ECONOMICS - MENA ENTERPRISE SURVEY REPORT WORKING PAPERS: **Volume 1**

ACCESS TO FINANCE IN THE MIDDLE EAST AND NORTH AFRICA

Evidence from the 2019 Enterprise Survey

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Access to finance in the Middle East and North Africa

Evidence from the 2019 Enterprise Survey

Ozan Akbas, Koray Alper, Emanuela Benincasa, Frank Betz, Emmanouil Davradakis, Luca Gattini and Till Kadereit*

Abstract

This paper examines firms' ability to access finance in six Middle East and North Africa (MENA) economies based on the 2019 wave of the Enterprise Survey. All in all, access to finance has not improved relative to the previous survey round. The share of credit-constrained firms among firms needing a loan has increased by 14 percentage points in comparison to the last wave. The increase is concentrated in economies where financial intermediation is more advanced, i.e. Lebanon, Moroccco and Tunisia. A high share of firms operates without external finance, and therefore classified as financially autarkic. At 37%, the share of financially autarkic firms in the average MENA economy is comparable to peer economies. However, Egypt, Jordan and the West Bank and Gaza have a much higher share of autarkic firms. The majority of autarkic firms is voluntarily autarkic and thus not credit-constrained. Low aggregate investment rates are reflected also in Enterprise Survey data. The share of firms investing in fixed assets has declined relative to the previous survey round and is now lower than in peer economies, consistent with crowding out. About 7.5% of firms in the average MENA country have experienced monetary losses due to extreme weather events, such as storms, floods, droughts and landslides in the three years preceding the interview. Firms suffering monetary losses from extreme weather are more likely to invest in physical capital and more likely to report that they need a loan.

JEL codes: G20, G32, O16, Q54
Keywords: Credit constraints, financial autarky, crowding out, physical climate risk

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1. Introduction

This paper examines access to finance in six MENA economies based on the 2019 round of Enterprise Surveys. The MENA economies covered in this survey round are Egypt, Jordan, Lebanon, Morocco, Palestine, and Tunisia. The analysis updates and refines work based on the 2013 wave of the Enterprise Survey (EBRD et al, 2016). Their central finding was that the region's comparatively deep banking sectors were not adept at providing access to finance for a broad cross-section of mainly small and medium-sized companies. Instead, the evidence pointed towards a disconnect between firms on the one hand and banks on the other. This disconnect is characterized by limited use of bank finance coupled with weak demand for bank credit.

Since the 2013 wave of the Enterprise Survey, the MENA region has changed in several dimensions that can affect firms' ability to access finance. On the one hand, the authorities of the region have devised several reforms that seek to improve access to finance, with a particular focus on SMEs. Egypt, Jordan, and Palestine, for instance, have revised their collateral laws, a longstanding weakness in the region. Several countries have further improved their credit information systems. In some countries, these efforts have been complemented by central bank initiatives aimed at incentivizing banks to extend credit to SMEs. On the other hand, public debt has increased further since the previous wave, and is precariously high by middle-income country standards. Political instability remains an issue in several economies and broader institutional change has not materialized. Which of these forces dominates, is ultimately an empirical question.

This study investigates access to finance in the MENA region from several distinct but related angles. Given the importance of bank credit as a source of external finance, the paper documents the extent to which companies are credit constrained. It sheds light on which firms are credit constrained and why. The study then revisits the disconnect between firms and banks by introducing the concept of financially autarkic firms, i.e. firms that are fully self-financing. Financially autarkic firms may or may not be credit constrained, depending on whether they need a loan. The discussion then links firms' ability to access finance to their investment decisions. Finally yet importantly, the paper draws on the Green Economy module that was part of the 2019 Enterprise Survey to document the financial and investment policies of firms suffering losses from extreme weather events. Throughout the analysis, the experience of the MENA region is compared to economies at a similar level of development.

Overall, the evidence does not point toward an improvement in firms' ability to access finance. A large share of firms in need of a loan are unable to obtain one, and thus credit-constrained. The share of credit-constrained firms among firms needing a loan has increased by 14 percentage points in comparison to the previous wave. The increase is concentrated in economies where financial intermediation is more advanced, i.e. Lebanon, Moroccco and Tunisia. Rejections are rare, most credit constrained firms are discouraged from applying for a loan. A high share of firms is financially autarkic. At 37%, the share in the average MENA economy is similar to peer economies. However, Egypt, Jordan, and Palestine have a much higher share of financially autarkic firms. Depending on whether autarkic firms report a need for a loan or not, they are classified as voluntarily autarkic or as forced into autarky. The majority of autarkic firms is voluntarily autarkic.

The MENA economies covered by the 2019 round of the Enterprise Survey have exceptionally low investment rates. Only 20% of firms in the average MENA economy have invested in fixed assets during the last financial year, a much lower percentage than in peer economies. The low investment

rates indicate a marked decline relative to the 2013 wave of the Enterprise Survey. The decline in investment rates is broad based, with only Palestine seeing an increase in the share of investing firms. In other regions, firms that are credit constrained are less likely to invest than firms that are not credit constrained. In the MENA region, this relationship is muted, as the share of firms that invest conditional on a successful loan application has also declined.

Physical climate risk is real. About 7.5% of firms in average MENA country have experienced monetary losses due to extreme weather events, such as storms, floods, droughts, and landslides in the three years preceding the interview. Firms suffering monetary losses from extreme weather are more likely to invest in physical capital. Firms suffering losses from extreme weather are also more likely to adopt measures that reduce the environmental footprint of the company. On the liability side, firms located in the low-autarky economies Morocco, Tunisia, and Lebanon express a greater need for loans, which does not apply to firms in Egypt, Jordan and Palestine. Conditional on needing a loan, firms suffering losses from extreme weather are not more likely to be credit constrained.

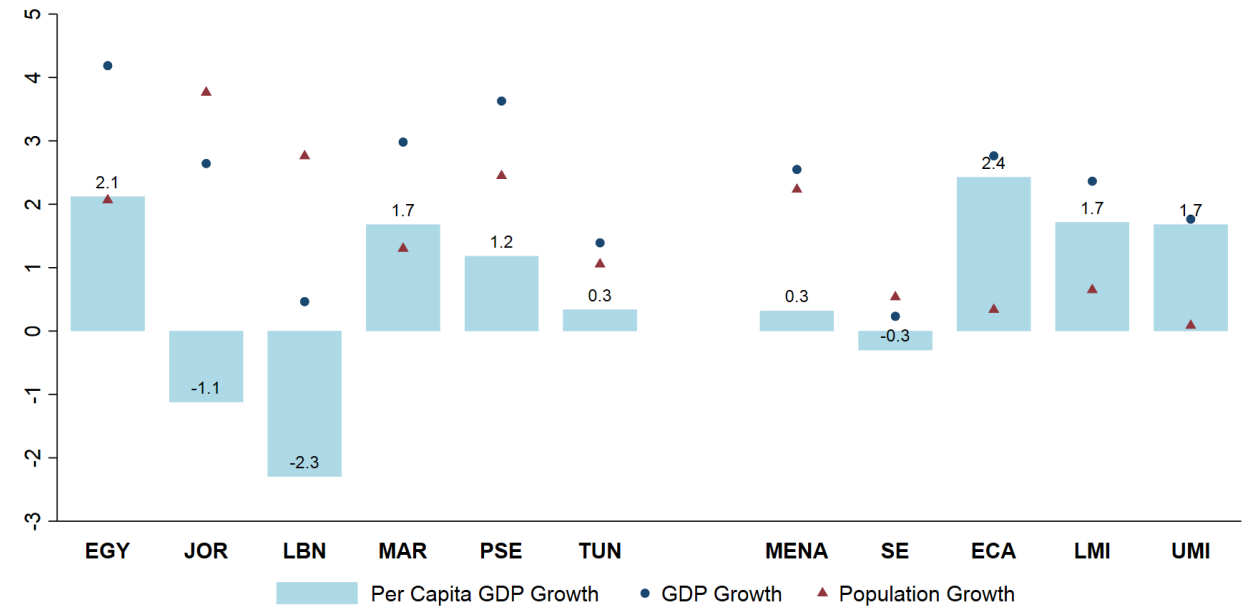
The remainder of the paper is organized as follows. Section 2 provides context for the subsequent analysis. Section 3 examines credit constraints; Section 4 discusses financial autarky. Section 5 links the availability of external finance to the real economy. Section 6 studies how firms in the MENA region respond to realizations of physical climate risk. Section 7 concludes.

2. Context

Data collection for the 2019 Enterprise Survey took place in a challenging macroeconomic context, characterized by persistently low GDP per capita growth. Figure 1 presents evidence on GDP per capita growth since the Great Financial Crisis. On average, GDP per capita grew by only 0.3% in the six MENA economies, compared to 1.7% in the average middle-income-country and 2.4% in the developing economies of Europe and Central Asia (ECA).[1] Accumulated over a 13 year horizon, GDP per capita in the average middle-income-country is 20 p.p. higher than in the average MENA economy. This stylized fact, however, is subject to several caveats. First, the average masks significant heterogeneity across countries. At 2.1%, GDP per capita growth in Egypt is high. The performance of Morocco is in line with the middle-income average. Second, negative GDP per capita growth in Jordan and Lebanon is at least partly the result of high population growth, which reflects the large number of refugees from Syria that both countries host. To the extent that the refugee populations are supported by the international community, the figures may not fully reflect the experience of the native populations.

[1] This definition excludes the high-income countries that are part of the Europe and Central Asia region.

Figure 1: GDP per capita growth

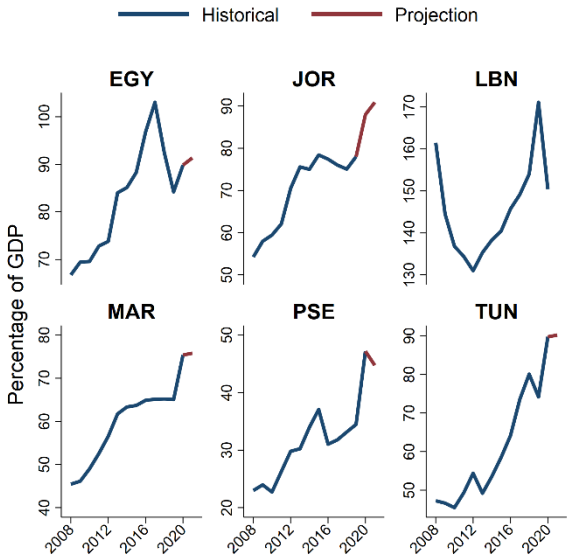


Source: IMF
Notes: The "ECA" benchmark refers to "developing ECA", i.e. it excludes high-income countries.

Public debt has increased considerably over the last decade. Figure 2 presents evidence on the evolution of the debt-to-GDP ratio in the MENA countries. With the exception of Lebanon, all countries have seen an increase in the debt-to-GDP ratio following the Arab Spring. At the time, governments increased spending to assuage their restive populations. Subsequent consolidation efforts were aided by IMF programmes. But only Egypt experienced a reversal in the debt-to-GDP ratio. Lebanon benefitted from strong nominal growth in the aftermath of the financial crisis, but lack of willingness on the side of the political class to tackle long-standing structural weaknesses led to the country's first default on sovereign debt in 2020. The fiscal policy response to contain the economic damage of the coronavirus pandemic will further increase already high debt-to-GDP ratios. Overall, debt-to-GDP ratios in 2020 have been on average 24p.p. higher than in 2008.

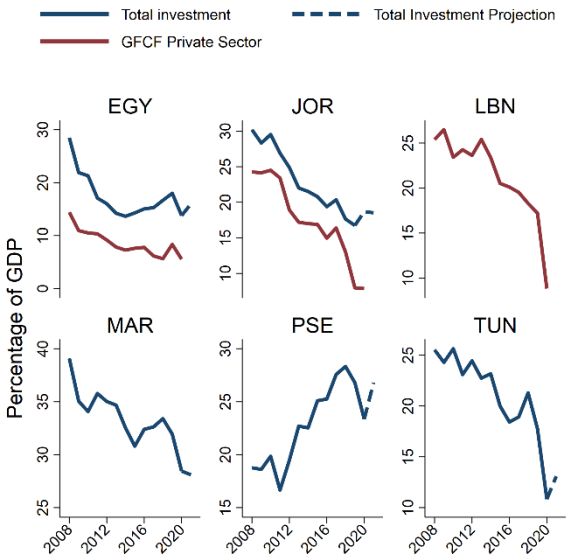
The build-up of public debt was accompanied by declining investment. Figure 3 displays the evolution of total investment since the financial crisis. With the exception of Palestine, all countries have registered an economically meaningful decline in the investment rate. In Morocco, Palestine, and Tunisia, the pandemic has further depressed investment. The significant increase in public debt, coupled with the decline in investment is consistent with the government crowding out private investors. This implies that the societies of the region set aside few resources to increase the capital stock of their economies. This is a cause for concern, as capital accumulation is a source of growth for economies not at the technological frontier.

Figure 2: General government gross debt to GDP



Source: IMF

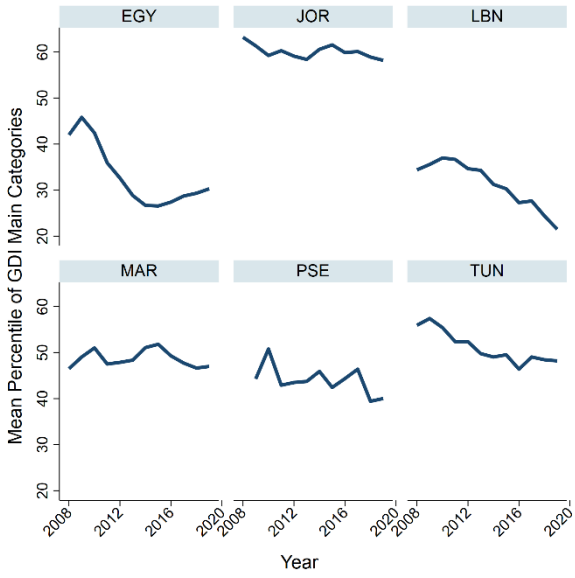
Figure 3: Total investment and gross fixed capital formation



Source: IMF, World Bank

A decline in governance standards cannot account for the decline in investment. Figure 4 presents the evolution of governance standards as measured by the Worldwide Governance Indicators. Specifically, Figure 4 shows the average percentile rank of the indices most relevant to economic activity: Regulatory quality, government effectiveness, control of corruption and rule of law. Though declining governance standards in Lebanon capture the ineffectiveness of the political class in dealing with the country's mounting challenges, the governance indicators held up rather well in Jordan, Morocco, Palestine, and Tunisia. On the other hand, the Arab Spring protests sought to bring about better institutions, and these have not materialized either, at least not in the areas covered by the indicators shown in Figure 4.

Figure 4: Governance



Source: Worldwide Governance Indicators

Political instability continues to be most frequently rated as the top obstacle by Enterprise Survey respondents, ahead of access to finance and tax rates. Enterprise Survey respondents are invited to choose from a list of fifteen candidate obstacles the one that they consider the top obstacle to their company. Across the six MENA economies, political instability remains the most frequently cited top obstacle, ahead of access to finance and tax rates (see Figure 5). The relative importance of the individual obstacles varies from country to country. Political instability is the top obstacle in Palestine (47%) and Lebanon (37%) and among the top three in all countries but Morocco. Access to finance is by some margin the main concern of Tunisian entrepreneurs (38%). Respondents in Jordan (28%) and Egypt (24%) most frequently consider tax rates as the top obstacle to their companies. Moroccan entrepreneurs cite corruption, tax rates, and tax administration with almost identical frequency as the top obstacle to the company. Relative to the 2013 wave of the Enterprise Survey, the importance of political instability has diminished somewhat. In the last survey round, political instability was by a significant margin the most frequently cited top obstacle in Egypt, Jordan, Lebanon, and Palestine (see EBRD et al, 2016).

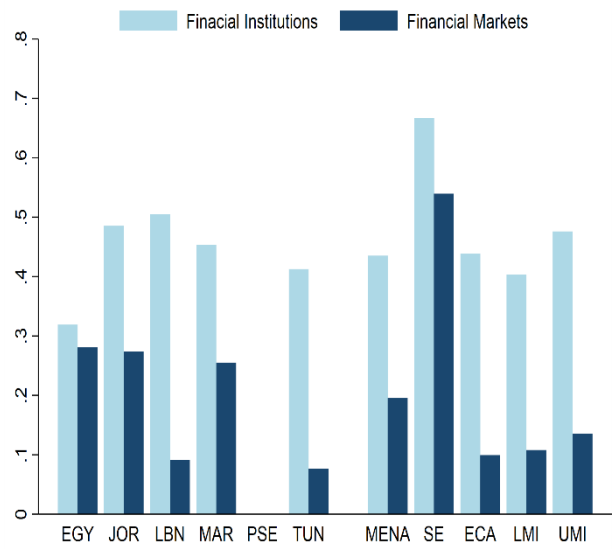
Figure 5: Top obstacle to the enterprise

Source: EBRD-EIB-World Bank Enterprise Surveys
Notes: For details on "ECA" benchmark see Figure 1

At first glance, the MENA region exhibits a level of financial development comparable to peer economies. Figure 6 provides a first approximation to financial development in the MENA region based on the IMF Financial Development Index. The index seeks to measure the development of both financial institutions and markets. As Figure 6 shows, the MENA region has index scores similar to the middle-income-country average. Financial institutions receive higher scores than financial markets, indicating that the financial systems of the region are bank-based. Again, this is typical of middle-income-countries. Within the MENA region, Egypt has the lowest score of the financial institutions index. Relative to the 2013 wave of the Enterprise Survey, the quality of financial institutions has improved in most countries, mainly on account of higher branch and ATM density. Scores of the financial markets index for Egypt, Jordan, and Morocco compare favourably to the middle-income average.

The banking sectors of the region are deep. As Table 1 shows, banking sector depth as measured by private sector credit in relation to GDP is compares favourably to peer economies. In the average MENA country, private sector credit accounts for 61% of GDP, compared to 52% in the upper-middle-income average. Egypt is a notable exception, with private sector credit declining in the aftermath of the revolution. However, high volumes of private sector credit do not necessarily translate into access for a broad cross section of mainly small and medium-sized enterprises. Historically, credit in the MENA region has been highly concentrated (Rocha et al, 2012), benefitting a limited number of large borrowers.

Figure 6: Financial Development Index



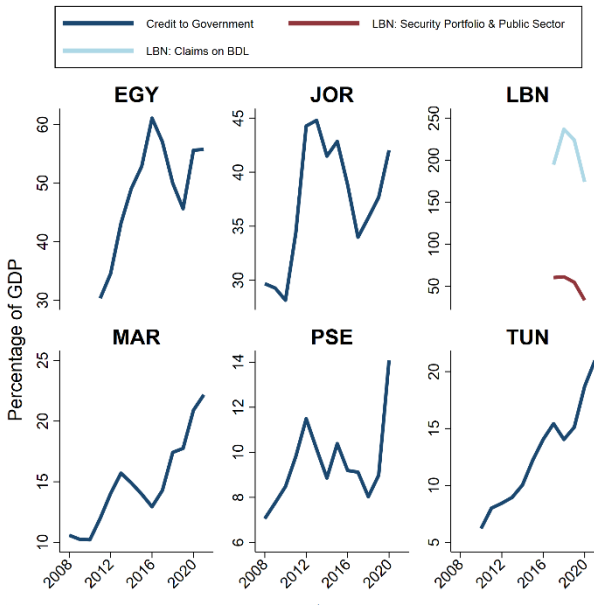
Source: IMF, see also Svirydzenka (2016)
Notes: Notes: For details on "ECA" benchmark see Figure 1

The comparatively high volumes of private credit result from an ample supply of deposits. Table 1 indicates that deposits in the MENA region are high relative to the other middle-income-countries that are part of the recent data collection effort. Lebanon, with deposits worth 251% of GDP certainly stands out, but is not the only country with a comparatively high deposit-to-GDP ratio. In fact, all

MENA economies exceed the deposit-to-GDP ratio of the average lower-middle-income country. As a result, loan-to-deposit ratios are well below those of peer economies. The average loan-to-deposit ratio equals 72%, compared to an upper-middle-income country average of 89%. At 114%, Tunisia is the only country in the region with a loan-to-deposit ratio exceeding 100%. EBRD et al (2016) attribute the high volume of deposits to strong remittance inflows. Lebanon has been the prime example. Capital inflows originating from the sizeable diaspora have for many years financed the country's twin deficits. The viability of this model has been shattered by the ongoing crisis that the World Bank has ranked among the worst of the last 150 years (World Bank, 2021).

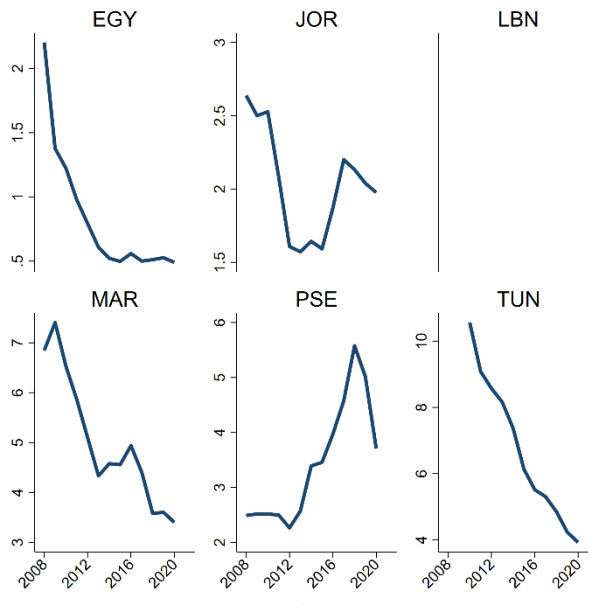
A large exposure to governments and state-owned enterprises is the defining feature of the region's banking systems. Loan-to-deposit ratios well below 100% beg the question how the banks use the remaining funds at their disposal. Figure 7 shows that banks play an important role in financing the high volumes of public debt prevailing in the region. The relative importance of the domestic banking system differs from country to country. In Egypt, Jordan and Lebanon banks hold greater volumes of public debt relative to GDP than in Morocco, Palestine, and Tunisia. Morocco, for instance, benefits from a broader institutional investor base that also includes insurance companies and pension funds. Lebanon is a particular case in that banks have reduced their direct exposure to the government and instead have placed their funds with the central bank, which in turn holds a large share of the government's local currency debt.

Figure 7: Credit to government and state-owned enterprises



Source: National central banks

Figure 8: Ratio of private credit to credit to governments and state-owned enterprises



Source: National central banks, author calculations

The sovereign-bank nexus has strengthened further over the past decade. Figure 7 also shows that banks have financed part of the increase in public debt that governments accumulated over the last decade. Again, the magnitude differs across countries. In Egypt, the increase in banks' exposure to the government accounts for a significant share of the overall increase in public debt. In Morocco and Tunisia, on the other hand, bank holdings of government paper increased to a much smaller extent

than public debt. However, credit to governments and state-owned enterprises grew faster than private sector credit in most countries, as Figure 8 shows. Notably, this applies also to Tunisia and Morocco.

A strong sovereign-bank nexus comes with costs. Banks often find it attractive to buy government debt. Owing to the power to tax, the government is typically the most creditworthy agent in any economy. Moreover, preferential risk weights tilt the playing field in favour of government debt. However, a strong sovereign-bank nexus also comes with costs. First, a decline in sovereign creditworthiness can adversely affect the strength of bank balance sheets. In Lebanon, for instance, the default of the government in 2020 has led to the insolvency of the banking system. In Egypt, banks' sovereign exposure is likewise a multiple of the banking system's capital base. Second, the need to mobilize savings will, everything else equal, put upward pressure on interest rates. As a result, firms in the private sector will face an increase in the cost of capital. As a result, marginal investment opportunities may no longer be viable. The macro data are inconclusive. On the one hand, investment has suffered along with the increase in public debt. Though private sector credit has held up well in most countries, its ratio to government credit has declined since the Great Financial Crisis.

Table 1: Banking sector characteristics, 2019

COUNTRY	CREDIT TO THE PRIVATE SECTOR (IN % OF GDP)	FINANCIAL SYSTEM DEPOSITS TO GDP (%)	LOAN TO DEPOSIT RATIO	NPL RATIO	RETURN ON EQUITY
EGY	23	68	47	4.2	23.4
JOR	78	92	77	5.7	9.5
LBN	84	251	33	15.2	7.8
MAR	63	88	98	7.5	9.4
PSE	43	73	68	4.1	13.1
TUN	75	49	114	13.4	13.3
MENA	61	104	73	8.35	12.75
LMI	43	45	102	9.91	17.31
UMI	52	60	89	6.90	13.17

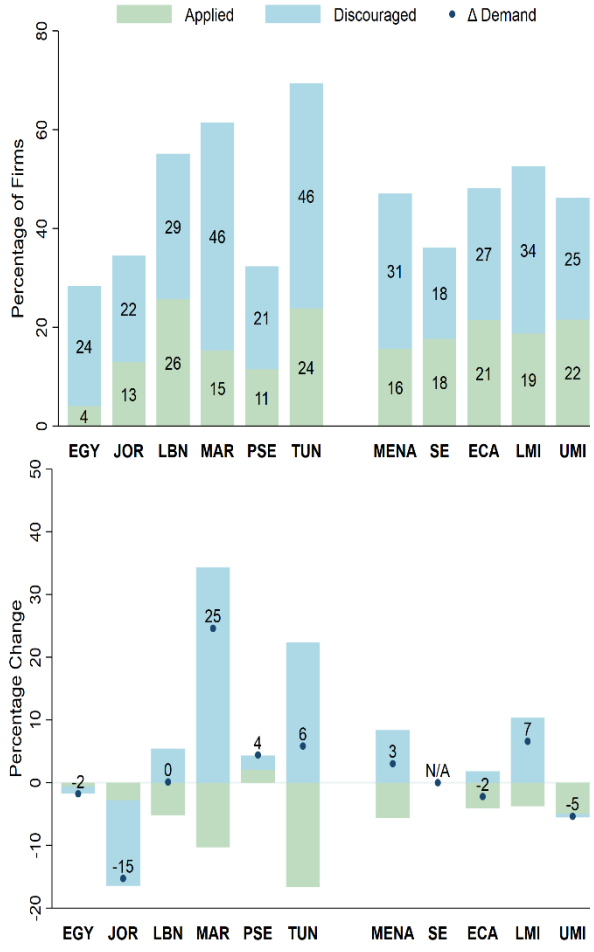
Source: National central banks, IMF, World Bank Global Financial Development Database

In summary, the 2019 Enterprise Survey took place in a challenging environment for private enterprises. This environment is characterized by a sustained increase in public debt, which has been accompanied by a decline in investment. Banks have contributed to financing this increase in public debt, though their involvement has differed across countries. Institutional quality as relevant for economic activity has remained stagnant. Though political instability is still most frequently cited as the top obstacle by Enterprise Survey respondents, its importance has declined somewhat relative to the 2013 wave.

3. The market for bank credit

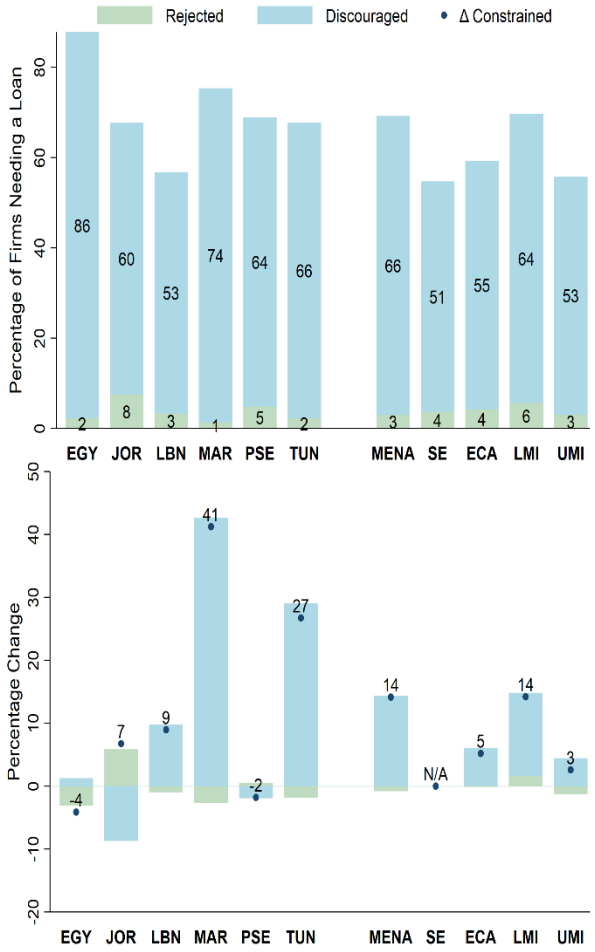
For many firms, bank credit is the most important source of external finance. This section examines the market for bank credit as experienced by firms. Understanding whether firms that need a loan are able to obtain one is of particular interest. To facilitate the discussion, Figure 9 presents by country the percentage of firms needing a loan. It distinguishes between firms that need a loan and applied for it and those that needed a loan and did not apply. These firms are referred to as discouraged firms. Overall, the share of firms stating that they need a loan is highest in Tunisia (70%), followed by Morocco (61%) and Lebanon (55%). Overall, despite the significant increase in needs compared to the 2013 wave of the survey, the share of firms that applied for a loan decreased in all countries except Palestine.

Figure 9: Need for loans



Source: EBRD-EIB-World Bank Enterprise Survey, author calculations
Notes: For details on "ECA" benchmark see Figure 1

Figure 10: Credit-constrained firms



Source: EBRD-EIB-World Bank Enterprise Survey, author calculations
Notes: For details on "ECA" benchmark see Figure 1

A large share of firms in need of a loan is unable to obtain one, and thus credit constrained. Figure 10 provides evidence of the prevalence of credit constraints in the region. Credit-constrained firms are defined as firms that need a loan but either have their loan application rejected or are discouraged

from applying in the first place.[2] In particular, discouraged firms need a loan but have refrained from applying because of what they perceive as complex application procedures, unfavorable interest rates, high collateral requirements, insufficient loan amount, fear of being rejected or other, unspecified reasons. Only firms needing a loan can be credit constrained. Figure 10 therefore expresses credit-constrained firms as a percentage of firms needing a loan. According to the survey, almost 90% of Egyptian firms in need of a loan are credit constrained, exceeding the average of upper- (56%) and lower-middle-income countries (69%) by a significant margin. At the other end of the spectrum, Lebanon (56%) and Jordan (68%) have the lowest share of credit-constrained firms in the MENA region. The share of credit constrained firms in the average MENA economy is 11 percentage points higher than in the average developing ECA economy.

The vast majority of credit-constrained firms are discouraged from applying for a loan. Rejections, on the other hand, are rather rare across all countries. In analogy to the results on needs, Morocco and Tunisia see a strong increase in the share of credit-constrained firms when compared to the previous survey round.[3] However, also the other countries record an increase in the proportion of credit-constrained firms, albeit to a much smaller degree. These findings are consistent with the crowding out story brought forward in Section 1.

In the 2019 round of the Enterprise Survey, SMEs are not significantly more likely to be credit constrained than large firms. Table 2 provides evidence on firm characteristics and financial structure. The rows of Table 2 break down the population of firms by a certain characteristic such as size. The columns of Table 2 measure a firm's ability to access finance along various dimensions. Table 3 complements these findings in a regression framework. Large firms are much more likely to have an outstanding loan than SMEs. On the other hand, firm size and age are not strongly associated with credit constraints. For example, 33% of SMEs are credit constrained, compared to 31% of large firms. Firm size was a significant predictor in 2013, when larger firms were significantly less likely to be credit-constrained than smaller firms (see Table 3). This no longer holds in 2019. It may well be that initiatives aimed at improving SME access to finance have improved the relative position of SMEs vis-à-vis large firms, despite the overall increase in the share of credit-constrained firms. When it comes to age, 28% of firms less than five years old are credit constrained, compared to 34% of firms above age five. Perhaps unsurprisingly, firms with audited financial statements or making use of foreign licensed technology are less likely to be credit constrained.

Firms are more likely to seek bank finance if they experience liquidity shortages. Column (1) of Table 3 seeks to explain firms' need for loans. Firms experiencing a negative liquidity shock are on average 12 percentage points more likely to need a loan.[4] Firms with audited financial statements are also more likely to need a loan, but the coefficient is only significant at the 10% level. Other firm

[2] See EIB (2021) for a comparative discussion of credit constraint indicators in the EIB Investment Survey, the ECB Survey of Access to Finance of Enterprises and the Enterprise Survey. Gorodnichenko and Schnitzer (2013), Popov and Udell (2012), and Kuntchev et al. (2014) measure credit constraints using the Enterprise Surveys. Additional survey based work includes Schaller (1993), Ferrando and Mulier (2015) and García-Posada Gómez (2019).

[3] The 2013 sample for Morocco did not achieve the targeted number of interviews. The sample had been reweighted to ensure its representativeness. The steep increase in the share of credit-constrained firms may be partly attributed to the data collection difficulties in 2013.

[4] Liquidity shock is an indicator equal to one if the firm experiences losses due to power outages, theft, breakage, or vandalism.

characteristics are not significantly associated with loan needs. Firms experiencing a liquidity shock are also more likely to be credit-constrained.

Table 2: Firm characteristics and financial structure

		Credit Constrained	Rejected	Discouraged	Need a Loan	Has a Loan
Size	SME	33	1	32	47	22
	Large	31	2	29	51	38
Age	<5 Years	28	0	26	45	19
	>=5 Years	34	1	32	48	23
Innovator	Yes	32	1	30	55	36
	No	33	1	31	45	19
Website	Yes	33	1	31	52	32
	No	34	1	32	43	13
Foreign Tech. License	Yes	27	1	25	50	27
	No	34	1	33	47	22
Informal	Yes	31	1	29	42	19
	No	33	1	32	48	24
Exporter	Yes	34	2	31	57	34
	No	32	1	31	45	20
ESG	Higher	37	1	35	61	39
	Lower	32	1	30	44	18
Audited	Yes	28	2	26	44	23
	No	42	1	41	52	21
Offering Formal Training	Yes	36	0	35	56	30
	No	32	2	30	46	21
Foreign Ownership	Yes	41	1	40	57	26
	No	33	1	31	46	23
Female CEO	Yes	38	1	36	48	25
	No	33	1	31	47	23
MENA 2019		33	1	31	48	23

Notes: Unlike in Figure 9, credit-constraints are expressed as a percentage of the population, not as a percentage of firms needing a loan.

Table 3: Firm characteristics and financial structure and comparison with other regions and previous wave

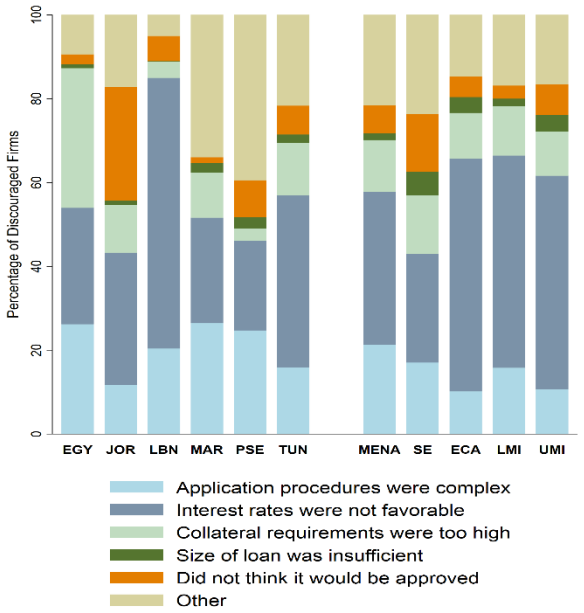
	(1) Need 19	(2) Rejected	(3) Discouraged	(4) Credit-Constrained	(5) Credit-Constrained	(6) Credit-Constrained
	MENA 19	MENA 19	MENA 19	MENA 19	Other 19	MENA 13
Female CEO	-4.30	0.29	2.99	2.36	-1.54	2.04
	(6.78)	(2.25)	(9.42)	(9.48)	(2.71)	(8.66)
CEO Experience [Year]	0.24	0.04	0.06	-0.02	0.07	0.08
	(0.15)	(0.08)	(0.23)	(0.21)	(0.10)	(0.21)
Foreign Ownership	0.76	-0.59	5.99	3.70	7.71*	1.57
	(7.25)	(1.08)	(8.39)	(8.24)	(4.25)	(9.13)
Certificate	-2.62	-2.47*	-10.13	-14.57*	-1.53	-12.61*
	(5.09)	(1.47)	(7.56)	(7.45)	(2.70)	(7.38)
Website	3.63	-2.36**	-7.50	-9.49*	-4.16*	-1.67
	(3.35)	(1.06)	(5.25)	(5.09)	(2.48)	(6.04)
Formal Training	-0.53	-1.98	12.47**	11.61*	-2.99	-1.20
	(4.57)	(1.58)	(6.11)	(6.29)	(2.51)	(7.02)
Foreign Tech. License	6.13	2.11	-19.01**	-13.24*	-7.25**	-0.58
	(5.79)	(3.06)	(7.54)	(7.63)	(3.06)	(10.43)
Main Market: Local	-1.46	1.17	4.01	7.27	4.21*	-2.20
	(3.41)	(1.45)	(5.11)	(5.17)	(2.44)	(6.29)
Exporter	7.17	1.72	-4.67	-2.73	-7.22**	8.94
	(5.01)	(2.53)	(7.20)	(7.46)	(3.02)	(6.64)
<5 Years	2.96	2.82	5.33	10.73	0.46	3.42
	(5.79)	(4.83)	(8.46)	(8.36)	(3.40)	(7.15)
Audited	6.33*	0.48	-13.61**	-11.84**	-6.81***	-21.37***
	(3.59)	(1.21)	(5.45)	(5.42)	(2.52)	(5.50)
Informal	-0.48	0.53	5.44	7.12	0.51	9.03
	(4.72)	(2.08)	(7.58)	(7.17)	(6.26)	(6.81)
Medium Firm	-3.06	0.45	-8.61	-9.51*	-15.53***	-16.55***
	(3.59)	(1.60)	(5.42)	(5.57)	(2.50)	(6.12)
Large Firm	-5.22	2.42	-13.24	-12.40	-22.91***	-35.62***
	(6.13)	(2.35)	(8.57)	(8.66)	(3.47)	(7.73)
Liquidity Shock	12.42***	2.17	13.97**	17.06***	-2.20	-2.51
	(4.27)	(2.86)	(6.21)	(6.47)	(2.19)	(5.90)
Country x Sector FE	Yes	Yes	Yes	Yes	Yes	Yes
N	5373	1978	2038	1978	8692	1759

Note: Regression in Columns (2)-(5) are estimated on the subsample of firms needing a loan. The sample in Column (5) includes the non-MENA countries of the 2019 Enterprise Survey. The MENA 13 sample in Column (6) consists of the same countries covered in the 2019 round. All specifications include country-sector fixed effects. Standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Stringent collateral requirements, complex application procedures, and high interest rates discourage firms from applying for a loan. Given the high share of discouraged firms among credit-constrained firms, it is useful that the survey provides additional information on why firms are discouraged. Figure 11 shows that firms most frequently cite high interest rates as the reason that

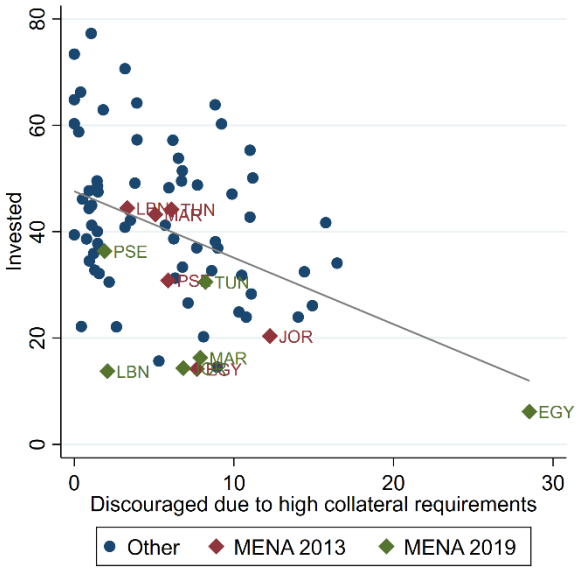
they did not apply for a loan. However, the relative importance of high interest rates differs across countries. In Lebanon, almost all discouraged firms are discouraged by high interest rates. Interest rates in Lebanon did increase as the authorities sought to maintain capital inflows to finance the country's twin deficits. In Egypt, Jordan and Morocco, on the other hand, high interest rates are a frequently cited factor, but complex application procedures and stringent collateral requirements are also important. The other countries fall in between these extremes. The importance of complex application procedures can also be a result of the previously highlighted association between credit-constraints and firm sophistication. Ultimately, this reflects constraints on both the supply and the demand side of the market, whereby clients might not be sophisticated enough to feel confident in approaching a bank, but also banks may not have in place appropriate lending programmes. It is also important to note that complaints about high interest rates cannot be viewed in isolation from the returns companies are able to generate with their assets. Firms discouraged by high interest rates implicitly state that their marginal cost of funding is high relative to the marginal return on capital.

Figure 11: Factors discouraging firms applying for a loan



Source: EBRD-EIB-World Bank Enterprise Survey, author calculations
Notes: For details on "ECA" benchmark see Figure 1

Figure 12: Association between investing firms and broad stringency of collateral requirements

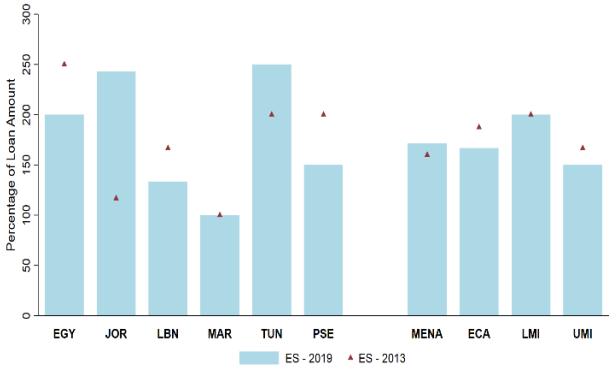


Source: EBRD-EIB-World Bank Enterprise Survey, author calculations

Discouragement levels due to high collateral requirements are associated with lower investment levels. Figure 12 correlates firms' propensity to invest with the percentage of firms that collateral requirements discourage from applying for a loan. Firms invest less in countries with higher shares of firms declaring collateral as a discouragement factor, thus underscoring the importance of financial infrastructure development, notably collateral frameworks, in helping firms to be better connected to the financial sector, ultimately to support their investment activity.

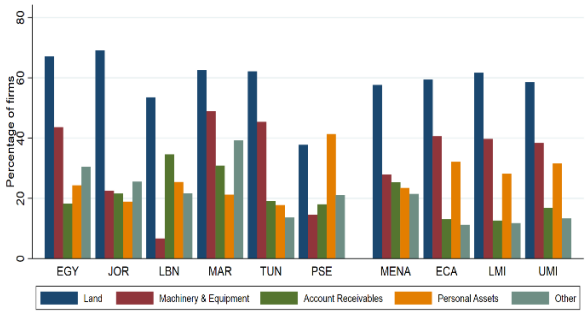
Intensive and extensive margins of collateral are still elevated in the region. The percentage of loans requiring collateral or the extensive margin ranges from 71% of firms with a loan in Morocco to 96% in Tunisia. With the exception of Jordan and Morocco, the extensive margin of collateral was higher in 2019 relative to the 2013 wave of the Enterprise Survey. The value of the loan required as collateral or the intensive margin of collateral is still high, with requirements well in excess of 100% for all the countries in the region (Figure 13), indicating conservative banking practices. The median value of collateral in percent of the loan value decreased in Egypt, Lebanon and Palestine, whereas it increased in Jordan and Tunisia and remains at low levels in Morocco.

Figure 13: Value of collateral needed for a loan as a percentage of the loan amount (%)



Source: EBRD-EIB-World Bank Enterprise Survey, author calculations
Notes: For details on "ECA" benchmark see Figure 1

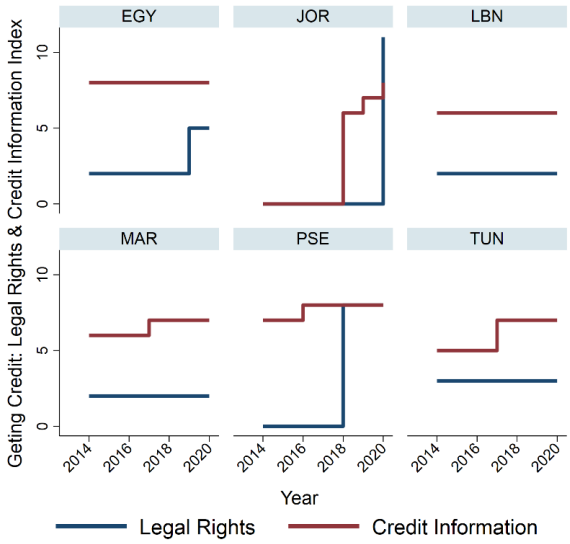
Figure 14: Different types of collateral, 2019.



Source: EBRD-EIB-World Bank Enterprise Survey, author calculations
Notes: For details on "ECA" benchmark see Figure 1

Across asset classes, land and buildings remains the asset most frequently pledged, either standalone or with other assets. This may reflect the greater retention value of land in high inflation environments, lower depreciation and the perception as more liquid/safe form of collateral (Figure 14).

Figure 15: Collateral reforms by region



Source: Doing Business Law Library WB

Collateral-related reforms can be an important element to improve access to finance. Campello and Larrain (2016) demonstrate better access to finance for a broad cross-section of Romanian firms in the aftermath of collateral reform in Romania. Love et al. (2013) show that collateral registries for movable assets improves firms' access to bank finance. Specifically, collateral reforms could include expanding the scope of the law governing collateral or/and reforming credit registries. MENA countries already compare favourably to their peers in terms of credit information systems over the two most recent waves of the ES (Figure 15). Yet, significant reforms of collateral regimes were initiated between the two survey waves in Jordan, Egypt and Palestine.

The introduction of collateral-related reforms has a positive impact on firms' broad access to finance. The subsequent analysis is based on a difference-in-difference estimation of the impact of collateral reforms on access to finance. The analysis focuses on the impact of reforms initiated in 2014-2018.[5] Specifically, the countries that introduced reforms aimed at expanding the scope of the law governing collateral or/and reforming credit registries between 2014 and 2018 are defined the reform-treated countries, whilst the others are the control group. Table 4 shows the results, with the interaction of treated and period being the differences-in-differences estimator capturing the impact of the reform. The introduction of collateral-related reforms increase the share of firms that invest in fixed assets and the number of firms that perceive access to finance to be a minor or no obstacle, while the share of collateralized loans in total loans increases.

Central banks' collateral frameworks and prudential policy may incentivize lending to SMEs. For instance, the inclusion of 'credit claims' in the Eurosystem collateral framework, and the 'additional

[5] Specifically, the collateral registry is one of the items in the Ease of Doing Business "Getting Credit" index, which includes additional seven components pertaining to movable collateral laws and two components pertaining to bankruptcy laws. Some of the collateral reforms other than the introduction of a registry include: allowing out-of-court enforcement of collateral and introducing a law that allows a business to grant a nonpossessory security right in a single category of movable assets (such as accounts receivable or inventory), without requiring a specific description of the collateral. Data come from the Doing Business Law Library.

credit claims' in crisis times (e.g. SME loans of lower credit quality), as well as the "SME supporting factor" in capital regulatory requirements in the EU, have been instrumental to promote SME lending in Europe. Moreover, banks that participate in credit guarantee schemes could receive from their prudential regulator a capital relief in the form of lower risk weights assigned to exposures covered by guarantees meeting specific criteria.

Table 4: Empirical results

	(1) No Financial Obstacle	(2) Invested in Fixed Assets
Firmsize	0.04***	0.07***
	(0.01)	(0.01)
Firm Age	-0.00	-0.01
	(0.02)	(0.01)
Foreign owned firm	0.08	-0.11*
	(0.07)	(0.05)
Government owned firm	-0.14	-0.01
	(0.17)	(0.12)
Firm is exporter	-0.00	0.00
	(0.00)	(0.00)
GDP per capita	0.07	-0.29***
	(0.05)	(0.04)
Real Lending Rate	0.03	-0.07***
	(0.02)	(0.02)
Treated X Period	0.10*	0.17***
	(0.05)	(0.05)
Constant	-0.32	3.10***
	(0.53)	(0.44)
Observations	8704	8641
R^2	0.038	0.069

Note: Coefficient estimates from OLS regression using survey weighted observations (Stata's svy prefix). Robust standard errors are reported in parentheses below the coefficient. The dependent variable at each column corresponds to No financial obstacle (1 if no, minor or moderate obstacle to access to finance, 0 otherwise) and Invested in fixed assets (1 if 1 firm purchased any new or used fixed assetsin fixed assets, 0 otherwise). Independent variables included Treated (1 if firm is in a country that introduced collateral-related reforms over 2014-2018, 0 otherwise); Period (1 if year>=2014, 0 otherwise); Firm age (logarithm of Age (years)); Firm size (logarithm of number of workers); Firm is exporter (1 if proportion of sales exported directly in excess of 10%, 0 otherwise); Foreign owned firm (1 if proportion of private foreing ownership in the firm isgreater than 50%, 0 otherwise); Government owned firm (1 if government/state ownership is greater than 50%, 0 otherwise); GDP per capita (logarithm of GDP per capita) and Real lending rate (lending interest rate minus inflation) . ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels, respectively.

4. Financial autarky

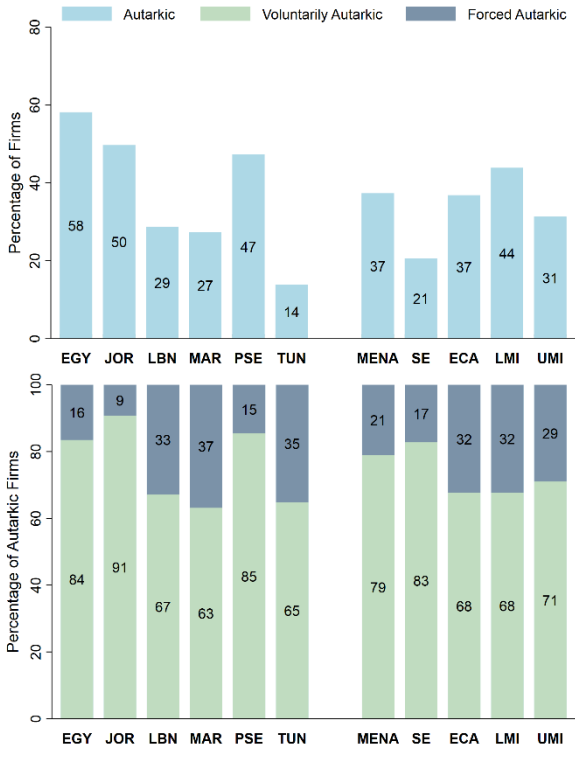
In their report on the first wave of the MENA Enterprise Survey, EBRD et al (2016) posit a disconnect between firms and banks in the MENA region. Accordingly, firms have adjusted production strategies to a world where external financing is not really an option, even if this comes at the cost of losing growth opportunities. This section revisits the relationship between firms and the financial system by focusing on financially autarkic firms, i.e. firms that operate based on internal finance only. By way of comparison, it is important to note that the phenomenon of zero-leverage firms is not limited to small firms in middle-income countries. In fact, zero-leverage firms account for 10% of listed US companies (Strebulaev and Yang (2013)).[6]

To qualify as financially autarkic, the firm must meet several conditions. First, it must finance its working capital from internal sources only. This definition excludes for instance firms that use supplier credit to finance their working capital. In case the firm invests, the investment also needs to be financed exclusively from internal sources. In addition, the firm must not have an outstanding loan or access to an overdraft facility. By combining data on firm liability structure with information on loan demand, it is possible to understand whether the firm finds it optimal to self-finance. This applies to firms that are financially autarkic and do not need a loan. They are considered voluntarily autarkic. Financially autarkic firms that need a loan are by construction credit-constrained, for if they had obtained a loan they would no longer be autarkic. These firms are referred to as forced autarkic.

A significant share of firms in the region is financially autarkic amid considerable cross-country heterogeneity. Figure 16 shows the share of financially autarkic firms in the MENA region and the benchmark groupings. At 37%, the share of financially autarkic firms is below the lower-middle-income average of 44% and above the upper-middle-income average of 31%. However, the average masks considerable heterogeneity across countries in the MENA region. Egypt, Jordan and Palestine have autarky rates of around 50%, which are offset by the comparatively low autarky rates prevailing in Lebanon, Morocco and Tunisia. At 14%, Tunisia's share of autarkic firms is below the Southern European average.

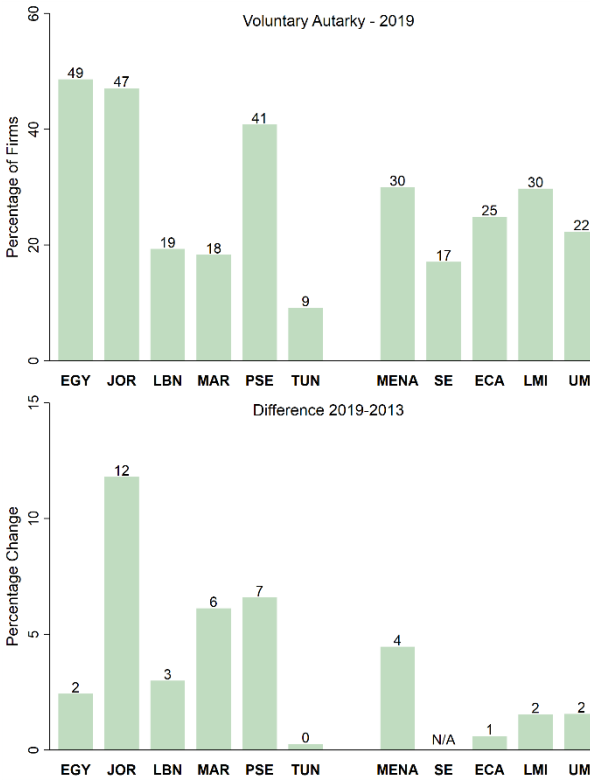
[6] El Ghoul et al (2018) cover zero-leverage firms in a broader set of countries. Under asymmetric information, a firm's capital structure reflects historical investment opportunities, the ability to generate resources internally, and the availability of external finance (Myers and Majluf, 1984).

Figure 16: The prevalence of financial autarky



Source: EBRD-EIB-World Bank Enterprise Survey, author calculations
Notes: For details on "ECA" benchmark see Figure 1

Figure 17: Voluntary financial autarky



Source: EBRD-EIB-World Bank Enterprise Survey, author calculations
Notes: For details on "ECA" benchmark see Figure 1

The majority of financially autarkic firms is voluntarily autarkic. The next step in the analysis is to understand whether firms find it optimal to operate with zero-leverage or whether they would prefer to take on debt but are credit-constrained. Figure 16 provides information on the relative importance of voluntarily and forced autarkic firms. Across all countries, the majority of financially autarkic firms is voluntarily autarkic. Again, there are differences between Egypt, Jordan, and Palestine on the one hand, and Lebanon, Morocco, and Tunisia on the other. Not only do the former countries have a higher share of autarkic firms, but also a greater share among the autarkic firms is voluntarily autarkic.

The share of voluntarily autarkic firms has increased relative to the previous survey round. Figure 17 shows that in the MENA region, the share of voluntarily autarkic firms has increased by 5 percentage points relative to the previous survey round despite the authorities' efforts to improve access to finance. The increase is strongest in Jordan with 12 percentage points, followed by Palestine (7p.p.) and Morocco (6p.p.). The increase in autarky could reflect the decline in investment activity in the countries concerned.

Forced autarky is a transitory state. Figure 18 combines data from the 2013 wave of the Enterprise Survey with the current wave to examine the persistence of financial autarky. In particular, Figure 18 captures how firms transition between states from one survey wave to the next. For instance, 35% of firms that were voluntarily autarkic in 2013 were also voluntarily autarkic in 2019, whereas 57% of voluntarily autarkic firms had become non-autarkic in 2019. The diagonal captures the extent to which a state is persistent. Non-autarky exhibits the highest persistence and forced autarky the lowest.

Figure 18: Transition matrix

2013 \ 2019	Voluntary	Forced	Non-Autarkic	TOTAL
Voluntary	35	8	57	100
Forced	22	8	70	100
Non-Autarkic	24	4	72	100
TOTAL	26	6	68	100

Source: EBRD-EIB-World Bank Enterprise Survey, author calculations
Note : The transition matrix is based on the panel subsample of the Enterprise Survey

Sophisticated firms are less likely to be financially autarkic. In analogy to the taxonomy table of the previous section, Table 5 shows which firms are more likely to be financially autarkic. Size and age are strongly associated with financial autarky. SMEs and young firms are more likely to be financially autarkic. Firms run by female CEOs exhibit a similar level of autarky as those run by males. Firm sophistication as measured by having an internationally recognized quality certification, a website, using licensed technology, and being able to offer formal training to employees, is associated with lower autarky. Firms that cater mainly to local markets are more likely to be autarkic than exporters. Firms that were informal when they started operating are less likely to use external finance. For most firm characteristics, a higher level of voluntary autarky goes along with a greater likelihood of forced autarky.

Table 5: Firm characteristics and financial autarky

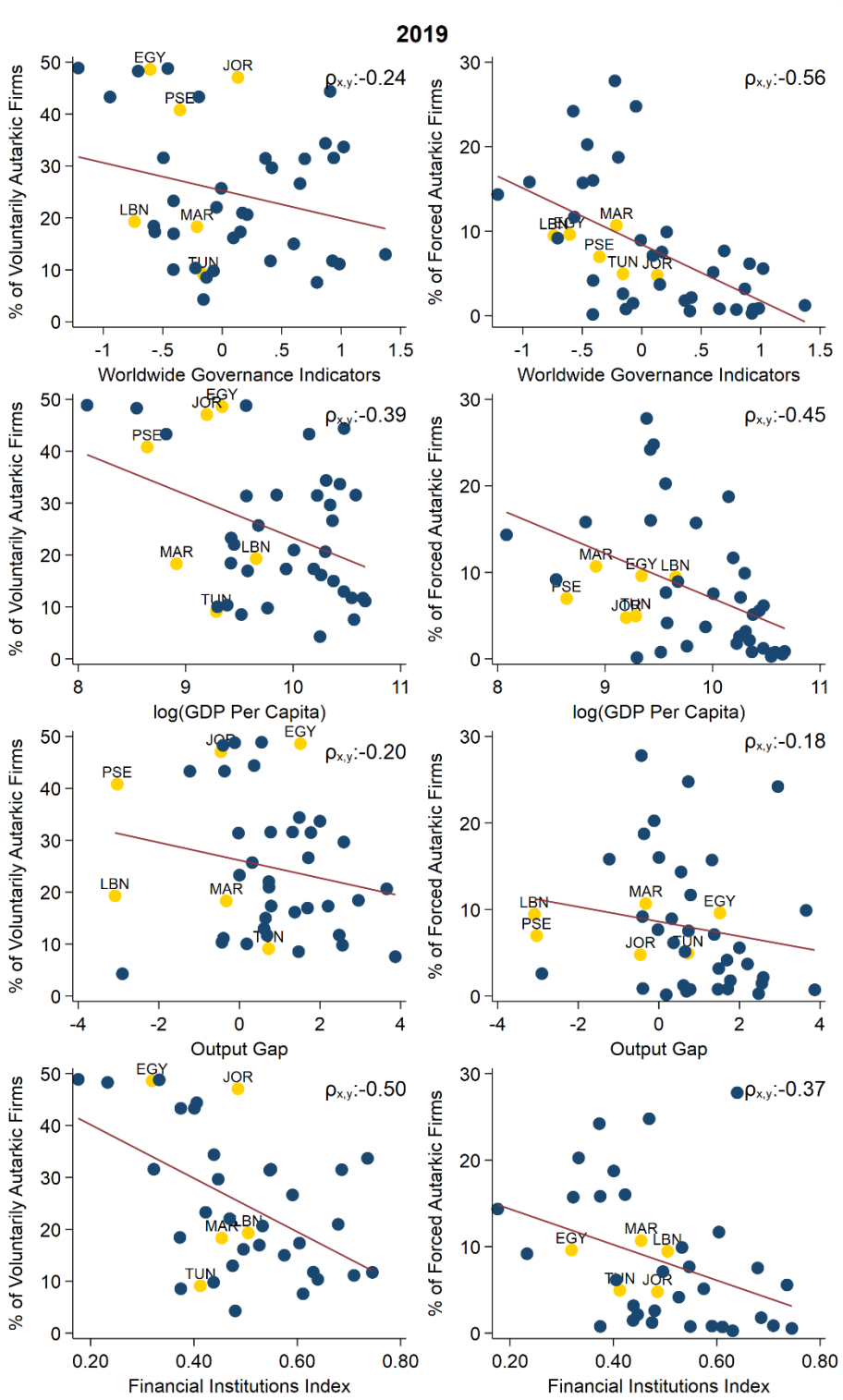
		Autarkic	**Voluntarily Autarkic**	**Forced Autarkic**
Size	SME	38	31	8
	Large	23	19	3
Age	<5 Years	55	46	13
	>=5 Years	36	29	8
Foreign Ownership	Yes	27	21	8
	No	38	30	8
Female CEO	Yes	38	30	7
	No	37	30	8
Audited	Yes	40	32	8
	No	34	27	7
Informal	Yes	46	36	11
	No	36	29	8

Certificate	Yes	21	18	4
	No	40	32	9
Website	Yes	31	27	6
	No	43	33	10
Offering Formal Training	Yes	29	21	9
	No	39	32	8
Foreign Tech. License	Yes	33	26	8
	No	38	31	8
Main Market: Local	Yes	42	34	9
	No	34	27	7
Exporter	Yes	26	20	6
	No	40	32	8
Sector	Manufacturing	36	28	7
	Retail	33	27	7
	Other Services	40	32	9
MENA 2019		37	30	8

Poor and poorly governed countries have a greater share of financially autarkic firms. Figure 19 examines how the proportion of autarkic firms varies with various dimensions of the business environment. In particular, it looks at the level of economic development, the cyclical position of the economy, the quality of institutions and financial development. The plots in the first column refer to voluntary autarky, those on the right to forced autarky. The first row examines the association between autarky and governance. In better-governed countries, the share of autarkic firms is smaller. However, Egypt, Jordan, and Palestine have a higher share of voluntarily autarkic firms than can be expected given the quality of governance in these countries. Conversely, Tunisia has a lower share of voluntarily autarkic countries than the average country with similar governance indices. The second row presents results on economic development, showing the correlation of financial autarky and GDP per capita. It turns out that wealthier economies have a lower share of financially autarkic firms. Again, Egypt and Jordan have a higher share of voluntarily autarkic firms than the average country with similar GDP per capita. The third row presents results for the business cycle and finds that countries with a positive output gap have on average a lower share of financially autarkic firms than countries with a negative output gap. This is consistent with the notion that the provision of credit is pro-cyclical.

Voluntary financial autarky reflects a difficult operating environment. The bottom right plot of Figure 19 displays the correlation between financial autarky and the financial institutions index shown in the introduction. Perhaps unsurprisingly, countries with lower scores of the financial institutions index have a higher share of financially autarkic firms. However, these countries do not only have a higher share of forced autarkic firms, they also have a higher share of voluntary autarkic firms. This suggests that lack of supply of finance leads to a lack of demand, as firms organize themselves in a way that enables them to operate without external finance.

Figure 19: Macro-level correlates of financial autarky



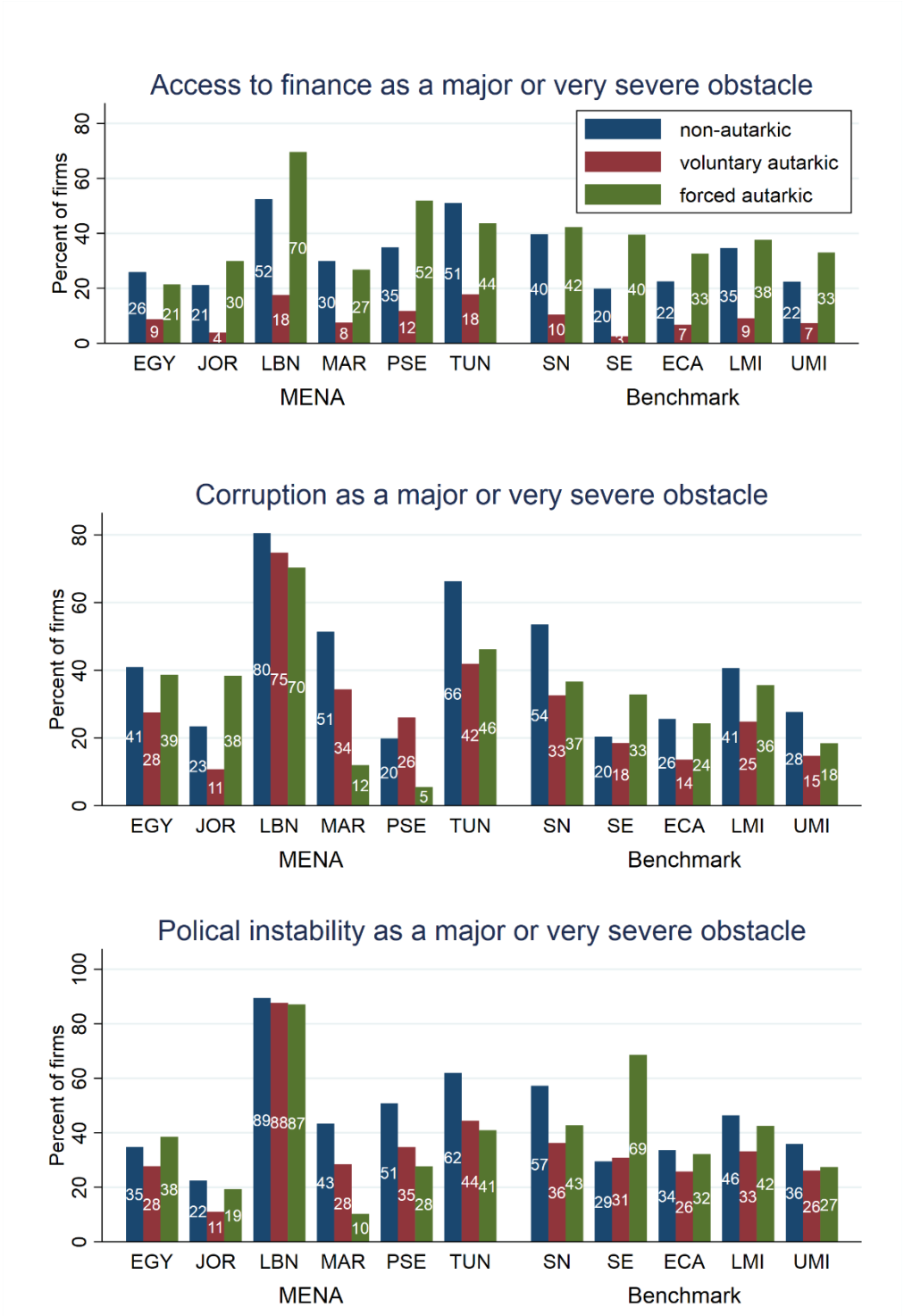
Source: EBRD-EIB-World Bank Enterprise Survey, author calculations

Access to finance is less of an obstacle for voluntarily autarkic firms. Figure 20 presents complementary evidence based on Enterprise Survey data. Respondents to the Enterprise Survey are asked to what extent they perceive various aspects of the business environment to be an obstacle to

their firm. Responses are coded on a five-point scale, ranging from no obstacle at all to very severe obstacle. Figure 20 presents the percentage of managers that consider access to finance, corruption, and political instability a major or very severe obstacle, conditional on whether the firm is non-autarkic, voluntarily autarkic, or forced autarkic. The perceptions corroborate the evidence from the factual questions. Voluntarily autarkic firms do not use external finance, and do not need loans. Accordingly, the managers of voluntarily autarkic firms are less likely than those of non-autarkic firm to view access to finance a major or very severe obstacle. This applies to both the MENA countries and their peer economies. Interestingly, the responses of forced autarkic firms are closer to non-autarkic firms than to voluntarily autarkic firms.

Managers of autarkic firms are less concerned by corruption and political instability. The extent to which corruption and political instability is considered a major or very severe obstacle differs greatly among MENA economies. They are most prominent in Lebanon, where the long-standing governance issues came to the fore when the survey was in the field, late in 2019. However, it appears that on average, the managers of autarkic firms are less likely to view corruption or political instability as a major or very severe obstacle to their enterprise. In this regard, it seems to matter little whether the firm is voluntarily autarkic or forced autarkic. At first glance, these results may seem inconsistent with the pattern in Figure 19, according to which bad governance is associated with a higher share of autarkic firms. Should the autarkic firms then not be more concerned with bad governance and corruption? It may well be, however, that financial autarky is, at least for a subset of firms, the best response to the challenging environment.

Figure 20: Obstacles to the enterprise, conditional on autarky status



Source: EBRD-EIB-World Bank Enterprise Survey, author calculations
Notes: For details on "ECA" benchmark see Figure 1

In the current context, financial autarky has a muted employment growth penalty. The association between firm size and financial autarky documented in Table 5 points toward the possibility that the size differential between autarkic and non-autarkic firms is the result of accumulated differences in

employment growth. Table 6 documents the association between financial autarky and employment growth in the MENA economies and for the other countries covered in the current round of Enterprise Surveys. The dependent variable is given by annualized employment growth measured over the three years preceding the interview. Columns (1) and (2) show results for the current wave, whereas for comparison purposes Columns (3) presents results for the previous round. Forced autarky is associated with a growth penalty. As Column (1) shows, these firms exhibit 2.6p.p. lower employment growth than non-autarkic firms. There is, however, no statistically significant growth differential between voluntarily autarkic and non-autarkic firms. In this regard, the MENA economies differ from their peer economies. In the peer economies, voluntarily autarkic firms display 1.6p.p. lower employment growth than non-autarkic firms. However, the employment penalty for firms forced into financial autarky is comparable. Interestingly, the 2013 results for the MENA region shown in Column (3) indicate that in the past, financial autarky was indeed associated with lower employment growth. It may well be that low investment activity mutes the employment growth differential between autarkic and non-autarkic firms, though the evidence in Column (3) suggests that it may appear again once investment in the region recovers.

Table 6: Financial autarky and employment growth

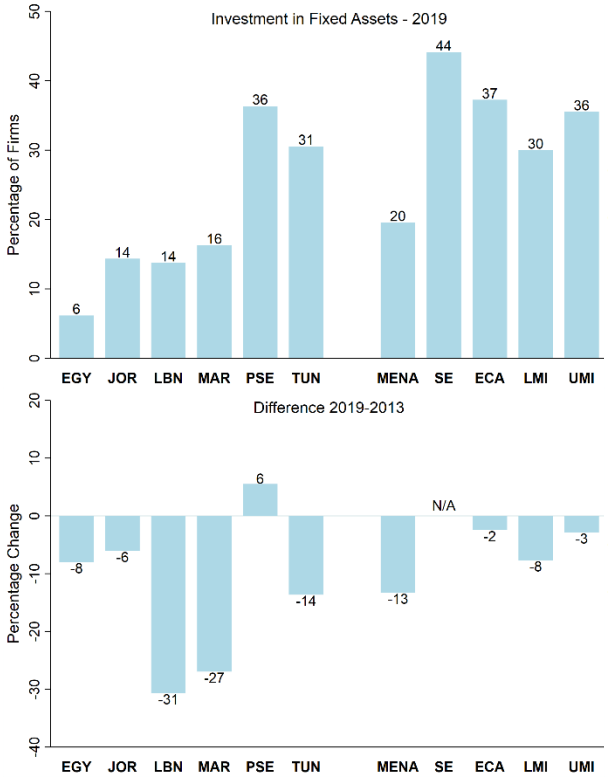
	(1)	(2)	(3)
	MENA 19	Other 19	MENA 13
Autarkic - Voluntary	-0.85	-1.58***	-2.14**
	(1.20)	(0.56)	(1.09)
Autarkic - Forced	-2.59*	-2.73***	-2.98*
	(1.48)	(0.97)	(1.60)
Female CEO	0.36	-0.97	-1.15
	(1.76)	(0.62)	(1.92)
Foreign Ownership	0.87	3.39***	2.88
	(2.69)	(1.13)	(1.94)
Exporter	2.24	1.48**	0.99
	(1.97)	(0.70)	(1.19)
Audited	1.29	2.69***	2.23**
	(1.07)	(0.60)	(0.98)
Informal	3.55**	-0.16	1.91
	(1.49)	(1.03)	(1.65)
log(Size_t3)	-2.97***	-3.12***	-3.79***
	(0.61)	(0.32)	(0.51)
log(Age)	4.78	-13.71***	-14.03**
	(9.41)	(3.52)	(5.52)
log(Age) # log(Age)	-1.25	1.91***	2.23**
	(1.62)	(0.67)	(1.03)
F-stat	1.225	1.359	0.237
p-value	0.268	0.244	0.627
Country x Sector FE	Yes	Yes	Yes
N	4659	16608	4000

Note: Results from OLS regressions. The dependent variable is given by annualized employment growth in the three years preceding the Interview. The sample in Column (2) includes the non-MENA countries of the 2019 Enterprise Survey. The MENA 13 sample in Column (3) consists of the same countries covered in the 2019 round. The F-statistics refers to a test on the equality of the coefficients on forced and voluntary autarky. The corresponding p-value is shown below. Standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

5. Finance and the real economy

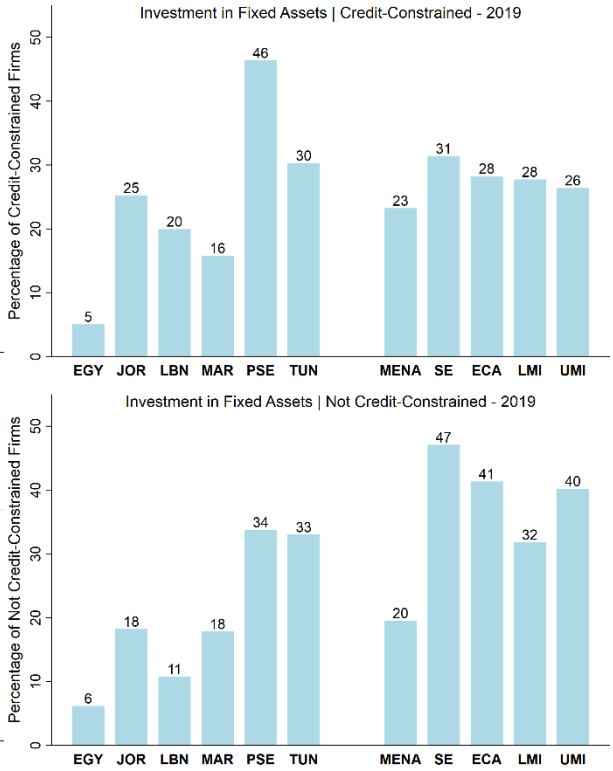
Convergence in living standards requires investment. Finance is not an end in itself. Ultimately, the purpose of finance is to support economic activity. Investment is necessary for the capital stock of any given economy to grow. Without investment, the living standards of the economies covered in this report will not converge to those of advanced economies. The percentage of firms in the MENA region that invests in fixed assets is significantly lower than in peer economies. According to Figure 21, only 20% of firms in the average MENA economy invested in fixed assets, compared to 30% in the average lower-middle-income country, and 36% in the average upper-middle-income country. Palestine and Tunisia are the only economies with investment rates exceeding the lower-middle-income benchmark. The low investment rates reflect a marked decline relative to the 2013 wave of the Enterprise Survey. The decline in investment rates is broad based, with only Palestine seeing an increase in the share of investing firms. All these observations accord also with the macro data shown in Section 1, and the results in Betz et al (2021).

Figure 21: Investment in fixed assets



Source: EBRD-EIB-World Bank Enterprise Surveys, author calculations
Notes: For details on "ECA" benchmark see Figure 1

Figure 22: Investments and credit constraints



Source: EBRD-EIB-World Bank Enterprise Surveys, author calculations
Notes: For details on "ECA" benchmark see Figure 1

The latest survey data suggests a very weak relation between access to finance and investment. Access to finance should support investments and thus accelerate capital accumulation and raise

potential growth.[7] However, in the MENA region the share of investing firms among credit-constrained firms is not significantly lower than that of firms that are not credit constrained, see Figure 22. This is in sharp contrast to peer economies. In the average upper-middle-income country, credit-constrained firms exhibit a 14p.p. lower propensity to invest than unconstrained firms do.

Regression results also point towards a weakening of the relation between finance and investment in 2019. Table 7 presents results of Tobit regressions where investment volumes scaled by sales are regressed on an indicator equal to one if the company is credit-constrained, controlling for a broad set of firm characteristics as well as country-sector fixed effects. The dependent variable equals zero for firms that did not invest during the reference period of the survey. The figures suggest that for MENA countries, in 2019, being credit constrained does not predict the volume of investment. However in the other countries that participate in the current round of Enterprise Surveys, financial constraints are strongly associated with investment. The same applies to the MENA countries with 2013 survey data.

Table 7: Investment and financial access

	(1) MENA 19	(2) Other 19	(3) MENA 13
Credit-Constrained	2.12	-2.47***	-4.50**
	(1.86)	(0.60)	(2.24)
Publicly Listed	4.17	-0.05	2.96
	(2.80)	(1.00)	(4.00)
Female CEO	3.43	-0.92	0.22
	(3.15)	(0.58)	(3.80)
CEO Experience [Year]	-0.02	0.02	-0.04
	(0.08)	(0.02)	(0.09)
Foreign Ownership	-5.65	-2.00**	0.51
	(3.66)	(0.89)	(3.08)
Certificate	-0.62	1.00*	6.90***
	(2.32)	(0.57)	(2.32)
Website	5.51***	1.09**	-1.68
	(1.76)	(0.54)	(2.02)
Offering Formal Training	0.61	3.20***	3.72
	(2.02)	(0.49)	(2.29)
Foreign Tech. License	0.48	2.46***	-0.67
	(2.89)	(0.62)	(2.97)
Main Market: Local	0.27	-1.22**	-3.71*
	(1.88)	(0.51)	(2.22)
Exporter	0.26	3.16***	-5.23**
	(2.44)	(0.61)	(2.28)
Audited	1.78	0.75	7.64***
	(2.02)	(0.55)	(2.24)
Informal	-1.46	2.17	1.57
	(2.81)	(1.43)	(2.75)
log(Age)	-1.30	-2.84***	-3.71***
	(1.23)	(0.39)	(1.09)

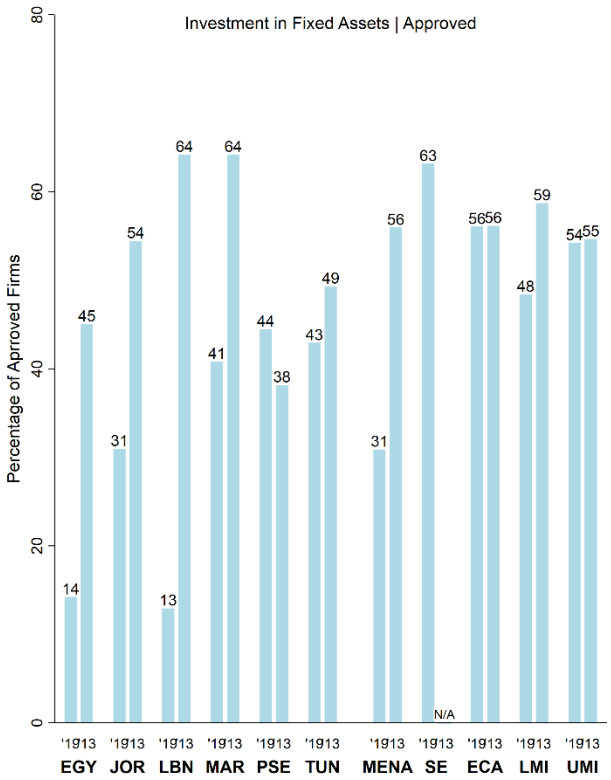
[7] See, for instance, Levine (2005) for a comprehensive overview of finance and development.

log(Size)	12.79***	5.78***	6.02
	(3.35)	(0.97)	(4.13)
log(Size) # log(Size)	-1.59***	-0.61***	-0.56
	(0.47)	(0.13)	(0.54)
Country x Sector FE	Yes	Yes	Yes
N	4988	17010	4089

Note: Results from Tobit regressions. The dependent variable is investment scaled by sales for investing firms and zero otherwise. The sample in Column (2) includes the non-MENA countries of the 2019 Enterprise Survey. The MENA 13 sample in Column (3) consists of the same countries covered in the 2019 round. Standard errors are in parentheses, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

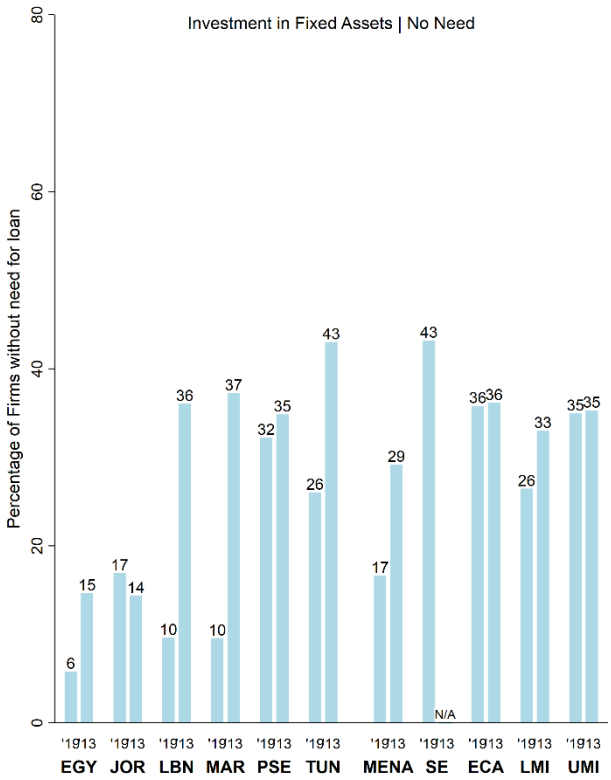
The propensity to invest among firms with an approved loan application has declined. The regression results shown in Table 7 point towards behavioural change among firms in the MENA region. Figure 23 provides additional evidence on firms that are not credit-constrained. The unconstrained firms are composed of firms that an approved loan application and firms that state that they do not need a loan. Figure 23 documents a strong decline in the propensity to invest among firms with a successful loan application. In 2013, 56% of MENA firms with an approved loan application invested in fixed assets. By 2019, this share has shrunk to just 31%, a level well below that of peer economies. Lebanon records the strongest decline, which reflects the exceptional circumstances of the country. However, Egypt, Jordan, and Morocco also experience a strong decline in the propensity to invest among firms with an approved loan application. Figure 24 provides complementary evidence on the behaviour of firms with no need for a loan. Relative to firms with a successful loan application, this group displays a much lower propensity to invest. However, Figure 24 also shows that the propensity to invest has declined among this group of firms as well. The decline to 17% from 29% in 2013 is coming mainly from firms in Lebanon, Morocco, and Tunisia.

Figure 23: Propensity to invest of firms with an approved loan application



Source: EBRD-EIB-World Bank Enterprise Surveys, author calculations
Notes: For details on "ECA" benchmark see Figure 1

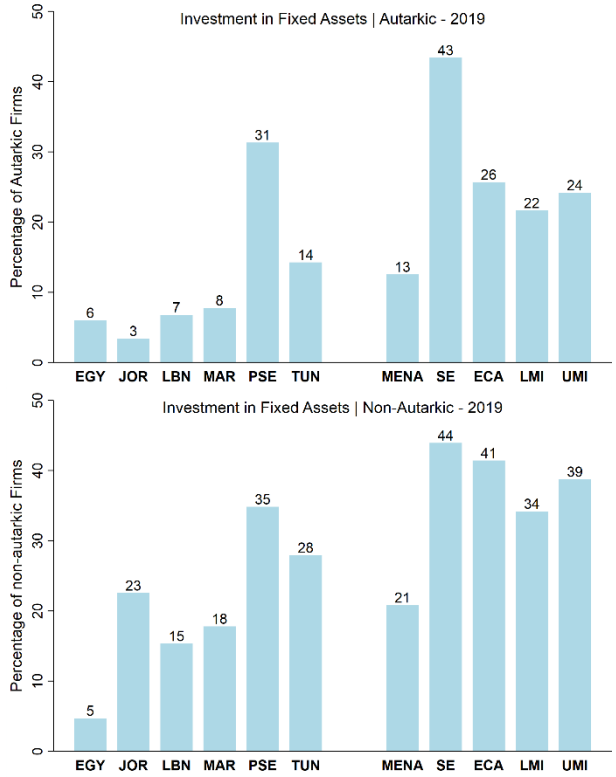
Figure 24: Propensity to invest of firms that state no need for a loan



Source: EBRD-EIB-World Bank Enterprise Surveys, author calculations
Notes: For details on "ECA" benchmark see Figure 1

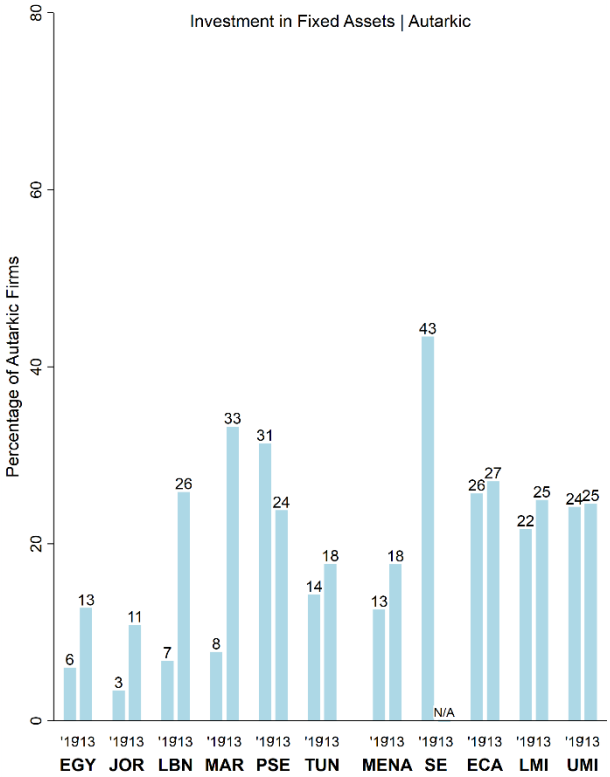
Non-autarkic firms are more likely to invest than autarkic firms Figure 25 provides an alternative perspective on the relation between finance and the real economy based on the concept of financial autarky introduced in the previous section. As Figure 25 shows, financially autarkic firms are less inclined to invest than non-autarkic firms. This is not surprising, as autarkic firms can only realize investment opportunities that can be financed from internal sources. In Jordan, for instance, the propensity to invest among non-autarkic firms is 20p.p. higher than among autarkic firms. Only in Egypt do autarkic and non-autarkic firms have a similar propensity to invest. Nevertheless, the investment rates of non-autarkic firms in MENA are still considerably lower than those of non-autarkic firms in peer regions. Figure 26 compares the propensity to invest of autarkic firms in the 2019 wave of the Enterprise Survey to the 2013 wave. In the MENA region, autarkic firms became less likely to invest. This reflects mainly developments in Morocco and Lebanon and is consistent with the pattern in Figure 24, as the majority of autarkic firms is voluntarily autarkic, and therefore does not need a loan.

Figure 25: Investment and financial autarky, 2019



Source: EBRD-EIB-World Bank Enterprise Surveys, author calculations
Notes: For details on "ECA" benchmark see Figure 1

Figure 26: Investment and financial autarky over time



Source: EBRD-EIB-World Bank Enterprise Surveys, author calculations
Notes: For details on "ECA" benchmark see Figure 1

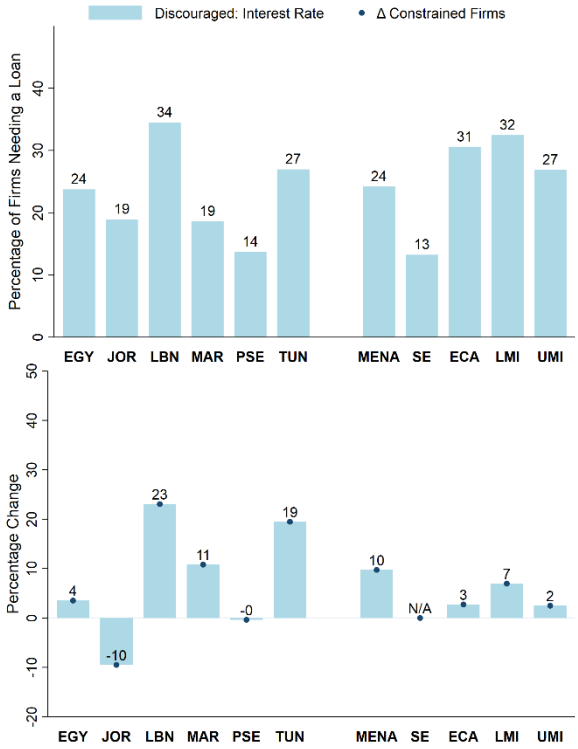
In summary, the decline in investment appears to be driven by firms that are not credit constrained. This pattern lends itself to two interpretations that differ in the role ascribed to interest rates. The first interpretation emphasizes the importance of interest rates for investment demand. In this view, the build-up of government debt documented in Section 1 drives up interest rates. In a high interest rate environment, firms use bank finance mainly to address short-term liquidity needs. The second interpretation emphasizes obstacles to investment other than finance. High uncertainty, for instance, is inimical to investment. In the context of the MENA economies, high uncertainty could derive from political instability that is frequently mentioned as top obstacle to the enterprise by ES respondents in the region.

The motives for using bank loans depend on the level of interest rates. By reducing the present value of investments, high interest rates can discourage firms from investing. With high interest rates, only the firms that have liquidity problems or short-term financing needs would continue to demand a loan. This makes interest rates a likely reason for changing motives to use external finance. Given the limited access of the region's banks to global financial markets, mounting government debt in the last decade is likely to have crowded out private firms. Therefore, even if domestic economic activity remained vivid owing to government expenditure, high interest rates may have prevented firms from undertaking projects that would be feasible under lower loan rates. However, data on loan rates that firms face is hard to find. Other rates, like yields on government bonds or central bank rates are likely to be poor proxies for actual loan rates. Nevertheless, ES data give an indirect measure for the level

of interest rates, which is the share of firms discouraged by the level of interest rates. As Figure 27 shows, the share of firms discouraged by high interest rates has increased relative to the 2013 wave of the Enterprise Survey.

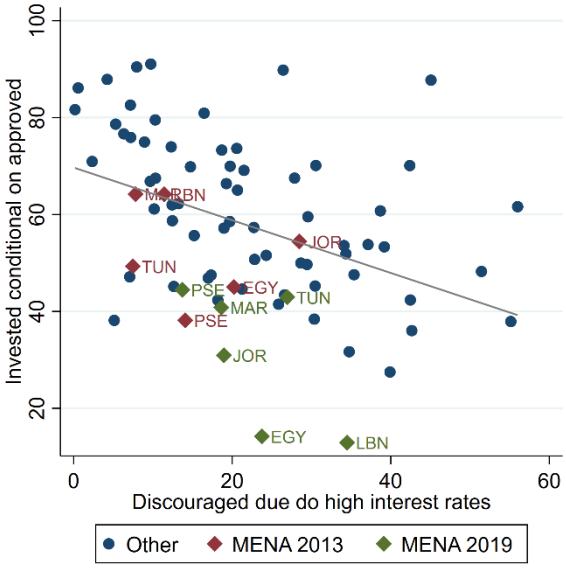
At the country-survey round level, there is a strong negative relation between the proportion of firms discouraged by high interest rates and the share of investing firms conditional on having an approved loan application. This finding is consistent with the hypothesis that interest rates are an important factor restricting investments for firms able to obtain a loan. Figure 28 is based on averages at the country-survey wave level, covering the 41 economies that are part of this wave of Enterprise Surveys and the 2013 wave. The link cannot be estimated at the firm level, as by construction firms that have an approved loan application cannot be discouraged by high interest rates. In line with the charts presented above, the MENA countries shifted right along the horizontal axis, reflecting the increase in firms discouraged by high interest rates. The sharp decline in investment in the MENA economies results in a downward shift along the vertical axis. The correlation between discouragement from interest rates and investment conditional on an approved loan application appears even stronger in the MENA region. The stronger correlation can indicate a higher elasticity of investment with regard to interest rates, or a third factor driving both variables.

Figure 27: Discouraged by high interest rates



Source: EBRD-EIB-World Bank Enterprise Surveys, author calculations
Notes: For details on "ECA" benchmark see Figure 1

Figure 28: Crowding out



Source: EBRD-EIB-World Bank Enterprise Surveys, author calculations

Conjunctional developments during the reference period of the survey do not seem to be the main or only driver of the decline in investment among firms with access to finance. It is well documented that reasons for applying for a loan can change dramatically depending on the macroeconomic conditions. During downturns, for instance, firms are less likely to invest due to higher uncertainty,

deterioration in expectations and tighter financial conditions. During such periods, rolling over maturing debt or financing unintended inventories would become the main drivers of loan demand. When the 2019 ES survey was conducted, the economies of the region, with the exception of Egypt, grew at rates below historical averages. However, none of them other than Lebanon was in a recession or in a crisis.

Though high interest rates resulting from the build-up in public debt can account for the decline in investment, an unfavourable business environment may drive both. Political instability remains the most frequently cited top obstacle to the enterprise (see Section 1). Political instability can deter investment by lowering risk-adjusted returns. Put differently, in an environment characterized by high political instability, entrepreneurs may not be able to reap the rewards of their efforts. Political instability came out as the top obstacle in the previous wave of the Enterprise Survey, which was fielded in the aftermath of the Arab Spring, see EBRD et al (2016) for a discussion. With the exception of Lebanon, it is unlikely that the polities of the region have become more unstable since then. However, this is not necessary as persistent political instability may lower a country's growth trajectory. This in turn makes it more difficult to grow out of the existing public debt stock. At the same time, governments may feel the need to prioritize current expenditure to support economic activity. Over time, the debt-to-GDP ratio increases, generating upward pressure on interest rates, which then crowds out the private sector.

Structural deficiencies of the business environment in MENA include the legacy of a state-led development model and a playing field tilted in favour of politically connected firms. The decades after the Second World War were characterized by the rise of populist-authoritarian regimes (Hinnebusch, 2020; World Bank, 2004). These regimes sought legitimacy by providing socio-economic benefits to their citizens who in return accepted constraints on political participation. The state assumed a central role in the economy, not least as employer of last resort. The opportunity costs of these systems have been laid bare by demographic trends (Malik and Awadallah, 2013). Partial liberalization and weak institutions favoured politically connected entrepreneurs, who managed to tilt the business environment in their favour, with adverse consequences for productivity and job creation (Schiffbauer et al, 2015). When faced with social unrest, governments frequently resorted to increased social spending to appease their constituents. These factors can explain anaemic economic performance and the built up of public debt, which eventually further crowds out the private sector.

6. Physical climate risk[8]

In a warming climate, weather extremes are becoming more likely and severe. In its sixth assessment report, the IPCC considers it an established fact that greenhouse gas emissions have led to "led to an increased frequency and/or intensity of some weather and climate extremes since pre-industrial times". The IPCC expects these trends to continue as the global average temperatures increase further. The evidence is not limited to extreme heat but also concerns heavy rainfall, floods, storms and droughts. To design appropriate adaptation policies[9], it is important for policy makers to

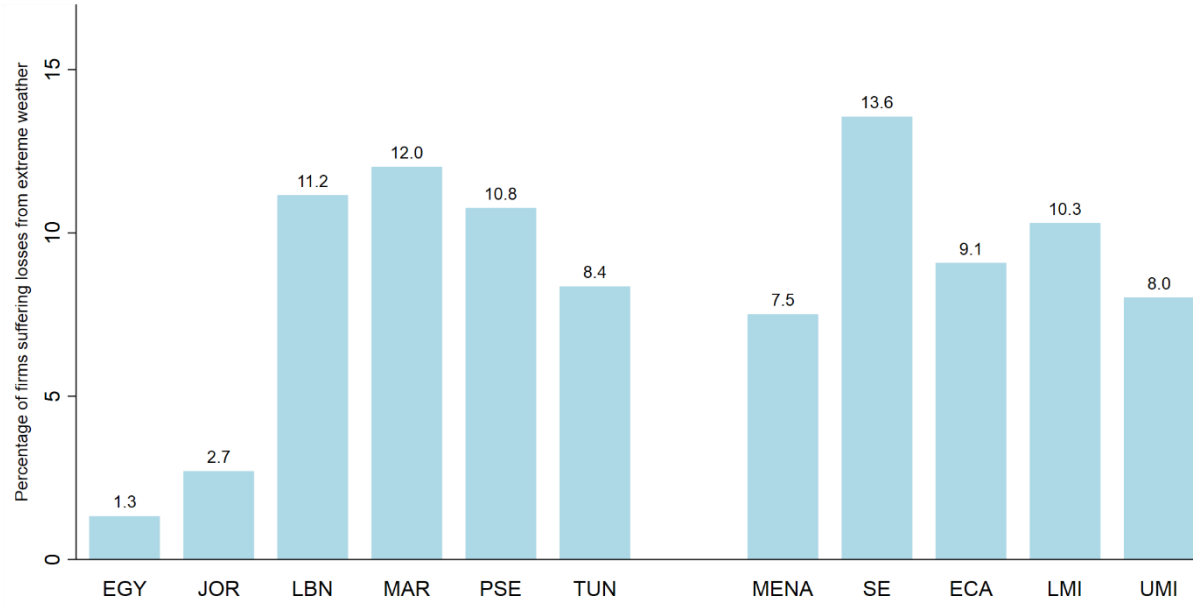
[8] Results presented in this section are based on the upcoming working paper titled: "How do firms cope with losses from extreme weather events?", *mimeo*

[9] See https://www.eea.europa.eu/publications/climate-change-impacts-and-vulnerability-2016 for more details.

understand how firms respond to losses from extreme weather events, both on the asset and the liability side of their balance sheet.

A significant share of firms is already suffering losses from extreme weather events. The Enterprise Surveys do not have data on firms' exposure to extreme weather events per se. Instead, they focus on the economic consequences of extreme weather events, thus identifying firms experiencing monetary losses linked to such extreme events.[10] About 7.5% of firms in the MENA region have experienced monetary losses due to extreme weather events, such as storms, floods, droughts, and landslides in the three years preceding the interview. Figure 29 also shows that extreme weather losses exhibit considerable variation across countries, ranging from 1.3% in Egypt to above 12% in Morocco.

Figure 29: Percentage of firms suffering losses due to extreme weather events by country

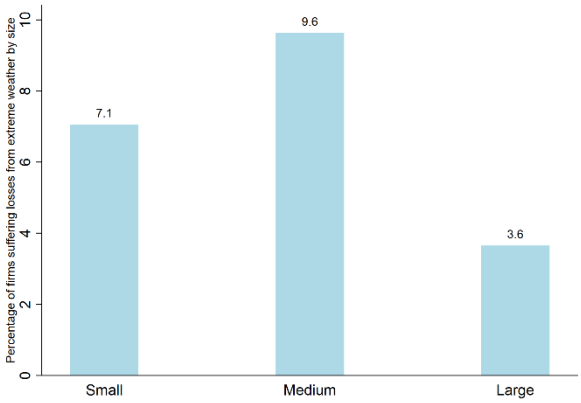


Source: EBRD-EIB-World Bank Enterprise Surveys, author calculations
Notes: For details on "ECA" benchmark see Figure 1

Losses from extreme weather events vary widely across sectors and firm size categories. There is no clear association between extreme weather losses and firm size (Figure 30). Medium-sized firms are most likely to report losses from extreme weather (9.6%), followed by small (7.1%) and then large firms (3.6%). Across sectors, providers of services other than hotels and restaurant are most likely to suffer losses from extreme weather events (10.2%), followed by construction firms (9.8%).[11] On the other hand, only 4.7% of wholesalers report losses from extreme weather events.

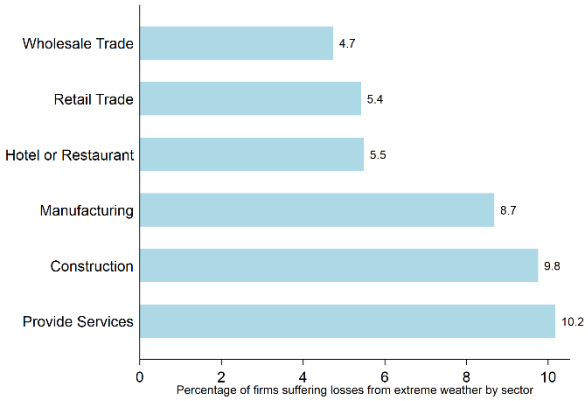
[10] On the contrary, there is no available information on the scale of the damage.
[11] Calculations based on the total number of firms operating in the same sector.

Figure 30: Percentage of firms suffering losses due to extreme weather events by firm size category



Source: EBRD-EIB-World Bank Enterprise Surveys, author calculations

Figure 31: Percentage of firms suffering losses due to extreme weather events by sector



Source: EBRD-EIB-World Bank Enterprise Surveys, author calculations

Firms suffering monetary losses from extreme weather are more likely to invest in physical capital. Table 8 presents regression results on the relation between losses due to extreme weather events and firm investments. Columns (1) and (2) are based on the MENA sample, Columns (3) and (4) on the other economies that are part of the 2019 Enterprise Survey round. Specifically, the table shows a positive relationship between suffering losses due to severe weather and the probability of increasing capital expenditure. Firms suffering losses from extreme weather exhibit a 6 percentage point greater likelihood of investing in fixed assets. The coefficient is similar in magnitude to the one estimated on the sample of comparator countries. Unlike the coefficient from the benchmark sample, the coefficient on the MENA region is not significantly different from zero. The coefficient is, however, economically relevant, as only 20% of MENA firms engaged in capital expenditure during the reference period of the survey. The positive relation between extreme weather losses and capital expenditure is not the result of unobserved factors shared by firms of the same size operating in the same sector of the same economy.[12] Higher investment activity can reflect attempts to replenish their capital stock or to protect the firm against future shocks via adaptation investments.

[12] The sector-size-country specific parameter, or fixed effects, has been proposed by Degryse et al. (2019) to control for bank credit demand determinants. Specifically, the size of the firm is small, medium, or large, the firm's sector is either manufacturing, retail trade, wholesale trade, construction, hotel or restaurant, or provision of services, and the location is by the county where the firm is located.

Table 8: Extreme weather losses and investments

	(1) Fixed MENA	(2) Green MENA	(3) Fixed Other	(4) Green Other
Extreme weather loss	0.06	0.14***	0.06***	0.11***
	[0.05]	[0.05]	[0.02]	[0.02]
Audited	0.04	0.10***	0.04***	0.08***
	[0.03]	[0.03]	[0.02]	[0.02]
Sole proprietorship	0.07**	0.02	-0.03	0.01
	[0.03]	[0.04]	[0.02]	[0.02]
Publicly listed	0.17**	0.16**	-0.04*	-0.03
	[0.08]	[0.07]	[0.03]	[0.03]
In partnership	0.10**	0.03	-0.04	0.01
	[0.04]	[0.04]	[0.03]	[0.03]
Main market: Local	-0.02	0.11***	-0.05***	-0.03*
	[0.03]	[0.03]	[0.02]	[0.01]
log(Age)	-0.03*	-0.03	-0.07***	-0.02**
	[0.02]	[0.02]	[0.01]	[0.01]
Have a website	0.11***	0.13***	0.06***	0.07***
	[0.03]	[0.03]	[0.02]	[0.01]
Female CEO	0.03	0.06	0.00	-0.01
	[0.05]	[0.06]	[0.02]	[0.02]
log(CEO Experience [Years])	0.02	-0.05**	0.01	0.00
	[0.02]	[0.03]	[0.01]	[0.01]
Exporter	-0.03	0.09*	0.07***	0.03*
	[0.04]	[0.05]	[0.02]	[0.02]
Pay energy levy		-0.16***		0.09***
		[0.03]		[0.02]
Subject to energy standards		0.30***		0.15***
		[0.06]		[0.02]
Manager for climate issues		0.22***		0.11***
		[0.05]		[0.02]
Constant	0.02	0.46***	0.64***	0.69***
	[0.08]	[0.10]	[0.14]	[0.13]
Observations	5228	5228	18968	18968
R-squared	0.20	0.24	0.23	0.24
Industry-size-country FE	Yes	Yes	Yes	Yes

Note: This table reports estimates from sample-weighted linear probability models. The regressor of interest is the dummy variable Extreme weather loss which is equal to one if the firm experienced monetary losses due to extreme weather events; zero otherwise. In columns 1 and 3, the dependent variable is a dummy that is one if the firm purchased fixed assets in last fiscal year. In column 2 and 4, the dependent variable is a dummy equal to one if the firm adopted measures that lower the environmental footprint of the company. The sample in columns 1 and 2 is given by the six MENA economies, in columns 3 and 4 by the non-MENA countries participating in this round of the Enterprise Survey. Standard errors are shown in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Firms suffering losses due to extreme weather replenish are more likely to have adopted environmentally friendly modes of production. Table 8 shows a positive statistically significant association between suffering losses due to weather extremes and the likelihood that the firm adopted measures that reduce the environmental footprint of the company. Firms declaring losses

due to weather extremes have on average a 14 percentage point higher likelihood to implement measures that are climate- or environment-friendly.[13] Again, the coefficient is comparable in magnitude to the one obtained from the benchmark sample. Moreover, the coefficient on the MENA sample is highly significant at conventional levels. Results are also robust to controlling for those aspects that are likely to increase the probability of investing in green measures: having a manager who is directly responsible for climate issues, being subject to energy standards, and being subject to the payment of levies on the usage of energy.

On the liability side of firms' balance sheets, the response to extreme weather losses appears muted. Column (1) of Table 9 shows a positive relationship between extreme weather losses and need for bank loans. Firms suffering losses due to weather extremes are on average 7 percentage points more likely to need bank credit. While the size of the coefficient is economically meaningful, it is not statistically significant. In contrast, firms in the benchmark sample exhibit a 12 percentage point higher need for bank credit following losses from extreme weather events (see Column 3). Moreover, the coefficient in the benchmark sample is highly significant statistically. Bank appear to accommodate credit demand from firms suffering monetary losses due to extreme weather events.[14] Column (2) of Table 9 shows no statistically significant association between extreme weather losses and credit constraints, conditional on needing a loan. The sample applies to the benchmark sample in Column (4).

Table 9: Extreme weather losses and access to finance

	(1) Need MENA	(2) Constrained MENA	(3) Need Other	(4) Constrained Other
Extreme weather loss	0.07	0.03	0.12***	-0.05
	[0.06]	[0.09]	[0.02]	[0.03]
Observations	5039	1823	18634	8429
R-squared	0.17	0.25	0.18	0.32
Industry-size-country FE	Yes	Yes	Yes	Yes

Note: This table reports estimates from sample-weighted linear probability models. The regressor of interest is the dummy variable Extreme weather loss which is equal to one if the firm experienced monetary losses due to extreme weather events; zero otherwise. In columns 1 and 3, the dependent variable is a dummy that is one if the firm needed a bank loan. In column 2 and 4, the dependent variable is a dummy equal to one if the firm was credit constrained, conditional on needing a loan. The sample in columns 1 and 2 is given by the six MENA economies, in columns 3 and 4 by the non-MENA countries participating in this round of the Enterprise Survey. All columns include firm-level controls ((indicators for exporter status, listed firm, sole proprietorship, in partnership, audited financial accounts, female top manager, log of firm age, selling main product in the local market, having a website, and the log of manager's experience), sector-size-country fixed effects. Omitted category in firm ownership is Limited partnership and Shareholding company with non-traded shares. Robust standard errors are clustered by Enterprise Survey regions and shown in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

The muted developments on the liability side of balance sheets comes from firms in high autarky economies. Table 10 differentiates the results between high autarky economies (Egypt, Jordan, and Palestine) and low autarky economies (Morocco, Tunisia, and Lebanon). As shown in Column (3), firms in low autarky economies exhibit an increase in need for loans of 14% that is comparable to that in

[13] Adoption of green measures includes heating and cooling improvements, more climate-friendly energy generation on site, machinery and equipment upgrades, energy management, waste minimization, recycling and, waste management, air pollution control measures, water management, upgrades of vehicles, improvements to lighting systems, other pollution control measures.

[14] See also Cortés (2014), Koetter, Noth, and Rehbein (2020).

the benchmark sample. Firms in high autarky economies, on the other hand, display almost no higher need for loans (see Column (1)).

Table 10: Extreme weather losses and access to finance

	(1) Need High autarky	(2) Constrained High autarky	(3) Need Low autarky	(4) Constrained Low autarky
Extreme weather loss	0.02	-0.27	0.14*	0.02
	[0.11]	[0.20]	[0.07]	[0.10]
Observations	3648	1069	1391	754
R-squared	0.01	0.04	0.03	0.09
Industry-size-country FE	Yes	Yes	Yes	Yes

Note: This table reports estimates from sample-weighted linear probability models. The regressor of interest is the dummy variable Extreme weather loss which is equal to one if the firm experienced monetary losses due to extreme weather events; zero otherwise. In columns 1 and 3, the dependent variable is a dummy that is one if the firm needed a bank loan. In column 2 and 4, the dependent variable is a dummy equal to one if the firm was credit constrained, conditional on needing a loan. The sample in columns 1 and 2 is given by the high autarky economies Egypt, Jordan, and Palestine, in columns 3 and 4 by the low autarky economies Morocco, Tunisia, and Lebanon. All columns include firm-level controls ((indicators for exporter status, listed firm, sole proprietorship, in partnership, audited financial accounts, female top manager, log of firm age, selling main product in the local market, having a website, and the log of manager's experience), sector-size-country fixed effects. Omitted category in firm ownership is Limited partnership and Shareholding company with non-traded shares. Robust standard errors are clustered by Enterprise Survey regions and shown in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

In summary, physical climate risk is real. About 7.5% of ES firms in the MENA region have declared losses due to extreme weather events. They invest in fixed assets and they are more likely to adopt more climate-friendly production processes, though the evidence is somewhat weaker than in benchmark economies. Higher investment activity can reflect attempts to replenish the capital stock or to protect the firm against future shocks via adaptation investments. With regard to finance, the response to extreme weather losses appears somewhat muted. This comes mainly from firms in high autarky economies. Whereas firms in low autarky context exhibit an increased need for loans that is comparable to the benchmark economies, firms in high autarky setting report almost no increase in need for bank loans.

7. Conclusions and policy implications

Access to finance in the MENA economies covered in this paper has not improved relative to the previous round of Enterprise Surveys. The share of credit-constrained firms has increased by 14p.p. compared to 2013 wave of the survey, and exceeds that of peer economies by a small margin. The vast majority of credit constrained firms is discouraged from applying for a loan. Rejections, on the other hand are rare. High interest rates and complex application procedures are most frequently cited as discouraging loan applications. The share of firms discouraged by high interest rates has increased by 10p.p. relative to the previous survey round.

A high share of firms operates without external finance, i.e. is financially autarkic. At 37%, the share in the average MENA economy is comparable to peer economies. However, the share of autarkic firms is much higher in Egypt, Jordan, and Palestine. The majority of autarkic firms is voluntarily autarkic.

Financial autarky appears to be a response to a difficult operating environment as measured by weak governance, low GDP per capita and lack of supply of credit.

Physical climate risk is real. About 7.5% of firms in the average MENA country have experienced monetary losses due to extreme weather events, such as storms, floods, droughts, and landslides in the three years preceding the interview. Firms suffering monetary losses from extreme weather are more likely to invest in physical capital. Firms suffering losses from extreme weather are also more likely to adopt measures that reduce the environmental footprint of the company. On the liability side, firms located in the low autarky economies Morocco, Tunisia, and Lebanon express greater need for loans, which does not apply to firms in Egypt, Jordan and Palestine. Conditional on needing a loan, firms suffering losses from extreme weather are not more likely to be credit constrained.

Investment rates are lower than in peer economies. Low aggregate investment rates are reflected also in Enterprise Survey data. The share of firms investing in fixed assets has declined relative to the previous survey round and is now lower than in peer economies. In economic terms, the difference is substantial. Only 20% of firms in the MENA region have invested in fixed assets over the previous financial year. As a result, the capital stock grows slowly, which in turn has negative implications for labour productivity. Low innovation rates compound the problem (Ficarra et al, 2022).

Both macro and micro level data suggest the presence of a crowding out effect. In addition to financial resources, lending to SMEs requires certain resources, risk-assessment capacity, access to information on firms, and an appropriate legal framework. However, the region's banks already enjoy high returns by financing less risky government bonds, which does not consume bank capital. As crowding out eases, banks will look for ways to profit from lending to private sector firms and thus become more eager to develop the required capacity.

In economies with high borrowing costs, fiscal consolidation is the first step to improve access to finance for private companies. A credible program might open up lending capacity before debt ratios even start to decline, as risk premiums can decrease quickly. This in turn can boost demand from foreign investors for domestic and sovereign debt, and also increase the prospects of accessing global financial markets by the domestic banking system. As it stands, large firms and most importantly SOEs benefit most from the limited capacity for financial intermediation.

Fiscal consolidation is no substitute for a broader structural reform agenda. The economies have not yet completed the transition to a business environment conducive to private sector led growth. The high share of autarkic firms is a symptom of this problem. The results suggest that financial autarky is a response to a difficult operating environment. Moreover, financially autarkic firms are comparatively unsophisticated along a range of other dimensions. This suggest that supply-side improvements of the financial system on their own are unlikely to enhance the performance of these companies. The chapeau report provides policy recommendations for wider business environment reform.

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