ; and Malouche, M. (2012_. Non-tariff measures in the MNA region: Improving Governance for Competitiveness, Working Paper Series No.56, The World Bank.

Ayadi, M.and Mattoussi, W. (2016) : « Scoping of the Tunisian Economy », Learning to Compete, Working Paper No.17, Brookins Institution.

Ayadi, Mohamed, and Wided Mattoussi (2016), Tunisia: Industrial Policy in the Transition to Middle-Income Status, in: Manufacturing Transformation: Comparative Studies of Industrial Development in Africa and Emerging Asia, ed. Carol Newman et al., Oxford University Press.

Ayadi, R. and Sessa, E. (2017). Regional integration in the Euro-Mediterranean. Key Dimensions, status quo and prospects towards fundamental rethinking, EMNES Working Paper no.1.

Ayeb H. (2012). *Agricultural Policies in Tunisia, Egypt, and Morocco: Between Food Dependency and Social Marginalization*. M.C. Paciello, ed., Reversing the Vicious Circle in North Africa's Political Economy, Confronting Rural, Urban, and Youth-Related Challenges, Mediterranean Paper Series. The German Marshall Fund of the United States (GMF), pp. 5-11. Washington. Available at: http://www.gmfus.org/node/7271.

Ayoub, R. and Qadoumi, H. (2007) Pharmaceuticals in Jordan: Sectoral report. Awraq investments, Research division.

Ayoub, R. and Qadoumi, H. (2007) Pharmaceuticals in Jordan: Sectoral report. Awraq investments, Research division.

Azmeh, S. (2015). Transient global value chains and preferential trade agreements: Rules of origin in US trade agreements with Jordan and Egypt. Cambridge Journal of Regions, Economy and Society, 8(3). 475–490.

Baghdadi L., Martinez-Zarzoso I. and Zitouna H. (2013). "Are RTA agreements with environmental provisions reducing emissions?", Journal of International Economics, 90(2), pp. 378-390.

Bagoulla, C. (2007). Industrial location in the Euro-Mediterranean area : Market access vs. production costs. Laboratoire d'Economie de Nantes (LEN). Université de Nantes. Retrieved from https://www.gate.cnrs.fr/uneca07/communications%20pdf/Corinne%20Bagoulla-Rabat.pdf.

Bahramitash, R. and Esfahani, H.S. (2016): "Political and Socio-Economic Change in the Middle East and North Africa Gender Perspectives and Survival Strategies" Eds. Palgrave.

Baldwin, R. (2016). The Great Convergence: Information Technology and the New Globalization, The Belknap Press of Harvard University Press.

Baldwin, R. and D. Jaimovich (2012). Are Free Trade Agreeements Contagious? Journal of International Economics, 88, 1–16.

Balistreri, E. and Rutherford, T. (2013) "Computing general equilibrium theories of monopolistic competition and heterogeneous firms" in Dixon, P.B. and Jorgenson, D.W. (ed.): Handbook of Computable General Equilibrium Modeling. Chapter 23, pp. 1513–1570. Oxford (UK), Elsevier.

BankMed (2014). Analysis of Lebanon's Apparel Market.

Bartley Johns, M., Brenton, P., Piermartini, R., Sadni Jallab, M., and Teh, R. (2018). Trade and Poverty Reduction: New Evidence of Impacts in Developing Countries (No. 132833; pp. 1–191). Retrieved from The World Bank website: http://documents.banquemondiale.org/curated/fr/968461544478747599/Trade-and-Poverty-Reduction-New-Evidence-of-Impacts-in-Developing-Countries.

Basile R., Parteka A., Pittiglio R. 2017. Export diversification and economic development: a dynamic spatial data analysis, *Review of International Economics*, DOI:10.1111/roie.12316.

Bass, H. (2016). Tunisia's progress in integration into global value chains: Achievements and obstacles. Contribution to African development perspectives yearbook (ADPY). 18.

Bauman, H. (2017) : « Citizen Hariri: Lebanon's Neo-Liberal Reconstruction", eds. Hurst. Retrieved from https://www.hurstpublishers.com/book/citizen-hariri/

Bchir, M.-H., Y. Decreux, J.-L. Guérin and S. Jean (2002) "MIRAGE, A CGE Model for Trade Policy Analysis", CEPII Working Paper 2002-17.

Bchir, M.H., H. Ben Hammouda, N. Oulmane, and M. Sadni Jallab. (2007). The Cost of Non-Maghreb: Achieving the Gains form Economic Integration, Journal of Economic Integration 22(3). pp. 684-72.

Becker, G. S. (1957*). The Economics of Discrimination*. University of Chicago Press. Economic Research Studies. 2d edition, 178 page.

Beckman, J. and Arita, S. (2016). Modeling the Interplay between Sanitary and Phytosanitary Measures and Tariff-rate Quotas under Partial Trade Liberalization', American Journal of Agricultural Economics, 99(4). pp. 1078–1095.

Belghazi S. (2013) Scenarios for the Agricultural Sector in the Southern and Eastern Mediterranean. MEDPRO Report No. 4.

Belghazi, S. (2015). Agriculture. In R. Ayadi, M. Dabrowski, and L. De Wulf (Eds.). Economic and Social Development of the Southern and Eastern Mediterranean Countries (pp. 95–109). https://doi.org/10.1007/978-3-319-11122-3_7.

Ben Abdellah M., Ait El Mekki A. and Siam G. (2013). Economic Growth in the Euro-Med Area Through Trade Integration, Focus on Agriculture and Food. North Africa Case Studies: Egypt, Morocco, Tunisia. Joint Research Center Scientific and Policy Reports of European Commission, Sevilla, Spain. Report En 26233EN.

Benassi, S. L. Marquez-Ramos and I. Martinez-Zarazoso (2011). Economic Integration and the Two Margins of Trade: The Impact of the Barcelona Process on North African Countries' Exports, Journal of African Economics, 21(2). pp. 228-65.

Bensassi S., Inma Martinez-Zarzoso, and Laura Marquez-Ramos. (2009). Economic integration and the two margins of trade: An application to the Euro-Mediterranean agreements, working paper.

Berahab, R., Dadush, U. (2020). Has Morocco Benefited from the Free Trade Agreement with the European Union? Policy Center for the new South. Retrieved from https://www.policycenter.ma/sites/default/files/RP%20-%2020-03%20%28Rim%20%26%20Dadush%29%20%281%29.pdf.

Bernard, A., Redding, S. and P. Schott (2011), "Multi-Product Firms and Trade Liberalization"; Quarterly Journal of Economics 126 (3), 1271–318.

Blue Plan (2005), Bleu Plan Mediterranean outlook, Earthscan.

Bohl, D. K., Hanna, T., Scott, A. C., Moyer, J. D., & Hedden, S. G. (2018). Sustainable Development Goals Report: Egypt 2030. Denver, CO and New York, NY: Frederick S. Pardee Center for International Futures and United Nations Development Programme.

Bombarda, P. and E. Gamberoni (2013). Firm Heterogeneity, Rules of Origin and Rules of Cumulation, International Economic Review, 54, pp. 3017-328.

Bonnet, F., Vanek, J., and Chen, M. (2019). *Women and Men in the Informal Economy – A Statistical Brief.* ILO. UK: Manchester, WIEGO.

Borchert, Gootiiz, Magdeleine, Marchetti, Mattoo, Rubio and Shannon (2019) – "Applied Services Trade Policy: A Guide to the Services Trade Policy Database and Services Trade Restrictions Index", WTO Staff Working Paper (ERSD-2019-14).

Bouët, A. (2005). The market access issue in South Mediterranean countries, in FEMISE-CATT report 22-36.

Boulanger, P. Kavallari, A. Rau M. L. and Rutten M. (2013). Trade openness and investment in North Africa. A CGE application to deep and comprehensive free trade areas (DCFTAs) between the EU and respectively Egypt, Morocco and Tunisia, Paper prepared for the 2013 International Agricultural Trade Research Consortium Symposium Productivity and Its Impacts on Global Trade June 2-4, 2013 Seville, Spain.

Bouoiyour, J. and Rey, S.: (2005): "Exchange Rate Regime, Real Exchange Rate, Trade Flows and Foreign Direct Investments: The Case of Morocco", African Review of Development 17.2(2005): pp. 302-334.

Bousselmame H. (2017), A Phased Approach to Energy Subsidy Reform: Morocco Experience, ESMAP article available online at: https://www.esmap.org/node/140726.

Brenton, P. (2003). Integrating the Least Developped Countries into the World Trading System: The Current Impact of EU Preferences under Everything But Arms", Journal of World Trade, 37, pp. 623-46.

Brunelin, S., de Melo, J., and Portugal-Perez, A. (2018). How Much Market Access? A Case Study of Jordan's Exports to the EU. World Trade Review, 1-19.

Burke, E. (2013). Running into the sand?. The EU's faltering response to the Arab revolutions, Centre for European Reform, 1-17.

Bussolo, M., & De Hoyos, R. (2009). *Gender Aspects of the Trade and Poverty Nexus: A Macro-Micro Approach*. World Bank and Palgrave Macmillan. Washington, DC. Available at: https://openknowledge.worldbank.org/handle/10986/13264 License: CC BY 3.0 IGO.

Bustos, P. (2011), "Trade Liberalization, Exports, and Technology Upgrading: Evidence on the Impact of MERCOSUR on Argentinian Firms"; *American Economic Review* 101, 304-40.

Cadestin, C., J. Gourdon and P. Kowalski (2016). "Participation in Global Value Chains in Latin America: Implications for Trade and Trade-Related Policy", OECD Trade Policy Papers, No. 192, OECD Publishing, Paris. http://dx.doi.org/10.1787/5jlpq80ts8f2-en.

Cadot O. and L.Y. Ing (2014). How restrictive Are ASEAN's ROO?, ERIA Discussion Paper Series, N°18.

Cadot, O., C. Carrère and V. Strauss-Kahn (2011). "Export Diversification: What's behind the Hump"?, The Review of Economics and Statistics, 93(2). pages 590-605, May.

Cadot, O., Carrere, C., Strauss-Kahn, V.2013. Trade diversification, income, and growth: what do we know?. *Journal of Economic Surveys*, 27(4), 790-812.

Cammett, M. (2007). Business–government relations and industrial change: The politics of upgrading in Morocco and Tunisia. World development, 35(11). 1889-1903.

Carbone A. (2017), "Food supply chains: coordination governance and other shaping forces", Agricultural and Food Economics, 5:3.

Cardamone, P. 2011. The effect of preferential trade agreements on monthly fruit exports to the European Union', European Review of Agricultural Economics, 38(4). pp. 553-586.

Carrère, C. and J. De Melo (2006). Measuring the Impact of Rules of Origin: Are different Rules of Origin equally costly? Estimates from NAFTA, in "The Origin of Goods: Rules of Origin in Regional Trade Agreements", Cadot O., Estevadeordal A., Suwa A., Verdier T., eds., Vol. 2, Chapter 7, pp. 189-212, Oxford University Press.

Carrère, C., O. Cadot, J. de Melo and B. Tumurchudur (2011). Product Specific Rules of Origin in EU and US Preferential Trading Arrangements: An assessment.

CASE-CEPS (2009). Economic integration in the Euro-Mediterranean region, Final Report, Center for Social and Economic Research and Center for European Policy Studies, September, Warsaw.

CBI. (2019). Apparel. Retrieved from: https://www.cbi.eu/sectors/apparel/.á.

Chaney, T. (2008), "Distorted Gravity: The Intensive and Extensive Margins of International Trade"; American Economic Review 98 (4), 1707–21.

Chemingui, M., Feki, K. and Sloan, J. (2016), Non-Tariff Measures in the Arab Region: Quantification and Economic Impacts, Technical Paper, Research Gate, April.

Chemingui, Mohamed A. and Chokri Thabet (2011), Trade Liberalization, Local Air Pollution, and Public Health in Tunisia: Assessing the Ancillary Health Benefits of Pollution Abatement Policy, ERF Working Paper 612, Cairo: ERF.

Chemingui, Mohamed A. and Chokri Thabet (2011), Trade Liberalization, Local Air Pollution, and Public Health in Tunisia: Assessing the Ancillary Health Benefits of Pollution Abatement Policy, ERF Working Paper 612, Cairo: ERF.

Chemingui, Mohamed A. and Hedi Bchir (2012), Have the promises used to sell the Euro-Mediter- ranean Partnership come true?, in: Joan Costa-Font (ed.), Europe and the Mediterranean Economy, Abingdon and New York: Routledge, pp. 108-109.

Chemingui, Mohamed A. and Hedi Bchir (2012), Have the promises used to sell the Euro-Mediter- ranean Partnership come true?, in: Joan Costa-Font (ed.), Europe and the Mediterranean Economy, Abingdon and New York: Routledge, pp. 108-109.

Chen, M., Wilson, J. and T. Otsuki (2010), "Standards and Export Decisions: Firm-Level Evidence from Developing Countries"; Journal of International Trade and Economic Development 17 (4): 501-523.

Cheong, J, Kwak, D.W. and K.K. Tank (2018), "The trade effects of tariffs and non-tariff changes of preferential trade agreements"; Economic Modelling 70, 370-382.

Cherif, Reda, and Fuad Hasanov (2019), The Return of the Policy That Shall Not Be Named: Principles of Industrial Policy, IMF working paper 19/74.

Cherkaoui, M., Khellaf, A., and Nihou, A. (2011). The Price Effect of Tariff Liberalization in Morocco: Measuring the Impact on Household Welfare (No. 637). Retrieved from Economic Research Forum website: https://ideas.repec.org/p/erg/wpaper/637.html.

Cieślik, A., and Hagemejer, J., (2009) "Assessing the Impact of the EU-sponsored Trade Liberalization in the MENA Countries." Journal of Economic Integration, 24(2), pp. 343-68.

CIHEAM. (2012). *9th Meeting of the Ministers for Food, Agriculture and Fisheries of the member countries of CIHEAM, Final Declaration*, *Valletta*. Available at: https://www.ciheam.org/uploads/attachments/111/Final_declaration_RMC_2012.pdf.

Climate action tracker, https://climateactiontracker.org/countries/ (accessed: March 23, 2020).

CNUCED (2003). Le commerce des biens et services environnementaux et le développement durable, Note du secrétariat de la CNUCED, TD/B/COM.1/EM.21/2.

Cockburn, J. et al. (2010). *The Gender and Poverty Impacts of Trade Liberalization in Senegal*. Centre interuniversitaire sur le risque, les politiques économiques et l'emploi (CIRPÉE). Working Paper No. 10-13. Québec.

Commission publishes information on CO2 emissions from maritime transport, available online at : https://ec.europa.eu/clima/news/commission-publishes-information-co2-emissions-maritime-transport_en.

Commission Staff Working Document (2018). "Individual reports and info sheets on implementation of EU Free Trade Agreements" accompanying the document Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Implementation of Free Trade Agreements 1 January 2017 - 31 December 2017, http://trade.ec.europa.eu/doclib/docs/2018/october/tradoc_157473.PDF.

Concani, P., M. Garcia-Santana, L. Puccio and R. Venturini (2018). From Final Good to Inputs: The Protectionist Effect of Rules of Origin, American Economic Review, 108(8). pp.2335-2365.

Copeland, B.R. and Taylor, M.S. (2004), Trade, Growth and the Environment, Journal of Economic Literature 46:1, pp. 7-71.

Copenhagen Economics (2010). "The study Ex-post assessment of six EU Free Trade Agreements, Copenhagen, Nov. 2010. Retrieved from https://trade.ec.euroDa.eu/doclib/docs/2011/mav/tradoc 147905.pdf.

Crippa, M., Oreggioni, G., Guizzardi, D., Muntean, M., Schaaf, E., Lo Vullo, E., Solazzo, E., Monforti-Ferrario, F., Olivier, J.G.J., Vignati, E., Fossil CO2 and GHG emissions of all world countries - 2019 Report, EUR 29849 EN, Publications Office of the European Union, Luxembourg, 2019, ISBN 978-92-76-11100-9, doi:10.2760/687800, JRC117610.

Crivelli, P. and Gröschl, J. 2016. The impact of sanitary and phytosanitary measures on market entry and trade flows', The World Economy, 39(3). pp. 444-473.

Dadush U. and Myachenkova Y. (2018). "Assessing the European Union's North Africa trade agreements", Bruegel Policy Contribution, Issue number 22.Retrieved from http://bruegel.org/2018/11/assessing-the-european-unions-north-africa-trade-agreements/.

Dadush, U., and Ali, A. A. (2018). Deindustrialization and Employment in Morocco (No. 1834). OCP Policy Center.

Dal Bianco, A., Boatto, V.L., Caracciolo, F. and Santeramo, F.G. 2016. Tariffs and non-tariff frictions in the world wine trade, European Review of Agricultural Economics, 43(1). pp. 31-57.

De Benedictis L., Gallegati M., Tamberi M. 2009. Overall trade specialisation and economic development: countries diversify, *Review of World Economics*, 145(1): 37-55.

de Frahan, B.H. and Vancauteren, M. 2006. Harmonisation of food regulations and trade in the Single Market: evidence from disaggregated data, European Review of Agricultural Economics, 33(3). pp. 337-360.

Decreux, Y. and Valin, H. (2007) "MIRAGE, Updated Version of the Model for Trade Policy Analysis with a Focus on Agriculture and Dynamics", CEPII Working Paper 2007-15.

Dennis, A., (2006). The Impact of Regional Trade Agreements and Trade Facilitation in the MENA Region, World Bank Policy Research Working Paper No. 3837, Washington DC: The World Bank.

Devarajan, S. and Go D., (1998). The Simplest Dynamic General-Equilibrium Model of an Open Economy, Journal of Policy Modelling, 20(6). p. 677-714.

Dhehibi, Boubaker & Telleria, Roberto & Aw-Hassan, Aden. (2014). Total Factor Productivity in Tunisian Agriculture: Measurement and Determinants. New Medit. 1. 4-14.

Diaz-Mora, C, Gandoy, R. and González-Díaz, B. (2018): "Looking into global value chains: influence of foreign services on export performance", Review of World Economics (Weltwirtschaftliches Archiv), 2018, vol. 154, issue 4, 785-814.

Disdier, A.C. and Marette, S. 2010. The combination of gravity and welfare approaches for evaluating non-tariff measures, American Journal of Agricultural Economics, 92(3). (2010) pp. 713–726.

Dogan E. and Aslan A. (2017). "Exploring the relationship among CO2 emissions, real GDP, energy consumption and tourism in the EU and candidate countries: Evidence from panel models robust to heterogeneity and cross-sectional dependence", Renewable and Sustainable Energy Reviews, Volume 77, September 2017, pp. 239-245.

Domat, G., Glass, B., and Brown, D. (2012). The Apparel Industry: Jordan's comparative advantage in international trade. Amman, Jordan: Better Work Monitoring and Evaluation.

Doumbia, S., & Meurs, D. (2003). *Gender equality at work in sub-Saharan Africa: A case study of Mali's modern sector.* International Labour Review, 142(3): 295-316.

Drine I. (2011). *Climate Variability and Agricultural Productivity in MENA Region*. UNU-WIDER Working Papers, No. 2011/96. Available at: http://www.wider.unu.edu/publications/working-papers/2011/en_GB/wp2011-096.

Dröge S. and Schenuit F. (2018). "Mobilising EU trade policy for raising environmental standards: the example of climate action", IEEP Working Paper, Brussels 2018, https://ieep.eu/publications/draft-think-2030-policy-papers.

Drogué, S., and DeMaria, F. 2012. Pesticide residues and trade, the apple of discord?. Food Policy, 37(6). 641-649.

EBRD. (2018). Tunisia Country Strategy: 2018-2023.

EC (2016). The pan-Euro-Mediterranean cumulation and the PEM Convention [Text, from Taxation and Customs Union—European Commission website: https://ec.europa.eu/taxation_customs/business/calculation-customs-duties/rules-origin/general-aspects-preferential-origin/arrangements-list/paneuromediterranean-cumulation-pem-convention_en.

EC DG Trade (2019) Model-based Analysis of six Southern Mediterranean Free Trade Agreements.

EC estimates on maritime emissions, https://ec.europa.eu/clima/news/commission-publishes-information-co2-emissions-maritime-transport_en (access: February 17, 2020).

EC estimates on maritime emissions, https://ec.europa.eu/clima/news/commission-publishes-information-co2-emissions-maritime-transport_en (accessed: February 17, 2020).

ECORYS (2013a). "Trade Sustainability Impact Assessment in support of negotiations of a DCFTA between the EU and Morocco", Final Report, Rotterdam 2013, http://trade.ec.europa.eu/doclib/docs/2013/november/tradoc_151926.pdf.

ECORYS (2013b). "Trade Sustainability Impact Assessment in support of negotiations of a DCFTA between the EU and Tunisia", Final Report, Rotterdam 2013, http://trade.ec.europa.eu/doclib/docs/2013/november/tradoc_151923.pdf.

Ecorys (2014a). "Trade Sustainability Impact Assessment in support of negotiations of a DCFTA between the EU and Egypt", http://trade.ec.europa.eu/doclib/html/153139.htm.

Ecorys (2014b). "Trade Sustainability Impact Assessment in support of negotiations of a DCFTA between the EU and Jordan", http://trade.ec.europa.eu/doclib/html/153141.htm.

Ecorys. (2009) Competitiveness of the EU: Market and Industry for Pharmaceuticals: Volume II: Markets, Innovation & regulation. https://ec.europa.eu/competition/sectors/pharmaceuticals/inquiry/staff_working_paper_part1.pdf.

EDGAR database, https://edgar.jrc.ec.europa.eu/overview.php (accessed: March 23, 2020).

EEA (2014), Horizon 2020 Mediterranean report, EEA Technical report No 6/2014 (including countries annexes).

Egypt State of the Environment Report 2012, http://www.eeaa.gov.eg/portals/0/eeaaReports/SoE2013en/SOEreport_2012_english.pdf.

El Mokri, K. (2016). Morocco's 2014-2020 Industrial Strategy and its potential implications for the structural transformation process. OCP Policy Center Policy Briefs, (16/27).

El-Enbaby, H.; Hendy, R.; and Zaki, C. 2014. Do Product Standards Matter for Margins of Trade in Egypt? Evidence from Firm-Level Data, Applied Economics, Fernandes, A.M., Ferro, E. and Wilson, J.S. 2017. Product Standards and Firms' Export Decisions', The World Bank Economic Review.

El-Haddad, A., Hodge, J., and Manek, N. (2017, June). The political economy of a sector in crisis: Industrial policy and political connections in the Egyptian automotive industry. In Economic Research Forum Working Paper (Vol. 1112).

Elbehri, A. and Hertel, T.W. (2003). Economic Integration and Market Structure: Analysis of the EU-Morocco FTA vs. Multilateral Liberalization. Global Trade Analysis Project (GTAP) Working Paper n° 30, Purdue University, West Lafayette, USA.

Embassy of Denmark in Cairo (2014), Egypt: Food, Agriculture and Agribusiness. Sector analysis. March 2014.

Emiliano Magrini, Pierluigi Montalbano & Silvia Nenci (2017) Are EU trade preferences really effective? An impact evaluation assessment of the Southern Mediterranean Countries' case, International Review of Applied Economics, 31:1, 126-144.

EMNES (2017). "The study on trade flows and the impact of EU-Med trade and Enhancing Regional Climate Change Adaptation in the Mediterranean Marine and Coastal Areas. Global Environment Facility Website, available at: https://www.thegef.org/project/enhancing-regional-climate-change-adaptation-mediterranean-marine-and-coastal-areas.

ENERGIES 2050 (2018), Le bassin méditerranéen dans le nouvel Agenda climatique international, ENERGIES 2050, Institut de la Méditerranée, FEMISE, available online at : http://energies2050.org/rapport-mediterranee-2018/.

Environmental Performance Review of Morocco, https://www.unece.org/fileadmin/DAM/env/epr/epr_studies/ECE_CEP_170_En.pdf.

Eora global supply chain database (2019) Input-Output tables.

Ernst and Young (2017): Power transactions and trends: 2016 review and 2017 outlook".

Esipova, N. et al. (2017). *Towards a better future for women and work: Voices of women and men*. Gallup, Inc. and the International Labour Organization.

Estevadeordal, A. (2000). Negotiating Preferential Access: The Case of the North American Free Trade Agreement, Journal of World Economy, 34(1). pp. 141-66.

Estevadeordal, A. and E. Miller (2002). Rules of Origin and the Pattern of Trade between US and Canada", Washington DC: Integration, Trade and Hemispheric Issues Division, Inter-American Development Bank.

Estevadeordal, A. and K. Suominen (2008). Trade Effects of Rules of Origin, in A. Estevadeordal and K. Suominen (eds.). Gatekeepers of Commerce: Rules of Origin and International Economic Integration, Inter-American Development Bank, Washington, DC.

Euratex Annual Report. (2016). Retrieved from the European Apparel and Textile Confederation: https://euratex.eu/wp-content/uploads/2019/05/Euratex-annual-report-2016-LR.pdf.

Euro-Mediterranean Network of Economic Studies (EMNES).

Euronet Consortium (2012), Profil Environnemental de Pays Tunisie Rapport final, available online at: http://www.environnement.gov.tn/fileadmin/pdf/Rapport_final_PEP_Tunisie.pdf.

European Commission (2001). The textile and clothing industry in the EU. A survey. Enterprise Papers No 2 – 2001.

European Commission (2017) The Food Supply Chain.

European Commission (2017), Achieving Prosperity through Trade and Investment, Updating the 2007 Joint EU Strategy on Aid for Trade, Commission Communication COM (2017) 667 of 13 November 2017 and Council Conclusions 15573/17 of 11 December 2017 available at: https://ec.europa.eu/europeaid/sites/devco/files/com_2017_667_f1_communication_from_commission_to_inst_en_v3_p1_954389.pdf

European Commission (2017). "The report on the implementation of the EU's Free Trade Agreements", European Commission.

European Commission (2017). Agri-food trade in 2017: another record year for EU agri-food trade.

European Commission (2018) DOCUMENT DE TRAVAIL CONJOINT DES Rapport sur l'état des relations Union Européenne-Algérie dans le cadre de la Politique Européenne de Voisinage (PEV) rénovée https://cdn4-eeas.fpfis.tech.ec.europa.eu/cdn/farfuture/P5rlgJ6C3Y2Alf_HLiIZ9NbdK56m7Ev3FiiS-2fU2mg/mtime:1525271605/sites/eeas/files/rapport_sur_l27etat_des_relations_ue-algerie_2018.pdf.

European Commission (2019) Report on Implementation of Free Trade Agreements. COM(2019) 455 final.

European Commission (2019). Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Retrieved from: https://ec.europa.eu/transparency/regdoc/rep/1/2019/EN/COM-2019-455-F1-EN-MAIN-PART-1.PDF.

European Commission (2020), A New Industrial Strategy for Europe, Communication from the Commission, COM(2020).102.final.

European Commission. (2012) Pharmaceuticals Sector Fiche (16.12.2011).

European Commission. Market Access Database. Trade Barriers. Egypt. Available at: https://madb.europa.eu/madb/barriers_details.htm?barrier_id=10800.

European Parliament (2018). Finding the right balance across EU FTAs: benefits and risks for EU economic sectors, European Parliament, October 2018, available at: http://www.europarl.europa.eu/RegData/etudes/STUD/2018/603881/EXPO_STU(2018)603881_EN.pdf.

European Parliament IPOL (2016) Research For AGRI Committee - Food Value Chain In The Eu – How To Improve It And Strengthen The Bargaining Power Of Farmers?

European Parliamentary Research Services. (2019). Environmental impact of the textile and clothing industry.

European Partnership Agreement. Cairo University.

Eurostat (2010), MEDSTAT II: Transport, energy and environment in the Mediterranean partner countries, Luxembourg: Publications Office of the European Union.

Eurostat. (2019). Comext Database. Retrieved from: http://epp.eurostat.ec.europa.eu/newxtweb/.

EvaluatePharma World Preview 2018, Outlook to 2024. See https://www.pharmastar.it/binary_files/allegati/Report_Evaluate_Pharma_81701.pdf.

Evans, D., Kaplinsky, R. and Robinson, S. (2006). Deep and Shallow Integration in Asia: Towards a Holistic Account., Institute of Development Studies, IDS Bulletin. Vol. 37(1). pp. 12-22.

FAO (2017) The future of food and agriculture – Trends and challenges. Rome.

FAO (2018) The State of Agricultural Commodity Markets 2018. Agricultural trade, climate change and food security. Rome.

FAO, CIHEAM-IAMM and CIRAD (2017) Study On Small-Scale Family Farming In The Near East And North Africa Region Focus Country Egypt.

FAO/EBRD (2015) Egypt, Jordan, Morocco and Tunisia. Key Trends in the Agrifood Sector. Country Highlights.

FAO/United Nations (2016) Lebanon. Country Programming Framework 2016-2019.

Federal Ministry for Economic Affairs and Energy, and Government of France (2019), A Franco-German Manifesto for a European Industrial Policy Fit for the 21th Century.

Felipe J., Kumar U., Abdon A., Bacate M. 2012. Product complexity and economic development. *Structural Change and Economic Dynamics*, Volume 23, Issue 1, March 2012, Pages 36-68.

FEMIP (2008), Climate Change and Energy in the Mediterranean, Plan Bleu, Regional Activity Center, available online at: https://www.eib.org/attachments/country/climate_change_energy_mediterranean_en.pdf.

Feraboli, O. (2004). Preferential trade liberalization, fiscal policy responses and welfare: A dynamic CGE model for Jordan, working paper presented at the International Conference on Policy Modelling - EcoMod 2004, Paris, July 2, 2004.

Feraboli, O. and Trimborn, T. (2009) : Trade Liberalization and Income Distribution: A CGE Model for Jordan, Proceedings of the German Development Economics Conference, Frankfurt a.M, No. 10, Verein für Socialpolitik, Ausschuss für Entwicklungsländer, Göttingen.

Fernandes, A. M., Ferro, E. and and J. S. Wilson (2019) "Product Standards and Firm's Export Decisions"; TheWorld Bank Economic Review, 33(2), 2019, 353–374.

Ferragina, A, G. Giovannetti and F. Pascore, (2005). A Tale of Parallel Integration Processes: A Gravity Analysis of EU Trade with Mediterranean and Central and Eastern European Countries, IZA Discussion Paper No. 1829.

FES and Royal Scientific Society (2013), Green Building Development in Jordan, https://library.fes.de/pdf-files/bueros/amman/10678.pdf.

Flaig, D., Haugh, D., Kowalski, P., Rouzet, D., and F. van Tongeren. (2018), "Miracle or Mirage; What role can trade policies play in tackling global trade imbalances?", OECD Economics Department Working Papers, No. 1473, OECD Publishing, Paris. https://doi.org/10.1787/1a55f809-en.

Fosse J, Petrick K. et al. (2016). Towards a Green Economy in the Mediterranean - Assessment of National Green Economy and Sustainable Development Strategies in Mediterranean Countries. eco-union, MIO-ECSDE, GEC. Athens.

Frankfurt School-UNEP Centre/BNEF (2018): "Global Trends in Renewable Energy Investment 2018", with Bloomberg and Frankfurt School.

Freund, C (2010). Third-country Effects of Regional Trade Agreements. The World Economy, 33(11). 1589-1605.

Frija, Aymen & Dhehibi, Boubaker & Aw-Hassan, Aden. (2015). Total factor productivity growth of the Tunisian agricultural sector: a review of historical trends and main determinants. African Journal of Economic and Sustainable Development. 4. 293-307. 10.1504/AJESD.2015.072699.

Fujita M., Krugman P., Venables A. 2001. The spatial economy: Cities, regions, and international trade, MIT Press.

Gabrielzak, Piotr, Tomasz (2017). Does the Euro increase the complexity of exported goods? The case of Estonia, *Lods Economics Working Paper.*

Gala P., Rocha I, Magacho G. 2018. The structuralist revenge: economic complexity as an important dimension to evaluate growth and development. *Brazilian Journal of Political Economy*, vol. 38, nº 2 (151), pp. 219-236, April-June/2018.

Gasiorek, M., P. Augier and C. Lai-Tong (2009). Multilateralizing Regionalism: Lessons from the EU Experience in Relaxing Rules of Origin, in P. Low and R. Baldwin (eds). "Multilateralizing Regionalism: Challenges for the Global Trading System", Cambridge University Press.

Gatti, R. et al. (2014). *Striving for Better Jobs: The Challenge of Informality in the Middle East and North Africa.* The World Bank Group. Washington DC.

Gelil I.A. (2011), Improvement of Air Quality in Egypt: The Role of Natural Gas, Middle East Institute article, available online at: https://www.mei.edu/publications/improvement-air-quality-egypt-role-natural-gas.

George C. (2012). "The economic, social and environmental impacts of the Euro-Mediterranean Free Trade Area", in: Costa-Font, J. (2012). "Europe and the Mediterranean Economy", Routledge Studies in the European Economy, p. 235-242.

Ghali, S.; Zitouna, H.; Karray, Z.; and Driss, S. 2013. Effects of NTMs on the Extensive and Intensive Margins to Trade: The Case of Tunisia and Egypt, Working Paper No.820, The Economic Research Forum.

Ghanem H. (2015) Agriculture and Rural Development for Inclusive Growth and Food Security In Morocco. Brookings Institute. Global Economy & Development. Working Paper 82.

Ghoneim, A. (2013). Rules of Origin and Trade Diversion: The Case of the Egyptian European Partnership Agreement.

Ghoneim, A. and Péridy, N. (2013). "Middle East and North African Integration through the lens of Non-Tariff Measures, Journal of Economic Integration, 28(4).

Ghoneim, A. F. (2003). Rules of origin and trade Diversion: the Case of the Egyptian-European partnership agreement. Journal of World Trade, 37(3). 597-621.

Ghoneim, A. F. Péridy, N. and Lopez Gonzalez, J. and Mendez Parra, M. (2012) Shallow vs. Deep Integration in the Southern Mediterranean: Scenarios for the region up to 2030. MEDPRO Technical Report No. 13/March 2012.

Gignoux, J., and Suwa-Eisenmann, A. (2017). The Regional Impact of Trade Liberalization on Households in Egypt, 1999-2012 (No. 1109). Retrieved from Economic Research Forum website: https://ideas.repec.org/p/erg/wpaper/1109.html.

Gourdon, J. (2014). "CEPII NTM-MAP: A Tool for Assessing the Economic Impact of Non-Tariff Measures, CEPII Working Paper No. 2014-24 December, available at: http://www.cepii.fr/PDF_PUB/wp/2014/wp2014-24.pdf.

Gourdon, J., Gutierrez, I. and P. Kowalski (2019). "Mapping Rules of Origin in Preferential Trade Agreements", The World Bank, Washington, D.C.

Grumiller, J. (2014)."Ex-ante versus ex-post assessments of the economic benefits of Free Trade Agreements: Lessons from the North American Free Trade Agreement (NAFTA)." Briefing Papers 10, Österreichische Forschungsstiftung für Internationale Entwicklung (ÖFSE) / Austrian Foundation for Development Research.

Grumiller, J., Grohs, H., Raza, W., Staritz, C., and Tröster, B. (2018). Strategies for sustainable upgrading in global value chains: The Ivorian and Ghanaian cocoa processing sectors (No. 24/2018). Policy Note, Austrian Foundation for Development Research (ÖFSE).

Grumiller, J., Raza, W., Staritz, C., and Tröster, B. (2018). Strategies for sustainable upgrading in global value chains: the Tunisian textile and apparel sector. (No. 27/2018). Policy Note, Austrian Foundation for Development Research (ÖFSE).

Hafeez et al. (2019). "Free Trade Agreements and Environment for Sustainable Development: a Gravity Model Analysis" in Sustainability available at https://www.researchgate.net/publication/330556918_Free_Trade_Agreements_and_Environment_for_Sustainable_Development_A_Gravity_Model_Analysis.

Hakimi A. and Hamdi H. (2016). "Trade liberalization, FDI inflows, environmental quality and economic growth: A comparative analysis between Tunisia and Morocco", Renewable and Sustainable Energy Reviews, 58, May 2016, pp 1445-1456.

Hamade K. Lebanon's Agriculture: Dynamics of Contraction in the Absence of Public Vision and Policies. https://investinlebanon.gov.lb/en/sectors_in_focus/agriculture_and_livestock.

Harrigan J. (2011). *Food Security in the Middle East and North Africa (MENA) and sub-Saharan Africa: A Comparative Analysis*. CEI Working Papers, No. 2011/5. Available at: http://hdl.handle.net/10086/19397.

Harris, J. (2007). Measurement and Determination of Rules of Origin in Preferential Trade Agreement (PTAs). PhD Thesis, University of Maryland College Park, MD.

Hartmann, D., Guevara, M. R., Jara-Figueroa, C., Aristarán, M., Hidalgo, C.A. 2017. Linking economic complexity, institutions, and income inequality. *World Development* 93,75–93 (2017).

Harvard University. (2019). Atlas of Economic Complexity. Retrieved from http://atlas.cid.harvard.edu.

Hausman R., Klinger B. 2007. The structure of the product space and the evolution of comparative advantage, *Working Paper* Series rwp06-041, Harvard University.

Hausmann, C. A. Hidalgo, S. Bustos, M. Coscia, A. Simoes, M. A. Yildirim. 2014. The Atlas of Economic Complexity: Mapping Paths to Prosperity. MIT Press, 2014.

Hausmann, R, Hidalgo, C. 2010. Country Diversification, Product Ubiquity, and Economic Divergence, *Working Paper* Series rwp10-045, Harvard University.

Hausmann, R., Bustos, S. 2012. Comparative study of export policies in Egypt, Morocco, Tunisia and South Korea. Chapter I, Structural transformation in Egypt, Morocco and Tunisia: A comparison with China. Mimeo, *African Development Bank* 33–83.

Hausmann, R., Hwang J., Rodrik. 2007. What you export matters*? Journal of Economic Growth*, 12(1): 1-25.

Health Effects Institute (2019), State of Global Air. Special Report, Boston, ISSN: 2578-6873.

Heimler, A. The Pharmaceutical Industry and Parallel Trade.

Heuser, C. and Mattoo, A. (2017): "Services Trade and Global Value Chains", World Bank Policy Research Working Paper No. 8126.

Hidalgo, C. A., Klinger, B., Barabási, A. L., Hausmann, R. 2007. The Product Space Conditions the Development of Nations, *Science,* 317(5837), pp, 482-487.

Hidalgo, C. and R. Hausmann (2009). "The Building Blocks of Economic Complexity, July 2009, Proceedings of the National Academy of Sciences 106(26), pp. 10570-5.

Hidalgo, C., Hausman, R. 2009. The building blocks of economic complexity, Proceedings of the National Academy of Sciences of the United States of America 106(26): 10570-10575.

Hidalgo, C.A. 2009. The Dynamics of Economic complexity and the Product Space over a 42 year period, Working Paper No. 189, Center for International Development at Harvard University.

Hndi B. M., Maitah, M. and Mustofa, J. (2016) "Trade Impacts of Selected Free Trade Agreements on Agriculture: The Case of Selected North African Countries", AGRIS on-line Papers in Economics and Informatics, Vol. 8, No. 3, pp. 39 - 50.

Ho, D., Kumar, A., and Shiwakoti, N. (2017, December). Supply chain collaboration—A case study of textile and apparel industry. In 2017 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM) (pp. 1367-1371). IEEE.

Hoekman, B. (2016), "Intra-Regional Trade: Potential Catalyst for Growth in the Middle East", MEI Policy Paper 2016-1, Middle East Institute.

Hoekman, B. and Konan D. ,(2001). Deep Integration, Nondiscrimination and EuroMediterranean Free Trade, in J. von Hagen and M. Widgren (Eds.). Regionalism in Europe: Geometries and Strategies After 2000, Dordrecht: Kluwer Academic Publishers.

Hoekman, B. and Nicita, A. 2011. Trade policy, trade costs, and developing country trade'. World Development, 39(12)pp. 2069-2079.

Holding our breath for a breakthrough in the Mediterranean, available online at: http://www.rempec.org/rempecnews_search.asp?NewsID=1505.

https://santandertrade.com/en/portal/analyse-markets/egypt/distributing-a-product

https://www.nordeatrade.com/fi/explore-new-market/tunisia/economical-context.

Huang, W.M., Lee, G.W.M. and Wu, C.C. (2008), GHG Emissions, GDP Growth and the Kyoto Protocol: A Revisit of Environmental Kuznets Curve Hypothesis, Energy Policy 36, pp. 239-247.

Hvidt, M. 2013. Economic diversification in GCC countries: Past record and future trends. Research Paper, Kuwait Programme on Development, Governance and Globalisation in the Gulf States.

IDAL (2018), *IDAL FDI Monitor,* https://investinlebanon.gov.lb/Content/uploads/SideBlock/180730121827427~IDAL%20FDI%20MONITOR%20LEBANON%20-%20%202018.pdf

IDAL (2019), *IDAL Foreign Investment Structure,* https://investinlebanon.gov.lb/en/lebanon_at_a_glance/foreign_direct_investments/foreign_investment_structure

IEmed. (2011). Euro-med Survey 2010: Assessment of the Euro-Mediterranean Partnership/Union for the Mediterranean 2008-2011 and Prospects for 2012, 2011. Retrieved from https://www.iemed.org/publicacions-en/historic-de-publicacions/enquesta-euromed/euromed-survey-2010/presentacio.

IFAD. (2011). *Promotion of Rural Incomes through Market Enhancement (PRIME) Project*. Final Project Design Report. Vol. I: Main Report and Working Papers. Egypt. Available at: http://www.ifad.org/operations/projects/design/104/egypt.pdf.

IISD and UNEP (2014). International Institute for Sustainable Development and United Nations Environment Programme. Trade and Green Economy: A Handbook. Published by the International Institute for Sustainable Development, Geneva.

ILO (2017). Food and agriculture global value chains: Drivers and constraints for occupational safety and health improvement. Retrieved from: https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---lab_admin/documents/publication/wcms_593288.pdf.

ILO (2019). The future of work in textiles, clothing, leather and footwear. Retrieved from: https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/publication/wcms_669355.pdf.

Imbs,J, R. Wacziarg. 2003. Stages of diversification. *American Economic Review*, 93(1):63{86, 2003.

IMF (2018a) Regional Economic Outlook: Middle East and Central Asia November 2018. from IMF website: https://www.imf.org/en/Publications/REO/MECA/Issues/2018/10/02/mreo1018.

IMF (2018b). Algeria: Selected Issues. IMF Country Report No. 18/169, Washington, DC.

IMF (2018c). 2017 Article IV Consultation, IMF Country Report No. 18/120. Washington, D.C.

IMF (2020), "Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER)", International Monetary Fund, available on-line at: https://www.elibrary-areaer.imf.org/Pages/Home.aspx

IMO (2014), Third IMO Greenhouse Gas Study 2014, London, http://www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Documents/Third%20Greenhouse%20Gas%20Study/GHG3%20Executive%20Summary%20and%20Report.pdf.

IMO (2014), Third IMO Greenhouse Gas Study 2014, London, http://www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Documents/Third%20Greenhouse%20Gas%20Study/GHG3%20Executive%20Summary%20and%20Report.pdf.

IMO (2018), IMO strategy on reduction of GHG emissions from ships, http://www.imo.org/en/MediaCentre/HotTopics/Documents/IMO%20ACTION%20TO%20REDUCE%20GHG%20EMISSIONS%20FROM%20INTERNATIONAL%20SHIPPING.pdf.

IMO and the UNFCCC policy framework, available online at: http://www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Historic%20Background%20GHG.aspx.

Impact Assessment Centre, 'Sustainable Impact Assessment (SIA) of the Euro-Mediterranean Free Trade Area, First Report on Phase 3 of the SIA-EMFTA Project', University of Manchester (2006), 40.

Impact Assessment Centre. (2006). *Sustainable Impact Assessment (SIA) of the Euro-Mediterranean Free Trade Area, First Report on Phase 3 of the SIA-EMFTA Project*. University of Manchester,40.

Inama, S. and L. Jachia (2013). Assessing Market Access Preferences for Mediterranean Countries on the EU Market for Industrial Goods, ERF Working Paper 2013. Cairo: ERF. available at: http://erf.org.eg/publications/assessing-market-access-preferences-for-mediterranean-countries-in-the-eu-market-for-industrial-goods/.

Institut National de la Statistique (2019). Statistiques. Retrieved from: http://www.ins.tn/fr/statistiques.

International & Regional Projects, https://www.climamed.eu/networks/international-and-regional-projects/ (accessed: March 25, 2020).

International Union for Conservation of Nature (2017). North Africa Programme 2017-2020, available at: https://www.iucn.org/sites/dev/files/content/documents/north_africa_programme_2017-2010_en.pdf.

INTESA (2010) The South Mediterranean Countries: Growth and Business Opportunities within the Framework of Relations with the European Union.

Invest in Lebanon (2017) Agriculture Sector. 2017 Factsheet.

Invest in Tunisia (2015) AGRIFOOD Industry in Tunisia.

IPCC (2018). Summary for Policymakers. In: Global Warming of 1.5°C World Meteorological Organization, Geneva, Switzerland.

IRENA (2015). "Africa 2030: Roadmap for a Renewable Energy Future", http://www.irena.org/publications/2015/Oct/Africa-2030-Roadmap-for-a-Renewable-Energy-Future.

IRENA and ESCWA (2018), Evaluating renewable energy manufacturing potential in the Arab region: Jordan, Lebanon, United Arab Emirates, International Renewable Energy Agency, Abu Dhabi, https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2018/Oct/IRENA-ESCWA_Manufacturing_potential_2018.pdf.

IRENA RENEWABLE CAPACITY STATISTICS 2019 (2019), available at: https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Mar/IRENA_RE_Capacity_Statistics_2019.pdf.

Isabel Putinja (26 Mau 2017) Tunisia's Exports to EU Fall Despite Increased Duty-Free Quotas. Olive Oil Times.

ISOFAR (2016) Country Report: Tunisia 2016, available at: http://isofar.org/isofar/index.php/2-uncategorised/119-country-report-tunisia-2016.

Jankowska, A., Nagengast A., Perea J.R. 2012. The Product Space and the Middle-Income Trap: Comparing Asian and Latin American Experiences, *OECD Development Centre Working Paper 311.*

Jarreau, J. (2011). "Economic integration in the EuroMed: current status and review of studies", CEPII, WP No 2011-07.

Jaumotte, F. (2006): "Foreign Direct Investment and Regional Trade Agreements: The Market Size Effect Revisited IMF Working Paper No. 04/206.

Javorcik, Beate, Alessia Lo Turco, Daniela Maggioni .2017. New and Improved: Does FDI Boost Production Complexity in Host Countries?. *The Economic Journal*, 128 (614), 2507-2537.

Jayasinghe, S., Beghin, J.C. and Moschini, G.C. 2010. Determinants of world demand for U.S. corn seeds: The role of trade costs', American Journal of Agricultural Economics, 92(4). pp.999–1010.

Jha, V. (2008). Environmental Priorities and Trade Policy for Environmental Goods: A Reality Check, ICTSD Trade and Environment Series Issue Paper No.7. International Centre for Trade and Sustainable Development, Geneva, Switzerland.

Jha, V. (2009). Trade Flows, Barriers and Market Drivers in Renewable Energy Supply Goods: The Need to Level the Playing Field, ICTSD Trade and Environment Issue Paper 10, International Centre for Trade and Sustainable Development, Geneva, Switzerland.

Jordan: A case study in expanding renewable energy, article available online at: https://castlereagh.net/jordan-a-case-study-in-renewable-energy-development/.

Jordan's Competitiveness report 2007. Chapter 3: Pharmaceuticals.

Jordan's Third national Communication on Climate Change (2014), available online at: https://www.undp.org/content/dam/jordan/docs/Publications/Enviro/TNC%20jordan%20pdf.pdf

Jordan's Third national Communication on Climate Change, https://www.undp.org/content/dam/jordan/docs/Publications/Enviro/TNC%20jordan%20pdf.pdf

Jouini, N. Oulmane, N. and Péridy N. (2016) North African countries' production and export structure: towards a diversification and export sophistication strategy, Canadian Journal of Development Studies / Revue canadienne d'études du développement, 37(2), 217-238.

Juhn, C., Ujhelyi, G., & Villegas-Sanchez, C. (2012). *Men, Women, and Machines: How Trade Impacts Gender Inequality.* National Bureau of Economic Research. Working Paper No. 18106.

Kahia, M. (2017). The Framework of Tunisian Textile and Clothing Industry.

Kamal, Y. and Zaki, C. 2018. How Do Technical Barriers to Trade Affect Exports? Evidence from Egyptian Firm-Level Data, EMNES Working Paper No.14.

Kamrava M. and Z. Babar. (2012). *Food Security and Food Sovereignty in the Middle Eas*t. CIRS Summary Reports, No. 6, pp. 1-2. Available at: http://hdl.handle.net/10822/558539.

Karray, Bassem. (2003) Les Regles d'Origine dans l'espace economique Euro-Mediterranean: The Rules of Origin in the Euro-Mediterranean economic space, In "Euro-Med Integration and the 'Ring of Friends': The Mediterraneans's European Challenge", Vol IV, European Documentation and Research Centre, pp. 321-354.

Kee, H. L., Nicita, A. and Olarreaga, M. (2008) "Import Demand Elasticities and Trade Distortions", The Review of Economics and Statistics 90(4): 666-682.

Kee, H.; Nicita; A. and Olarreaga, M. 2009. Estimating Trade Restrictiveness Indices, The Economic Journal, 119(534): 172-199.

Kenza Ouazzani (2019) Lebanon is looking to review its trade agreement with the EU. L'Orient Le Jour.

Kichou, L. (2011):"Privatization in Algeria: An institutional Economic Analysis of the Failed Privatization Process", East-West Journal of Economics and Business, Vol. XIV – 2011, No 1 (109-135).

Klasa, A. (2019): "Morocco positions itself as more independent FDI portal to Africa Kingdom's southern drive does 'for Europe what Mexico did for the US'", Financial Times, 24th January 2019.

Klinger B., Lederman D. 2006. Diversification, Innovation, and Imitation Inside the Global Technological Frontier. *World Bank Policy Research working paper* 3872; World Bank Washington DC.

Konan D. E. and Maskus K. E. (1997). "A Computable General Equilibrium Analysis of Egyptian Trade Liberalization Scenarios," Working Papers 199701, University of Hawaii at Manoa, Department of Economics.

Konan, D., 2003, Alternative Paths to Prosperity: Trade Liberalization in Egypt and Tunisia, in A. Galal and B. Hoekman (Eds). Arab Economic Integration: Between Hope and Reality, Brookings Institution Press: Washington DC, pp. 61-101.

Koren M, Tenreyro S. 2007. Volatility and Development,*The Quarterly Journal of Economics*, February 2007, Vol. 122, No. 1: 243-287.

Koren M, Tenreyro S. 2013. Technological Diversification. *American Economic Review,* Vol. 103, No. 1,pp. 378-414.

Kowalski, P. (2005) Impact on Government Revenue of Tariff Liberalisation in Developing Countries, in: Douglas Lippoldt (ed.), Trading Up: Economic Perspectives on Development Issues in the Multilateral Trading System, OECD, Paris.

Kowalski, P. and al. 2015. Participation of Developing Countries in Global Value Chains: Implications for Trade and Trade-Related Policies, *OECD Trade Policy Papers*, No. 179, OECD Publishing, Paris.

Kowalski, P. et al. (2015). "Participation of Developing Countries in Global Value Chains: Implications for Trade and Trade-Related Policies", OECD Trade Policy Papers, No. 179, OECD Publishing, Paris. http://dx.doi.org/10.1787/5js33lfw0xxn-en.

Krugman P. 1991. Increasing returns and economic geography, *Journal of Political Economy* 99(3), pp.483-499.

Krugman, P. R., and Obstfeld, M. (2009). International Economics: Theory and Policy. Pearson Addison-Wesley.

Laborde, D. and Lakatos, C. (2012) "Market access opportunities for ACP countries in environmental goods", Issue Paper 17, ICTSD.

Lane, Nathaniel (2020), The New Empirics of Industrial Policy, Journal of Industry, Competition and Trade 20(2), pages 209–234.

Larsen, Bjorn. 2019. Egypt: Cost of Environmental Degradation: Air and Water Pollution. The World Bank. http://documents.worldbank.org/curated/en/619601570048073811/pdf/Egypt-Cost-of-Environmental-Degradation-Air-and-Water-Pollution.pdf.

Lee, J, and Cho, S-H (2017): "Free trade agreement and transport service trade", The World Economy, Volume40, Issue7, July 2017, Pages 1494-1512.

Les Chiffres Alarmants de la Pollution de l'Air en Tunisie, available online at: https://inkyfada.com/fr/2019/07/04/pollution-pm10-tunisie/.

Lewis, W. A. (1954). Economic Development with Unlimited Supplies of Labour. The Manchester School, 22(2). Retrieved from https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-9957.1954.tb00021.x.

Liste, J., Kolster, J. and Matondo-Fundani, N. (2012): "Chinese Investments and Employment Creation in Algeria and Egypt", Economic Brief, Africa Development Bank, 2012.

Liubartseva S., Coppini G., Lecci R., Clementi E. (2018). Tracking plastics in the Mediterranean: 2D Lagrangian model, Marine Pollution Bulletin, 29(1), p. 151-162, ISSN 0025-326X, DOI: 10.1016/j.marpolbul.2018.02.019.

Loewe, M. (2013). Industrial Policy in Egypt: 2004 - 2011. Discussion Paper / Deutsches Institut Für Entwicklungspolitik, 13/2013. Bonn: Dt. Inst. für Entwicklungspolitik.

Loewe, Markus (2013), Industrial Policy in Egypt 2004–2011, German Development Institute Discussion Paper 13/2013.

Lota D. Tamini, Zakaria Sorgho (2016). Trade in Environmental Goods: Evidences from an Analysis Using Elasticities of Trade Costs, Environ Resource Econ, DOI 10.1007/s10640-017-0110-2.

Lulah, H. C. (2015). Spatial price transmission in major East African horticultural markets: a thesis presented in partial fulfilment of the requirements for the degree of Master of AgriCommerce at Massey University, Manawatū, New Zealand (Doctoral dissertation, Massey University).

Magrini, E., Montalbano, P., and Nenci, S. (2017). Are EU trade preferences really effective? An impact evaluation assessment of the Southern Mediterranean Countries' case. International Review of Applied Economics, 31(1). 126-144.

Mako, W.P. (2012): "Privatization: lessons from Jordan", MENA Knowledge and Learning, Quick Notes Series, July 2012, Number 68, World Bank

Manama, B. 2016. Economic Diversification in Oil-Exporting Arab Countries. In Annual Meeting of Arab Ministers of Finance, IMF.

Martín, I. (2003). The Euro-Mediterranean Partnership and Inward FDI in Maghreb Countries (No. 0307006). Retrieved from University Library of Munich, Germany website: https://ideas.repec.org/p/wpa/wuwpit/0307006.html.

Martín, I. (2004). The Social Impact of Euro-Mediterranean Free Trade Areas: A First Approach with Special Reference to the Case of Morocco. Mediterranean Politics, 9(3). 422–458. https://doi.org/10.1080/1362939042000259951.

Martini, A. (2011). *Empowering Women in the Rural Labor Force with a Focus on Agricultural Employment in the Middle East and North Africa (MENA)*. UN Women In cooperation with FAO, IFAD and WFP. Ghana: Accra.

MASEN, http://www.masen.ma/en/presentation (access: February 17, 2020).

Mau, K. 2016. Export diversification and income differences reconsidered: The extensive product margin in theory and application, *Review of World Economics*, 152, 2, 351–381.

McKinsey & Company (2018) Lebanon Economic Vision. Full Report.

McMillan M., Rodrik D. 2011. Globalization, Structural Change and Productivity Growth. NBER *Working Paper* No. 17143.

McMillan.M, Rodrik D., VerduzcoGallo I. 2014. Globalization, Structural Change, and Productivity Growth, with an Update on Africa*. World Development* Vol. 63, pp. 11–32, 2014.

Mediterranean Association of National Agencies for Energy Management/Observatoire Méditerranéen de l'Energie (2018). Les Energies Renouvelables en Méditerranée: Tendances, Perspectives et Bonnes Pratiques, available at: http://www.ome.org/wp-content/uploads/2018/12/MEDENER_OME-Brochure_ENR_PDF2018.pdf.

Medvedev, D. (2012): "Beyond Trade: The Impact of Preferential Trade Agreements on FDI Inflows" World Development, Volume 40, Issue 1, January 2012, Pages 49-61.

Melo, O., Engler, A., Nahuehual, L., Cofre, G. and Barrena, J. 2014. Do sanitary, phytosanitary, and quality-related standards affect international trade? Evidence from Chilean fruit exports', World Development, Vol. 54, (2014) pp. 350-359.

MENA Trade Arrangements, EUI Working Paper RSCAS No. 2005/26, Florence: European University Institute.

Ministère de l'Industrie et de la Promotion des Investissements de l'Algérie (2007), Document de la stratégie industrielle

Ministère Délégué chargé de l'Environnement (2015), 3ème rapport sur l'Etat de l'Environnement au Maroc.

Minondo A,. 2010. Exports' quality-adjusted productivity and economic growth. *Journal of International Trade and Economic Development*, vol. 19, issue 2, pages 257-287.

Monastiriotis V. 2014. Regional growth and national development: transition in Central and Eastern Europe and the regional Kuznets curve in the east and the west, *Spatial Economic Analysis*, 9(2), pp.142-161.

Montalbano, P. and Nenci, S. (2014). Assessing the trade impact of the European Neighbourhood Policy on the EU-MED Free Trade Area, Applied Economics, 46(7), pp. 730-740.

NABC (2018) Tunisia. Business Opportunity Report. Agriculture.

Nadcrinicinii, A. (2017). Greening the Blue Economy: A Collection of Case Studies Showcasing the Application of Sustainable Consumption and Production Principles and Practices to Blue Economy Sectors in the Mediterranean, Union for the Mediterranean, available at: https://ufmsecretariat.org/wp-content/uploads/2017/12/Greening-the-Blue-Economy-UfM-Report.pdf.

National Agency for Energy Conservation, www.anme.nat.tn (access: February 5, 2020).

Nelson, S., & Hill, C. (2019). *Gender in adaptation planning for the agriculture sectors Guide for Trainers.* Food and Agriculture Organization of the United Nations & United Nations Development Programme: Rome.

Nicita, A. (2013), "Exchange rates, international trade and trade policies", Policy Issues in International Trade and Commodities Study Series, No. 56, United Nations Conference on Trade and Development, United Nations, New York and Geneva, 2013.

Nin Pratt, A. et al. (2018). *Agriculture and Economic Transformation in the Middle East and North Africa: A Review of the Past with Lessons for the Future.* FAO and IFPRI. Washington, DC.

Nordea (2020) Tunisia: Economic and Political Overview. Available at:

Noutary, M. and Lucon, Z. (2013). The Arab Spring: What Consequences on Foreign Investment? Strategic Sectors | Economy and Territory.

Nugent, J.B. and T. M. Youssef. 2005. Does MENA Defy Gravity? How MENA has Performed in its Intraregional, EU and Other Trade: Implications for EU and Intra-MENA Trade Arrangements.

OECD (2005). Steenblik, R., Drouet D. and Stubbs, G., 2005, "Synergies between Trade in Environmental Services and Trade in Environmental Goods," OECD Trade and Environment Working Paper 2005/1, OECD Paris.

OECD (2006). Étude sur la politique commerciale, Biens et services environnementaux, Paris.

OECD (2010). Business Climate Development Strategy. Phase 1 Policy Assessment Egypt. Retrieved from: https://www.oecd.org/global-relations/46341307.pdf.

OECD (2013). Interconnected Economies, OECD Publishing.

OECD (2018), "FDI in fragile and conflict affected economies in the Middle East and North Africa: trends and policies", Background Programme, MENA-OECD Competitiveness Programme.

OECD (2018), Implementation of the WTO Trade Facilitation Agreement: The Potential Impact on Trade Costs May, OECD Trade Policy Brief, May 2018, https://issuu.com/oecd.publishing/docs/implementation_of_the_wto_trade_fac/2

OECD (2018b): "Morocco: Strengthening integrity in the energy, transportation and health sector", OECD, June 2018.

OECD (2019 b): "OECD Competition Assessment Review: Tunisia", www.oecd.org/daf/competition/competition-assessment-reviews-tunisia.htm

OECD (2019), OECD Competition Assessment Reviews: Tunisia.

OECD (2019): "Transition Finance Country Study Lebanon Global public goods and the response to adverse shocks: The case of Lebanon", DCD/DAC(2019)34.

OECD. (2002) Foreign Direct Investment for Development: Maximising benefits, minimizing costs.

OECD. (2012). *Gender Equality in Education, Employment and Entrepreneurship: Final report to the MCM 2012, C/MIN (2012)5.* OECD Publishing.

OECD. (2019). *Enhancing Women's Economic Empowerment: New approaches to unpaid care work in developing countries*. OECD Publishing: Paris. Available at: https://doi.org/10.1787/ec90d1b1-en.

OECD/FAO (2018), OECD-FAO Agricultural Outlook 2018-2027, OECD Publishing, Paris/Food and Agriculture Organization of the United Nations, Rome. https://doi.org/10.1787/agr_outlook-2018-en.

OECD/FAO (2018): Numbers for Egypt are from 1999-2000, for Lebanon from 1998 and for Morocco from 1996.

OECD/FAO (2019), OECD-FAO Agricultural Outlook 2019-2028, OECD Publishing, Paris/Food and Agriculture Organization of the United Nations, Rome. https://doi.org/10.1787/agr_outlook-2019-en.

Omri A. (2013). "CO2 emissions, energy consumption and economic growth nexus in MENA countries: evidence from simultaneous equations models", Energy Economics, 40, pp. 657–64.

Onwachukwu, C. I., and Okagbue, E. F. (2019). Unemployment effect of WTO ascension: Evidence from a natural experiment. International Economics. https://doi.org/10.1016/j.inteco.2019.04.003.

Otsuki, T., Wilson, J.S. and Sewadeh, M. 2001a. What price precaution? European harmonization of aflatoxin regulations and African groundnut exports, European Review of Agricultural Economics, 28(2). pp. 263–283.

Otsuki, T., Wilson, J.S. and Sewadeh, M. 2001b. Saving two in a billion: quantifying the trade effect of European food safety standards on African exports', Food policy, 26(5). pp. 495-514.

Ourens, G. 2012. Can the Method of Reflections help predict future growth? Documento de Trabajo/FCS-DE; 17/12, Université catholique de Louvain, Institut de Recherches Economiques et Sociales (IRES).

Oxford Business Group (2015), New Industrial Policy in Morocco Stimulating Growth in many Segments, retrieved from https://oxfordbusinessgroup.com/overview/new-industrial-policy-morocco-stimulating-growth-many-segments

Oxford Business Group (2018), Algeria's Industrial Policy of Small Business Creation and Local Integration, retrieved from https://oxfordbusinessgroup.com/overview/productivity-boost-industrial-policy-focuses-facilitating-small-business-creation-and-raising-local

Paciello, M.C. (2015). *Building Sustainable Agriculture for Food Security in the Euro Mediterranean Area: Challenges and Policy Options.* Edizioni Nuova Cultura.

Parteka, A. and Tamberi M. 2013a. 'Product diversification, relative specialisation and economic development: import-export analysis', *Journal of Macroeconomics*, 38, A, 121-135.

Parteka, A., and Tamberi, M. 2013b. What determines export diversification in the development process? Empirical assessment', *The World Economy,* 36, 6, 807-826.

Pastore, Ferragina. and Giovannetti (2009) A Tale of Parallel Integration Processes: A Gravity Analysis of EU Trade with Mediterranean and Central and Eastern European Countries, Review of Middle East Economics and Finance, 5(2):2-2.

Performance Index. (2012). Yale Center for Environmental Law and Policy. Country Estimates of PM2.5 Exposure. Arlington,VA: Battelle Memorial Institute.

Peridy N and Roux C. 2012.Why are the Trade Gains from the Euro-Mediterranean Partnership so Small?, Journal of World Trade, 46(3): 571-596.

Peridy N. and Ghoneim A.F. (2015), Euro-Mediterranean Trade: Shallow Versus Deep Integration, in *Economic and Social Development of the Southern and Eastern Mediterranean Countries*, R.Ayadi, M. Dabrowski and L. De Wulf (Ed.), Springer.

Péridy, N and A. Ghoneim (2013). "Middle East and North African Integration through the lens of Non-Tariff Measures, Journal of Economic Integration, 28(4): 580-609.

Péridy, N. (2005a) Towards a Pan-Arab Free Trade Area: Assessing Trade Potential Effects of the Agadir Agreement, The Developing Economies, XLIII-3 (September 2005): 329–45.

Péridy, N. (2005b). Towards a New Trade Policy between the USA and Middle-East Countries: Estimating Trade Resistance and Export Potential. World Economy 28(4) pp.491–518.

Péridy, N. (2005c). Trade Prospects of the New EU Neighbourhood Policy: Evidence from Hausman and Taylor's Models, Global Economy Journal, 5(1).

Péridy, N. (2012). "Some New Insights into Trade Potential between the EU and Its Mediterranean Partners", Economics Research International, Volume 2012, https://www.hindawi.com/journals/ecri/2012/616793/.

Péridy, N. and N. Roux (2012) "Why are the Trade Gains from the Euro-Mediterranean Partnership so Small?", Journal of World Trade, 46(3): 571-596.

Péridy, N., Jouini N. and N. Oulmane, (2016). "North African Countries' production and export structure: Towards diversification and export sophistication strategy", Canadian Journal of Development Studies, 37(2). pp.217-238.

Perry M. (2015) Moroccan agriculture: Facing the challenges of a divided system. Sustainable Food Trust.

Peterson, E., Grant, J.H., Roberts, D. and Karov, V. 2013. Evaluating the trade restrictiveness of phytosanitary measures on US fresh fruit and vegetable imports, American Journal of Agricultural Economics, 95(4). pp. 842-858.

Philippidis, G. and Sanjuán, A. I. (2007) An Examination of Morocco's Trade Options with the EU, Journal of African Economies, 16(2) pp. 259–300.

Pickles, J., and Godfrey, S. (2013). Economic and Social Upgrading in Global Apparel Production Networks (SSRN Scholarly Paper No. ID 2265831). Retrieved from Social Science Research Network website: https://papers.ssrn.com/abstract=2265831.

Plan Bleu. (2015). Economic and Social Analysis of the Uses of the Coastal and Marine Waters in the Mediterranean, Characterization and Impacts of the Fisheries, Aquaculture, Tourism and Recreational Activities, Maritime Transport and Offshore Extraction of Oil and Gas Sectors.

Plan Bleu. (2017). Technical Report.

Poncet S, Waldemar F. 2013. Export upgrading and growth: the prerequisite of domestic embeddedness, *CEPII* , WP No2012-26.

Porter M. E. and van der Linde C. (1995). "Toward a New Conception of the Environment-Competitiveness Relationship", Journal of Economic Perspectives, 9(4) (Autumn 1995). pp. 97–118.

POSITION PAPER OF THE EUROPEAN COMMISSION SERVICES, Trade Sustainability Impact Assessment (SIA) of the Euro-Mediterranean Free Trade Area 2009, https://trade.ec.europa.eu/doclib/docs/2009/july/tradoc_143891.pdf.

Position Paper of the European Commission Services, Trade Sustainability Impact Assessment (SIA) of the Euro-Mediterranean Free Trade Area 2009, https://trade.ec.europa.eu/doclib/docs/2009/july/tradoc_143891.pdf.

Prazeres, T (2019): "Services are the hidden side of the US-China trade war", World Economic Forum, Article 20 Sep 2019.

PwC (2015): "Algeria: the report".

PwC (2017): "Egypt: the report".

PwC (2018): "Algeria: the report".

Rafaa Mraihi, Riadh Harizi, Talel Mraihi, Mohamed Taoufik Bouzidi, Urban air pollution and urban daily mobility in large Tunisia's cities, Renewable and Sustainable Energy Reviews, Volume 43, 2015, Pages 315-320, ISSN 1364-0321, https://doi.org/10.1016/j.rser.2014.11.022.

Ramzy and Zaki C. 2018. Do Environment Regulations Matter for EU-MENA Trade? Applied Economics, 50(39). 4197-4221.

Ramzy M. and Zaki Ch. (2018). "Do Environment Regulations Matter for EU-MENA Trade?", EMNES Working Paper Number 2.

Ranis, G., and Fei, J. C. H. (1961). A Theory of Economic Development. The American Economic Review, 51(4). 533–565.

Regional Expert Meeting for the Middle East and North Africa on Climate and Air Pollution (2017), Cleaning up the air and slowing the pace of warming: opportunities for early action in the Middle East and North Africa, UN Environment 2017, available online at: https://www.ccacoalition.org/ar/resources/meeting-report-background-document-regional-expert-meeting-middle-east-and-north-africa.

REMPEC (2019a), EXAMINING THE POSSIBILITY OF DESIGNATING THE MEDITERRANEAN SEA, OR PARTS THEREOF, AS SOX ECA(S) UNDER MARPOL ANNEX VI, REMPEC/WG.45/11.

REMPEC (2019a), Examining the possibility of designating the Mediterranean Sea, or parts thereof, as sox eca(s) under marpol annex vi, REMPEC/wg.45/11.

REMPEC (2019b), Technical feasibility study for the implementation of an emission control area (ECA) in EU waters with focus on the Mediterranean Sea (Submitted by the European Union), REMPEC/WG.45/INF.11.

REMPEC (2019b), Technical feasibility study for the implementation of an emission control area (ECA) in EU waters with focus on the Mediterranean Sea (Submitted by the European Union), REMPEC/WG.45/INF.11.

Renewable Energy Outlook: Egypt, https://www.irena.org/publications/2018/Oct/Renewable-Energy-Outlook-Egypt.

Richards, A., & Waterbury, J. (1998). *A Political Economy of the Middle East*. State, Class and Economic Development, 2nd ed., Boulder, Westview Press.

Rodríguez-Pose A. 2006. How does trade affect regional disparities?, *World Development* 34(7), pp.1201-1222.

Rodrik, D,. 2013. Unconditional Convergence in Manufacturing. *Quarterly Journal of Economics*, 128 (1).

Rodrik, Dani (2019), Where are we in the Economics of Industrial Policies? VoxDev, 21 January 2019, retrieved from https://voxdev.org/topic/public-economics/where-are-we-economics-industrial-policies

Rossi, A. (2013). Does economic upgrading lead to social upgrading in global production networks? Evidence from Morocco. World Development, 46, 223-233.

Rudloff B. and I. Werenfels (2018) EU-Tunisia DCFTA: Good Intentions Not Enough. Shift Needed from Deep to Deliberate, Comprehensive to Coherent and from Free to Fair Trade.

Ruiz, J.M. and J.M. Vilarrubia (2007). The Wise Use of Dummies in Gravity Models: Export Potentials in the Euro-Med Region, Bank of Spain Working Paper, No. 0720.

Sakr, M. F. and Sweilam, M. N. (2015). Firm-level technological capabilities in the Egyptian Machinery and Equipment Industry. International Society for Engineering Research and Development (ISERD). p 15-20. Cairo, Egypt.

Santander (2020 a):"Tunisia: Distributing a Product", https://santandertrade.com/en/portal/analyse-markets/tunisia/distributing-a-product

Santander (2020 b):"Egypt: Distributing a Product",

Sauvage, J. (2014). The Stringency of environmental Regulations and Trade in Environmental Goods, OECD Trade and Environment Working Paper, No. 2014/03, Paris: OECD.

Schumpeter, J. A. (2013). Capitalism, Socialism and Democracy. Routledge.

Shabaz M. et al. (2012). "Environmental Kuznets Curve in an Open Economy: A Bounds Testing and Causality Analysis for Tunisia", MPRA Paper No. 42706, November 2012.

Sharabati, A.A. and Jawad, S.N. (2010) Intellectual capita land business performance in the pharmaceutical sector of Jordan. In Management Decision, 48(1), pp. 105-131.

Shdeifat, O., Mohsen, M., Mustafa, M., al-Ali, Y. and al-Mhaisen, B. (2006): "Tourism in Jordan", Green-Tas and Hashemite University.

Shimeles, A. 2014. Growth and Poverty in Africa: Shifting Fortunes and New Perspectives. *African Development Bank.* Institute for the Study of Labor (IZA) No. 8751.

Siemens website, https://new.siemens.com/ma/en/company/topic-areas/ingenuity-for-life/tarfaya-wind-farm.html (access: February 17, 2020).

Siemens website, https://new.siemens.com/ma/en/company/topic-areas/ingenuity-for-life/tarfaya-wind-farm.html (accessed: February 17, 2020).

Smith, A. (2015). Economic (in) security and global value chains: the dynamics of industrial and trade integration in the Euro-Mediterranean macro-region. Cambridge Journal of Regions, Economy and Society, 8(3). 439-458.

Söderling, L. (2005). Is the Middle East and North Africa Region Achieving Its Trade Potential?, IMF Working Paper, WP/05/90.

Solleder, J.M., de Melo, J. (2018). Barriers to trade in environmental goods, Ferdi WP n°235.

Sraïri, Mohamed Taher (2017) New challenges for the Moroccan agricultural sector to cope with local and global changes.

Statistiques Tunisienne, National Directory of Businesses. (2019). Retrieved from: http://www.ins.tn/en/themes/entreprises#sub-322.

Sugathan, Mahesh; (2013); Lists of Environmental goods: An Overview; Environmental Goods and Services Series; International Centre for Trade and Sustainable Development, Geneva, Switzerland.

Surveillance de la qualité de l'air, available online at: https://www.environnement.gov.ma/fr/air/118-theme/air/209-surveillance-de-la-qualite-de-l-air?showall=1&limitstart=.

Sustainability Impact Assessment of the Euro-Mediterranean Free Trade Area, Final Report of the SIA-EMFTA Project, Revised November 2007, https://trade.ec.europa.eu/doclib/docs/2008/february/tradoc_137777.pdf.

Swinnen, J. 2016. Economics and politics of food standards, trade, and development', Agricultural Economics, 47(1). pp. 7-19.

Tarawneh, Nidal. (2007). Environmental Issues in Jordan, Solutions and Recommendations. American Journal of Environmental Sciences.

Tellioglu, Isin, and Panos Konandreas. 2017. Agricultural Policies, Trade and Sustainable Development in Egypt. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and Rome: United Nations Food and Agriculture Organization (FAO).

Testas, Abdelaziz, and Nikolaos Karagiannis (2012), Towards an Alternative Industrial and Trade Profile for Algeria: The Challenge of the Developmental State Model, The Journal of North African Studies 17(4), pages 631–652.

The CO2 intensity (kg per kg of oil equivalent energy use) World Bank database, https://data.worldbank.org/indicator/EN.ATM.CO2E.EG.ZS.

The Economist Intelligence Unit (2019). "Climate change and trade agreements. Friends or foes?", a report commissioned by: the ICC, the ICC Word Trade Agenda, and Qatar Chamber of Commerce and Industry.

The Eora Global Supply Chain Database, https://worldmrio.com.

The Report: Jordan 2014. By Oxford Business Group. Retrieved from: https://books.google.nl/books?id=qtA_CwAAQBAJ&pg=PA116&lpg=PA116&dq=jordan+how+many+people+work+in+the+chemical+sector&.

Tokatli, N. (2008). Global sourcing: insights from the global clothing industry—the case of Zara, a fast fashion retailer. Journal of Economic Geography, 8(1). 21-38.

Tovias, A. (1997). The economic impact of the Euro-Mediterranean free trade area on Mediterranean non-member countries. Mediterranean Politics, 2(1). 113-128.

Tovias, A. and J. Bacaria (1999). Free Trade and the Mediterranean. Mediterranean Politics, 4(2). 3-22.

Townsend, Robert. 2015. Ending poverty and hunger by 2030 : an agenda for the global food system. Washington, D.C. : World Bank Group.

Trade Analysis Information System (TRAINS). (2019). Retrieved from: https://databank.worldbank.org/source/unctad-%5e-trade-analysis-information-system-(trains).

True, J. (2009). *Trading-off gender equality for global Europe: The European union and free trade agreements*. European foreign affairs review, 14(5), 723 – 74.

Tunisia's Third National Communication as part of the United Nations Framework Convention on Climate Change, https://unfccc.int/sites/default/files/resource/Synthèse%20Ang%20Finalisé.pdf.

Tunisie (2019), Rapport National Volontaire Sur la mise en œuvre des Objectifs de Developpement Durable, available online at: https://sustainabledevelopment.un.org/content/documents/23372Rapport_National_Volontaire_2019_Tunisie.pdf.

UN Comtrade, (2019). Retrieved from: https://comtrade.un.org/data/.

UN Env. (2018). United Nations Environment Programme (2018). Trade in environmentally sound technologies: Implications for Developing Countries.

UN- ESCWA (2018): "Assessing Arab Economic Integration Trade in Services as a Driver of Growth and Development", E/ESCWA/EDID/2017/6, Beirut.

UNCTAD (2006): "World Investment Report, 2006", Geneve.

UNCTAD (2009a). Non-Tariff Measures: Evidence from Selected Developing Countries and Future Research Agenda. United Nations publication.

UNCTAD (2014) Trading With Conditions: The Effect Of Sanitary And Phytosanitary Measures On Lower Income Countries' Agricultural Exports.

UNCTAD (2016). Examen national de l'export vert du Maroc, Etude de base de la CNUCED, United Nations Publication [National assessment of Morocco's green exports].

UNCTAD (2017), "UNCTAD TRAINS: The Global Database on Non-Tariff Measures User Guide (2017, Version 2)" available on-line at: https://unctad.org/en/PublicationsLibrary/ditctab2017d3_en.pdf.

UNCTAD (2017). Examen de l'export vert du Maroc: produits oléicole, romarins et thym.

UNCTAD (2017). Guidelines to collect data on official non-tariff measures.

UNCTAD (2018): "Investment Policy Review: Lebanon", United Nations, 2018.

UNCTAD (2018). Non-Tariff Measures: Economic Assessment and Policy Options for Development, The United Nations.

UNCTAD (2018). The Use of the EU's Free Trade Agreements: Exporter and Importer Utilization of Preferential Tariffs, The National Board of Trade.

UNCTAD (2019), Review of Maritime Transport 2019, United Nations publication, https://unctad.org/en/PublicationsLibrary/rmt2019_en.pdf.

UNCTAD (2019), Review of Maritime Transport 2019, United Nations publication, https://unctad.org/en/PublicationsLibrary/rmt2019_en.pdf.

UNCTAD (2019). Key Statistics and Trends in Trade Policy 2018. Geneva, Switzerland.

UNCTAD and World Bank (2018), Unseen Impact of Non-tariff Measures; Insights from a New Database, United Nations Conference on Trade and Development and the World Bank, available at:

UNCTAD. (2017). *Trade and Gender Toolbox: How will the economic partnership agreement between the European union and the East African community affect Kenyan women?* United Nations.

UNECA (2014), The green economy in Tunisia – an implementation tool of the new sustainable development strategy (2014-2020), https://www.uneca.org/sites/default/files/uploaded-documents/SROs/NA/AHEGM-ISDGE/egm_ge-_tunisa_eng.pdf.

UNEP (2013). Green Economy and Trade: Trends, Challenges and Opportunities, http://www.unep.org/greeneconomy/GreenEconomyandTrade.

UNEP (2015a), Egypt Air Quality Policies, available online at : https://wedocs.unep.org/bitstream/handle/20.500.11822/17186/Egypt.pdf?sequence=1&isAllowed=y.

UNEP (2015b), Jordan Air Quality Policies, available online at : https://wedocs.unep.org/bitstream/handle/20.500.11822/17226/Jordan.pdf?sequence=1&isAllowed=y.

UNEP (2019), UNEP/MED IG.24/Inf.11, 21st Meeting of the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols.

UNEP and WTO (2009), Trade and Climate Change, Geneva.

United Nations Environment Programme (2018). Trade in environmentally sound technologies: Implications for Developing Countries.

United Nations Industrial Development Organization (2017). Industrial Development Report 2018. Demand for Manufacturing: Driving Inclusive and Sustainable Industrial Development. Vienna.

United States Department of Agriculture (2016). Lebanon: Lebanese Market Overview.https://www.fas.usda.gov/data/lebanon-lebanese-market-overview.

USDA Foreign Agricultural Service (2016). Lebanese Market Overview.

Van Berkum S. (2013) Trade effects of the EU-Morocco Association Agreement.

Verhoogen, E. A. (2008) "Trade, Quality Upgrading and Wage Inequality in the Mexican Manufacturing Sector" *Quarterly Journal of Economics* 123, 489-530.

Vidican-Auktor, G., and Hahn, T. (2017). The effectiveness of Morocco's Industrial Policy in Promoting a National Automotive Industry. Bonn: DIE Discussion Paper, 27, 2017.

Vidican-Auktor, Georgeta, and Tina Hahn (2017), The effectiveness of Morocco's Industrial Policy in Promoting a National Automotive Industry, German Development Institute Discussion Paper 27/2017

Viroleau, F. (2015). *Evolution of Gender Inequalities in Wages in Senegal Following the Economic Partnership Agreements*. Working Paper n° 2015-10. Economix. Paris.

Waha, K., Krummenauer, L., Adams, S. et al.(2017) Climate change impacts in the Middle East and Northern Africa (MENA) region and their implications for vulnerable population groups. Reg Environ Change 17, 1623–1638. https://doi.org/10.1007/s10113-017-1144-2

Wally, A. & Tate, B. (2018). Egyptian Cotton on the Rise. GAIN Report Number EG18011.

Wendling, Z. A., Emerson, J. W., Esty, D. C., Levy, M. A., de Sherbinin, A., et al. (2018). 2018 Environmental Performance Index. New Haven, CT: Yale Center for Environmental Law and Policy, available online at: https://epi.yale.edu/.

WIR (2013): "World Investment Report: Global Value Chains: Investment and Trade for Development", UNCTAD, 2013.

WIR (2015): "World Investment Report: Global Value Chains: Reforming International Investment Governance", UNCTAD, 2015.

WIR (2018): "World Investment Report: Global Value Chains: Investment and New Industrial Policy", UNCTAD, 2018.

WIR (2019): "World Investment Report: Global Value Chains: Special Economic Zones", UNCTAD, 2019.

World Bank (2006). Morocco, Tunisia, Egypt and Jordan after the End of the Multi-Fiber Agreement. Report No. 35376 MNA.

World Bank (2011): "Sustaining the Recovery and Looking Beyond", Middle East and North Africa Region Economic Development and Prospects, January 2011, New York.

World Bank (2011): "Sustaining the Recovery and Looking Beyond", Middle East and North Africa Region Economic Development and Prospects, January 2011, New York.

World Bank (2013) World Bank Enterprise Survey.

World Bank (2019) Employment in agricultural sector. Retrieved from: https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS.

World Bank (2019) International LPI. Retrieved from: https://lpi.worldbank.org/international.

World Bank (2019). Open Data. Retrieved from: https://data.worldbank.org/.

World Bank (2019). WITS database. Retrieved from: https://wits.worldbank.org/.

World Bank (2019). World Development Indicators. Retrieved from https://wdi.worldbank.org.

World Bank (25 July 2018) A story of sustainable irrigation to promote a more productive agricultural sector. Available at: https://www.worldbank.org/en/news/feature/2016/02/18/growing-morocco-s-agricultural-potential1.

World Bank (n.d.). Product Concordance. Retrieved from https://wits.worldbank.org/product_concordance.html.

World Bank and WTO (2015). "The Role of Trade in ending Poverty", Washington D.C.

World Bank Group and World Trade Organization. (2015). *The Role of Trade in Ending Poverty*. World Trade Organization: Geneva.

World Bank Group. (2020). *Women*, Business and the Law Index, 2020.

World Economic Forum. (2019). *Insight Report: Global Gender Gap Report 2020*. The World Economic Forum. Available at: http://www3.weforum.org/docs/WEF_GGGR_2020.pdf.

Xiong, B. and Beghin, J. (2014). Disentangling Demand-Enhancing and Trade-Cost Effects of Maximum Residue Regulations, Economic Inquiry, 52(3). pp. 1190-1203.

Yue, C. and Beghin, J.C. (2009). Tariff equivalent and forgone trade effects of prohibitive technical barriers to trade', American Journal of Agricultural Economics, 91(4). pp. 930-941.

Zaafrane, H., and Mahjoub, A. (2000). The Euro-Mediterranean free trade zone: Economic challenges and social impacts on the countries of the South and East Mediterranean. Mediterranean Politics, 5(1). 9–32. https://doi.org/10.1080/13629390008414706.

Zell, E., and S. Weber. (2012) Environmental Performance Index and Pilot Trend Environmental.

Zhu, S., Li, R. 2017. Economic complexity, human capital and economic growth: empirical research based on cross-country panel data. *Applied Economics,* 49(38), 3815-3828.

Zlaoui Mariem, Dhraief Mohamed Zied, Jebali Ooussema and Benyoussef Salah. (2019). Assessment of the Tunisian olive oil value chain in the international markets: Constraints and Opportunities. FARA Research Result Vol 4(2): PP36.

Zorob, A. (2018). Regional Integration in the Middle East in the Shadow of EU and US Free Trade Initiatives, in H. Loewen, A. Zorob (eds.). Initiatives of Regional Integration in Asia in Comparative Perspective, United Nations University Series on Regionalism 14, https://doi.org/10.1007/978-94-024-1211-6_3.

Zorob. (2017). Analysis of economic and financial relations between the European Union and Southern Mediterranean Countries. Retrieved from https://civilsociety-centre.org/resource/analysis-economic-and-financial-relations-between-european-union-and-southern-mediterrane.

Zupi, Marco and Elisanda Estruch-Puertas (2009), Social Cohesion Policies in Mediterranean Countries: an Assessment of Instruments and Outcomes, FEM33-05, FEMISE Research Programme 2008-2009, October 2009, pp. 13-14.

Links:

https://mce.eu/global-shifts-chemical-industry/

https://www.mckinsey.com/industries/chemicals/our-insights/chinas-chemical-industry-new-strategies-for-a-new-era

https://www.caixinglobal.com/2020-02-29/exclusive-chemchinas-syngenta-group-to-seek-china-ipo-by-mid-2022-101522258.html

https://www2.deloitte.com/eg/en/pages/consumer-industrial-products/articles/gx-chemical-industry-trends.html

http://www.fao.org/3/y5863e/y5863e08.htm

https://www.de.kearney.com/chemicals/article?/a/chemical-industry-vision-2030-a-european-perspective

https://www.technofunc.com/index.php/domain-knowledge/item/business-model-value-chain-of-chemicals-industry

https://www.nepic.co.uk/wp-content/uploads/2018/12/Chemicals-Roadshow-Rules-of-Origin-Distribution-Slides.pdf

https://trade.ec.europa.eu/tradehelp/myexport#?product=3102000000&partner=DZ&reporter=NL&tab=100

https://cefic.org/app/uploads/2019/01/The-European-Chemical-Industry-Facts-And-Figures-2020.pdf

https://www.americanchemistry.com/Policy/Trade/Keys-to-Export-Growth-for-the-Chemical-Sector.pdf

https://fortune.com/2017/05/05/chemchina-syngenta-deal-acquisition/

https://www.theguardian.com/science/2000/nov/15/genetics2?INTCMP=SRCH

https://www.academia.edu/36848516/Genetically_Modified_Organisms_GMOs_as_Invasive_Species

https://oxfordbusinessgroup.com/analysis/good-shape-local-pharmaceutical-industry-looking-export-more

https://www.egypttoday.com/Article/3/77836/Pharmaceutical-sales-hit-LE-44-7B-in-2019

https://foreignpolicy.com/sponsored/the-new-egypt-attractive-fdi-environment/

https://www.afro.who.int/sites/default/files/2017-06/9789290232810.pdf

http://www.inchem.org/documents/cicads/cicads/cicad55.htm

http://trade.ec.europa.eu/doclib/docs/2013/november/tradoc_151923.pdf.

https://import-export.societegenerale.fr/en/country/algeria/market-sectors#classification_by_products

https://www.worldometers.info/gas/algeria-natural-gas/

https://www.middleeastmonitor.com/20161229-algeria-introduces-tax-increases-with-2017-finance-law/

https://www.grupovillarmir.es/Divisions/Fertilizer

http://pubdocs.worldbank.org/en/226791570663165545/EN-MPO-OCT19-Algeria.pdf

https://www.chemicals-technology.com/projects/sofertalgerie/

https://www.oecd.org/trade/topics/local-content-requirements/

https://ecipe.org/publications/the-economic-impact-of-local-content-requirements/?chapter=0#_ftn6

https://ecipe.org/publications/the-economic-impact-of-local-content-requirements/?chapter=0#_ftn6

https://www.easyfairs.com/fileadmin/groups/72/MAGHREB_PHARMA_Expo/MAGHREB_Expo_2018_Brochure_-_Web.pdf

https://pharmaboardroom.com/articles/top-5-local-pharma-companies-algeria/

https://atlas.cid.harvard.edu/explore/stack?country=66&year=2017&startYear=1995&productClass=HS&product=129&target=Product&partner=undefined

https://www.bbc.com/afrique/region/2013/02/130221_algeria_corruption

See: https://www.elibrary.imf.org/view/IMF002/22176-9781484341407/22176-9781484341407/22176-9781484341407_A002.xml?redirect=true

https://www.doingbusiness.org/en/rankings and https://www.doingbusiness.org/content/dam/doingBusiness/country/a/algeria/DZA.pdf

https://www.egypttoday.com/Article/3/34238/Egypt-s-chemical-sector-investment-records-36B

https://www.globalmarketsinternational.com/latestmarketpost/egypt-chemical-industry-companies-projects-petrochemical-agrochemical-pharmaceutical/

http://www.cabinet.gov.eg/English/GovernmentStrategy/Pages/Egypt%E2%80%99sVision2030aspx

https://www.egypttoday.com/Article/3/34268/Egypt-s-chemicals-sector-to-boom-on-more-projects-underway

http://www.oecd.org/mena/competitiveness/ERTF-Jeddah-2018-Background-note-FDI.pdf

http://www.wraconferences.com/wp-content/uploads/2015/12/Hussein-Selmy-NADS-2015.pdf

http://www.factfish.com/statistic-country/egypt/urea%2C%20production

https://www.chemicals-technology.com/projects/helwanfertiliserco/

https://erf.org.eg/wp-content/uploads/2014/07/767.pdf

http://extwprlegs1.fao.org/docs/pdf/egy151569.pdf

https://financialtribune.com/articles/domestic-economy/97833/irans-non-oil-trade-with-egypt-at-220m

https://www.bbc.com/news/world-middle-east-27614776

https://www.brookings.edu/research/egypts-imf-program-assessing-the-political-economy-challenges/

https://www.youtube.com/watch?v=Clu1jQCjw-I

https://www.jordanbromine.com/Pages/viewpage?pageID=1

https://exportpotential.intracen.org/en/

http://documents.worldbank.org/curated/en/114741497625111236/pdf/116343-V1-WP-Jordan-PUBLIC-6-19-2017.pdf

The National Labour Market Figures (2014-2018). Retreived from: http://www.mol.gov.jo/

http://pubdocs.worldbank.org/en/928931570034997598/CMO-Pink-Sheet-October-2019.pdf and http://pubdocs.worldbank.org/en/386711578078060390/CMO-Pink-Sheet-January-2020.pdf

https://ec.europa.eu/info/sites/info/files/food-farming-fisheries/farming/documents/market-brief-fertilisers_june2019_en.pdf

http://extwprlegs1.fao.org/docs/pdf/jor170691.pdf

https://atlas.cid.harvard.edu/explore/stack?country=113&year=2017&startYear=1995&productClass=HS&product=5&target=Product&partner=undefined

http://www.tunisieindustrie.nat.tn/en/tissu.asp

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