WORKING PAPER

Financial Development and Employment: New Evidence

Rym Ayadi, Sami Ben Naceur and Mohamed Goaied

EMNES Working Paper Nº 25 / May 2019

Abstract

This paper adds to the existing literature on finance and growth, by exploring the effect of finance on the labour market, using data on 143 countries from 1995 to 2015. We also examine whether the impact of financial development on labour is significantly different prior to and after the 2008 global financial crisis. This paper has five main findings: first, the analysis confirms the positive relationship between the efficiency of and access to financial institutions and the employment rate in the linear specification; second, the marginal returns to employment from further financial institution inclusion diminish at high levels of inclusion and turn negative when a certain threshold is reached; third, the effects of financial market access on employment create a U-shaped relationship, where financial market access begins impacting on employment when a threshold of access is reached; fourth, the positive effect of financial development on employment strengthens with the country's institutional quality; finally, there is strong support for financial development having a negative impact on employment during the 2008 global financial crisis.

JEL Classification Numbers: E24, E44, F41, G20, J21.

1. CASS Business School and Euro-Mediterranean Network for Economic Studies (EMNES), *e-mails rym.ayadi@city.ac.uk; rym.ayadi@euromed-economists.org*
2. Ecole Supérieure de Commerce de Tunis*, e-mail: sbennaceur@gmail.com.*
3. College of Business and Economics, Qatar University*, e-mail: mgaied@qu.edu.qa*

1. Introduction

For decades, academic literature has explored the nexus between finance and economic growth, leading to overwhelming evidence that there is a significant positive relationship between financial development and economic growth, which supports the proposition that more developed financial systems would lead to more economic growth[1]. Beck et al. (1990) show that the channel through which financial development leads to economic growth is productivity growth rather than capital accumulation. The empirical literature has also striven to examine the determinants and sources of financial development (e.g. financial services policies, government ownership of banks, government institutions, legal systems, trade and financial openness etc.)[2], which form the preconditions for sustainable economic growth. The 2008 global financial crisis has cast some doubt on the validity of the mainstream proposition, as evidence shows that a fundamental malfunctioning of the financial system might lead to economic value destruction, job destruction, as well as propagating poverty and inequality.

The recent literature has found that the positive finance-growth relationship weakens when more recent data is used and that there is a threshold beyond which further financial deepening could negatively impact growth3. During and in the aftermath of the 2008 global financial crisis, real sector activity fell due to financial shocks and contagious events, despite substantial government attempts (e.g. bailouts and liquidity injections) to keep the financial system afloat. The contraction of economic activity led to massive job losses (ILO 2009) and fundamental concerns about the jobless recovery.

Although the literature has widely documented the consequences of financial development on growth, much less attention has been focussed on exploring the relationship between financial development and employment. This question is fundamental, in view of the job creation/destruction experienced in many regions of the world from low, to middle and

[1] Economists like Bagehot (1873); Schumpeter (1912); Hicks (1969) and Miller (1998) proposed and supported the hypothesis that finance contributes to economic growth. Others, including Robinson (1952) suggest that, on the contrary, growth leads to financial development and Lucas (1988) recognises that finance is "over-stressed" in explaining growth. In reviewing the literature, Levine (2003) concludes that financial development can explain differences in economic growth across countries. In 2005, Levine showed that financial development contributes to growth via the following channels: the provision of information on potential projects, monitoring investment implementation, the enhancing of risk management and diversification, the pooling of savings and facilitating the exchange of goods and services.

[2] Abiad and Mody (2005) ; La Porta et al. (1997, 1998, 2002) ; Andrianova et al. (2008), Rajan and Zingales (2003) ; Baltagi et al. (2009) ; and Law (2009).

high-income countries, the worrying levels of unemployment - particularly amongst women and the young - and jobless recovery highlight the fact that increased output growth may not necessarily translate into high employment levels that can absorb the large number of unemployed people.

To explore the finance-employment relation, Pagano and Pica (2012) show that, when easing financing constraints, firms can invest in more capital-intensive technologies, thereby decreasing the use of labour. This leads to increased productivity, though not necessarily increased employment[4]. On the contrary, Garmaise (2008) shows that firms facing financing constraints use more labour than capital, but are unable to attract new labour, leading to lower labour productivity over time.

In general, and in line with the hypothesis on credit market frictions and imperfections, financial markets and institutions tend to be more selective in terms of risk-taking, favouring continued financing of larger firms, particularly profitable ones. Micro and small firms already suffering from lack of access to finance tend to face credit crunches when economic conditions become adverse.

Financial crises greatly impact micro and small firms, including their employment prospects, in comparison to larger firms. A recent paper by Fernandes and Ferreira (2017) In investigating the impact of the 2008 global financial crisis on Portuguese firms' employment composition decisions, Fernandes and Ferreira (2017) find that firms in more financially constrained industries exhibit higher ratios of fixed-term workers to permanent workers[5] post-crisis than less financially constrained firms. This provides the first line of evidence for the deteriorating terms of post-crisis employment.

Other empirical works have attempted to decipher the relationship between finance and employment by using firm-level data. Shäfer and Steiner (2014) explore the relationship between financial development and firm employment growth, using an incomplete contract model linking financial development to firms' managerial capital. By using firm size as a proxy for managerial capital, they tested the proposition on firm data for transition

[4] When performing an empirical test on international industry data between 1970-2003, the authors found that financial development was associated with employment growth, but not via productivity or real wage growth. They confirmed that the interconnection between finance, output and employment is non-linear. It is positive and statistically significant in developing countries, but not in developed ones; moreover, it is positive and significant in the 1970s and 1980s, but not afterwards, when the financial system had already become quite developed in most countries.

[5] Caggese and Cunat (2008) confirm that financially constrained firms tend to use higher proportions of fixed-term workers to help them absorb larger fractions of total employment volatility.

economies in Eastern Europe and Central Asia. They found that the relationship between financial development and firm employment is non-linear, highlighting the fact that the employment prospects of small firms are dampened more dramatically than those of larger firms when financial development improves. Popov and Rocholl (2015) explore the effects of financing constraints on labour demand in Germany. They find that firms that had credit relationships with banks affected by the US mortgage crisis experienced a significant decline in employment and labour compensation, compared to firms that had credit relationships with healthy banks. Boustanifar (2014) documented the significant effect of credit market efficiency on employment growth, using data relating to the US banking reforms that took place between the 1970s and 1990s. These reforms had a substantially higher impact on industries with higher labour intensity. Drawing from US data for 1995-2009, Paglia and Harjoto (2014) show that PE and VC financing have positive impacts on single entity business establishments' net sales and employment growth. Similarly, using credit bureaus as exogenous shocks to credit supply, Ayyagari et al (2016) show that financial access results in greater employment growth, particularly amongst small and medium sized enterprises.

Bt examining the working capital channel, by Dao and Liu (2017) explore the effects of external financing constraints on job creation in emerging markets and developing countries at the firm level. They show that the effect of relaxing financial constraints on job creation is greater the smaller the firm scale and the more labour-intensive the production structure. Their empirical evidence corresponds with the effect of the external finance working capital channel on firm employment. Kim et al (2018) investigate the relationship between finance and unemployment using panel data. The paper shows that credit market imperfections matter for unemployment, but recognises that further theoretical and empirical research is needed on the mechanisms by which credit market imperfections harm labour market outcomes. Their evidence suggests that a more market-oriented structure of the financial system would alleviate unemployment. They conclude unemployment can be mitigated by means of a financial system that provides broader access to finance and productive investment opportunities to a wider population.

Against this backdrop, using and unbalanced panel of 143 countries covering the period 1999-2015, our paper investigates the relationship between financial development and employment, emphasising the impacts of the gender dimension and 2008 global financial crisis. The remainder of the paper proceeds as follows: Section 2 outlines the data sources and methodology. Section 3 provides the results. Section 4 concludes and offers some policy implications.

2. Data, empirical model and methodology

2.1 Data and sample period

To estimate the effect of financial development on employment, we use an unbalanced panel of 143 countries covering the period 1999-2015.

Six labour market variables, which were collected from the International Labour Organisation (ILO) database are used in the analysis: employment to population ratio, employment to population ratio for males, employment to population ratio for females, employment to population ratio for people aged 15-24, unemployment rate, and labour force participation.

To overcome the limitation of using a single indicator to measure financial development, we use the new comprehensive index database developed by Svirydzenka (2016). It includes eight financial development indicators, covering financial depth, financial efficiency, and financial access. The six lower level sub-indices are called FID, FIE, FIA, FMD, FME and FMA. The letters I and M refer to institutions and markets, and the letters D, E, and A denote depth, efficiency and access, respectively. These sub-indices are aggregated into higher level sub-indices: FI and FM refer to financial institution development and financial market development. Finally, the FD index is used to measure the overall development of the financial system by aggregating the sub-indices FI and FM.

We also use six control variables: real GDP per capita (GDPP), GDP growth (Growth), trade openness (Trade), inflation rate (Inflation), government consumption (Government), secondary school enrolment (Secondary) and institution quality index (Institution).

We collect info on GDPP, Growth, and Trade from the World Development Indicators, Inflation from the IMF-IFS database, and Institution from Kaufman and al. (2010).

We construct an index of institution quality (Institution), based on a principal component analysis of five variables: Rule of Law, Control of Corruption, Government Effectiveness, Voice of Accountability and Regulatory Quality.

2.2 Empirical Model

The main identification strategy used in this paper is a linear dynamic employment demand equation:

$$Y_{it} = \alpha Y_{it-1} + \beta_1 FDev_{it} + \beta_2 X'_{it} + \eta_i + \varepsilon_{it} \quad (1)$$

where, in separate regressions, Y equals total employment rate, male employment rate, female employment rate, 15-24 age group employment rate, unemployment rate, and labour force participation. In this specification, FDev includes financial indices - described in the previous section - covering development, depth, efficiency and access for both financial institutions (FI, FID, FIE, and FIA) and financial markets (FM, FMD, FME and FMA). X is a vector of control variables, including Growth, Trade, Enrolment, Government and Institution. We allow for country heterogeneity of a country, including the country fixed effect η.

The second model includes the squared term of financial development variables FDev² to capture the non-linear effect of financial development on employment:

$$Y_{it} = \alpha Y_{it-1} + \beta_1 FDev_{it} + \beta_2 FDev^2{}_{it} + \beta_3 X'_{it} + \eta_i + \varepsilon_{it} \quad (2)$$

If coefficients β_1 and β_2 are positive and negative, and both are statistically significant, the relationship between financial development and employment will have an inverted U shape, as finance hurts employment above a certain threshold. On the other hand, if β_1 and β_2 are negative and positive, and both are statistically significant, the relationship between finance and employment will be U shaped; financial development starts to positively impact employment when a certain threshold is reached.

To test the hypothesis regarding the role that institutions play on the finance-growth nexus (another type of non-linearity), Eq. (1) is extended to include the interaction between Institution and financial development indicators:

$$Y_{it} = \alpha Y_{it-1} + \beta_1 FDev_{it} + \beta_2 Institution_{it} + \beta_3 (FDev * Institution)_{it} + \beta_4 X'_{it} + \eta_i + \varepsilon_{it} \quad (3)$$

Coefficient β_2 captures the effect of the direct impact of Institution on employment. If the coefficients β_1 and β_3 are positive and significant, we may conclude that the effect of financial development on employment is enhanced by institutional quality.

To test the hypothesis regarding Inflation's effect on the strength of the relationship between financial development and employment (another type of non-linearity), Eq. (1) is extended to include the interaction term between FDev and Inflation.

$$Y_{it} = \alpha Y_{it-1} + \beta_1 FDev_{it} + \beta_2 Inflation_{it} + \beta_3 (FDev * Inflation)_{it} + \beta_4 X'_{it} + \eta_i + \varepsilon_{it} \quad (4)$$

If coefficient β_1 is positive and significant, and coefficient β_2 is negative and significant, we may conclude that financial development starts to negatively effect employment when inflation rises above a threshold.

Finally, we split our sample into four country groups based on income level (World Bank classification system): High Income (HI), Upper Middle Income (UMI), Lower Middle Income (LMI) and Low Income (LI). Appendix A lists our countries by group level. To test the hypothesis regarding the effect of development level on the relationship between FDev and employment, Eq. (1) is extended to include the interaction of four regions' classification and financial development:

$$Y_{it} = \alpha Y_{it-1} + \beta_1 FDev_{it} + \beta_2 HI_{it} + \beta_3 UMI_{it} + \beta_4 LMI_{it} + \beta_5 LI_{it} + \beta_6 (FDev * HI)_{it} + \beta_7 (FDev * UMI)_{it} + \beta_8 (FDev * LMI)_{it} + \beta_9 (FDev * LI)_{it} + \beta_{10} X'_{it} + \eta_i + \varepsilon_{it} \quad (5)$$

To test whether the impact of financial development on employment is significantly different prior to and after the 2008 global financial crisis, we introduce an interaction effect for the relationship between each financial development indicator and binary indicator: Crisis = 1 for the years 2008-2010, and 0 for elsewhere. The extended model is as follows:

$$Y_{it} = \alpha Y_{it-1} + \beta_1 FDEV_{it} + \beta_2 FDEV_{it} * Crisis + \beta_3 X'_{it} + \eta_i + \varepsilon_{it} \quad (6)$$

If coefficient β_1 is positive and significant, and coefficient β_2 is negative and significant, we may conclude that financial development has a negative effect on labour during the 2008 global financial crisis, which implies job destruction.

2.3 Econometric methodology

We use a panel linear regression model and quasi-maximum likelihood (QML) estimators for linear dynamic panel models, with fixed effects (Hsiao et al., 2002). This method was suggested by Kripfganz (2016) as an alternative to the GMM estimation technique, to account for the endogeneity of the initial observations in the lagged endogenous variable. This helps prevent biased estimates when the time horizon is short and the number of cross-sectional units is large. Following Hsiao et al. (2002), we consider a linear dynamic model with individual fixed effects, as follows:

$$Y_{it} = \alpha Y_{it-1} + \beta_1 FDev_{it} + \beta_2 FDev^2{}_{it} + \beta_3 X'_{it} + \eta_i + \varepsilon_{it} \quad (7)$$

To eliminate the individual fixed effect η_i, we use a first differenced model.

$$\Delta Y_{it} = \alpha \Delta Y_{it-1} + \beta_1 \Delta FDev_{it} + \beta_2 \Delta FDev^2{}_{it} + \beta_3 \Delta X'_{it} + \Delta \varepsilon_{it} \text{ t=2,3...T}$$

(8)

We suppose that the initial observations for the endogenous variable and regressors are available. Kripfganz (2016) mentions that the maximum likelihood estimation of the first differenced model - conditional to the initial observations and assuming that the errors ε are iid normally distributed - is equivalent to GLS estimation. For balanced panel data, Hsiao and al. (2002) developed the log likelihood function for the system of equations (3). Kripfganz (2016) extended the QML procedure to accommodate unbalanced panel data[6]. The author asserts that if all the assumptions are guaranteed, using QML estimators is an attractive alternative to the GMM classical method, in terms of efficiency, when dealing with the endogeneity of the lagged dependent variable in a linear dynamic short-T panel data model.

3. Empirical results.

The empirical results of the linear model equation Eq. 1 and the non-linear relations between financial development and employment (Eqs 2, 3, 4 and 5) are presented in Tables 1-9 and15 and 16.

The first columns of Table 1-9 estimate linear specifications for Eq. 1. The empirical analysis indicates a positive, statistically significant linear relationship between financial development indicators (FD, FID, FIE and FIA) and employment rate. These results suggest that the positive impact of financial development on employment is driven by financial institutions, encompassing the dimensions of depth, access and efficiency.

The second columns of Tables 1-9 estimate non-linear specification for Eq. 2. In the second columns of Tables 1.7, the empirical results suggest that financial development indicators (FD, FI, FM, FID, FIE, FMD and FME) and their square terms are not significant, implying that financial development level is unrelated to employment rate (except for financial institution and financial market access indicators).

In column 2 of Table 8, we find a significant, bell-shaped relationship between FIA and employment. The analysis suggests that financial institution access increases employment, but the effects weaken at a higher access levels, eventually become negative.

Again, the relationship between financial market access and employment rate is also non-linear, taking the shape of an inverted bell. In column 2 of Table 9, FMA and its squared terms are negative and positive, respectively. Financial market access initially lowers

[6] QML procedure is available on Stata, with the command xtdpdqml. For more detail on QML procedure, readers may refer to S. Kripfganz (2016).

employment rate but, after a certain point, begins increasing again. This indicates that a more accessible financial market and the establishment of a greater number of smaller firms with better growth prospects, would promote job creation.

As shown in the fourth columns of Tables 1, 6 and 8, the coefficients associated with financial development indicators (FD, FIE and FIA) and their interactions with institution quality are positive and significant determinants of employment rate. This result indicates that the positive effect of financial development increases as a country's institutional quality improves.

The fifth columns of Tables 1-9 show that financial development only impacts employment outcomes in middle and high-income countries. This suggests that in countries with low levels of financial development, the financial systems do not significantly affect employment.

Analysis by gender (Tables 10 and 11) confirms previous stylised facts; an increase of some financial indicators, such as FD, FID and FIE, positively impact employment ratios for both males and females. An interesting result is illustrated in Table 11; the effects of FID and FM on employment ratio are positively significant for females, but these relationships are not significant for males.

Table 12 corroborates the previous results obtained using total employment ratios (for ages 15 and above): improving financial development (FD) through financial institution development (basically in terms of efficiency) positively and significantly impacts youth employment. Moreover, in comparison with the total employment ratio (15 years and older), the positive marginal effect of financial institution efficiency is higher for young people aged 15 to 24.

Table 13 indicates that an increase in the financial development index contributes to the reduction of the unemployment rate by increasing financial institution efficiency.

Tables 15 and 16 support the view that financial development has a negative effect on employment during the 2008 global financial crisis, which is consistent across all dimensions of financial development. This suggests that financial access (and, to a lesser extent, efficiency) improve employment outcomes during normal times, whilst all dimensions of financial development destroy jobs during bad times.

The control variable coefficients, as reported in Tables 1-16, are consistent with theoretical predictions. GDP growth and trade openness are statistically significant determinants of employment, whilst inflation, government consumption and secondary school enrolment have no impact on employment rate.

4. Conclusion and policy implications

This paper adds to the existing literature by studying the effect of financial development on employment using a sample of 143 countries over the period 1995-2015. Financial development is measured using the eight financial indicators proposed by Svirydzenga (2016) and employment data is collected from the ILO. The empirical evidence is based on the Hsiao and al. 2002 linear dynamic panel models with fixed effects.

The evidence presented in this paper shows that financial institution efficiency and access impact employment outcomes positively and significantly in the linear specification. This result confirms previous research (Kim et al.2018) highlighting the importance of understanding the impact of credit market imperfections on labour market outcomes.

The analysis shows that financial institution inclusion and employment have a bell-shaped relationship, where financial institution boosts employment up to a certain point, after which the impact starts to become negative. This result suggests that firms may increase labour demand in the short run, later substituting it with capital, by seeking to increase productivity at the expense of increasing employment when financial institutions become readily accessible. This effect also depends on the elasticity of the labour supply response; if it is rigid, the effect will be more pronounced on productivity and wages and less on employment levels.

Moreover, there is a clear evidence of a U-shaped relationship between financial market access and employment, meaning that financial market access initially destroys jobs at a low access level (large listed firms that dominate the market destroy jobs by competing through cost cutting). However, after the market becomes more accessible to younger and/or growing firms, their stock market listings tend to increase job creation.

The positive effect of financial development on employment increases with the country's institutional quality. Indeed, financial institution depth and financial market development contribute to increased female employment. This result shows that a developed financial system is conducive to more inclusion of women in the labour market. Further research is needed to understand the mechanisms that amplify this effect. There is strong evidence pointing to the negative effect of financial development on employment during the 2008 global financial crisis.

In order to improve employment outcomes, policymakers must enhance financial inclusion and the efficiency of the financial sector. "Too much financial institution access" may harm employment and destroy jobs. Therefore, the optimal level of financial inclusion

must be achieved in order to ensure economic sustainability, whilst preserving financial stability. Moreover, improving institutional quality should boost the positive effect of financial development on employment, particularly in low-income countries. Finally, financial crises are detrimental to the relationship between financial development and employment. Therefore, the prevention and timely resolution of financial crises is key to minimising job destruction in countries exhibiting high financial development.

5. References:

1. Abiad, A., Mody, A., 2005. "Financial Reform: What Shakes It? What Shapes It? *American Economic Review* Vol. 95 No.1, pp 63–88.
2. Andrianova, S., Demetriades, P., Shortland, A., 2008. "Government Ownership of Banks, Institutions and Financial Development," *Journal of Development Economics* Vol. 8, No.5, pp 218–252.
3. Arcand, J.L., Berkes, E., Panizza, U., 2012. "Too Much Finance?" IMF Working Paper 12/ 161. (Washington, D.C.: International Monetary Fund
4. Ayyagari, M., Juarros, P.F., Peria M.M and Singh, S. 2016, "Access to Finance and Job Growth: Firm-Level Evidence Across Developing Countries," Policy Research Working Paper, No. 7604 (Washington, D.C.: World Bank Group.
5. Bagehot, W., 1873, *Lombard Street: A Description of the Money Market* (Homewood, IL: Richard D. Irwin, 1962 edition).
6. Baliamoune-Lutz, M. 2008, "Financial Development and Income in North Africa," *International Advances in Economic Research*, Vol. 14, No. 4, pp. 422-432.
7. Baltagi, B.H., Demetriades, P., Law, S.H., 2009. "Financial Development and Openness: Panel Data Evidence," *Journal of Development,* Vol 89 , No 2, pp. 285–296.
8. Beck, T., Levine, R., Loayza, N., 2000. "Finance and the Sources of Growth," *Journal of Financial Economics* Vol 58, Nos 1–2), pp. 261–300.
9. Boustanifar, B, 2014. "Finance and Employment: Evidence from U.S. Banking Reforms," *Journal of Banking & Finance,* Vol 46, pp.343–354
10. Caggese, A. and Cunat, V. 2008. "Financing Constraints and Fixed Term Employment Contracts," *The Economic Journal*, Vol. 118, No. 533, pp. 2013-2046
11. Cecchetti, G., Kharroubi, E., 2012. "Reassessing the Impact of Finance on Growth," BIS Working Papers No. 381, (City: Bank for International Settlements).
12. Dao, M. C. and Liu, L. Q., 2017. "Finance and Employment in Developing Countries: The Working Capital Channel," IMF Working Paper No.17/189 (Washington, D.C.:, International Monetary Fund)
13. Fernandes A.P, and Ferreira, P, 2017. "Financing Constraints and Fixed-Term Employment: Evidence from the 2008-9 Financial Crisis, *European Economic Review,* Vol. 92 , Vol C, pp 215–238
14. Garmaise, M.J., 2008. "Production in Entrepreneurial Firms: the Effects of Financial Constraints on Labour and Capital. *Review of Financial Studies* Vol. 21, No, 2, pp. 543–577.
15. Hicks, J. (1969), *A Theory of Economic History*, (Oxford: Clarendon Press).

16. Hsiao, C., Pesaran, M. H. and Tahmiscioglu, A. K., 2002. "Maximum Likelihood Estimation of Fixed Effects Dynamic Panel Data Models Covering Short Time Periods," *Journal of Econometrics, Vol* 109, No.1, pp. 107-150.

17. ILO, 2009, "The Impact of the Crisis on Employment and the Role of Labour Market Institutions."

18. Kim, D.H., Chen, T.C. and Lin, S.C. "Finance and Unemployment: New Panel Evidence," *Journal of Economic Policy Reform*, Vol. 19, pp. 1-18.

19. Kripfganz, S. 2016, "Quasi–maximum Likelihood Estimation of Linear Dynamic Short-T Panel-Data Models." The Stata Journal, Vol. 16, No.4, pp. 1013-1038.

20. La Porta, R., Lopez-de-Silane, F., Shleifer, A., Vishny, R.W., 1997. "Legal Determinants of External Finance," *Journal of Finance,* Vol. 52, No.3, pp.1131–1150.

21. La Porta, R., Lopez-de-Silane, F., Shleifer, A., Vishny, R.W., 1998. "Law and Finance," *Journal of Political Economy,* Vol. 106, No.6, pp. 1113–1155.

22. La Porta, R., Lopez-de-Silane, F., Shleifer, A., Vishny, R.W., 2002. "Government Ownership of Banks," *Journal of Finance,* Vol 57, No.1, pp. 265–301.

23. Law, S.H, Singh N., 2014, "Does Too Much Finance Harm Economic Growth?" *Journal of Banking and Finance,* Vol. 4, pp. 36-44.

24. Law, S.H., 2009, "Trade Openness, Capital Inflows and Financial Development in Developing Countries," *International Economic Journal,* Vol. 23, No. 3, pp. 409–426.

25. Levine, R., 2003, "More on Finance and Growth: More Finance, More growth?" *Federal Reserve Bank of St. Louis Review,* Vol. 85 (July), pp. 31–46.

26. Levine, R., 2005, "Finance and Growth: Theory, Evidence, and Mechanisms," in *The Handbook of Economic Growth*, ed. by Aghion. P and Durlauf S. (Amsterdam: North-Holland.

27. Lucas, R.E., 1988, "On the Mechanics of Economic Development," *Journal of Monetary Economics*, Vol. 22, No. 1, pp. 3-42.

28. Miller, M.H., 1998, "Financial Markets and Economic Growth," *Journal of Applied Corporate Finance,* Vol. 11, pp. 8-13.

29. Pagano, M. and Pica. G., 2012, "Finance and Employment." *Economic Policy* Vol. 27, No. 69, pp. 5-55.

30. Paglia, J. and Harjoto. M. A, 2014, "The Effects of Private Equity and Venture Capital on Sales and Employment Growth in Small and Medium-Sized Businesses," *Journal of Banking & Finance,* Vol. 47 (C) pp. 177–197.

31. Popov, A. and Rocholl J.,, 2015, "Financing Constraints, Employment and Labour Compensation: Evidence from the Subprime Mortgage Crisis," Working Paper Series No. 1821, (Frankfurt: European Central Bank).

32. Rajan, R., and Zingales, L., 2003, "The Great Reversals: the Politics of Financial Development in the Twentieth Century," *Journal of Financial Economics,* Vol. 69, No. 1, pp. 5–50.

33. Rioja, F., and Valev, N., 2004a, "Does One Size Fit All? A Re-Examination of the Finance and Growth Relationship," *Journal of Development Economics,* Vol. 74, No. 2, pp. 429–447.

34. Rioja, F., and Valev, N., 2004b, "Finance and the Sources of Growth at Various Stages of Economic Development,". *Economic Inquiry,* Vol. 42, No. 1, pp. 127–140.

35. Robinson, J., 1952, "The Generalisation of the General Theory", in *The Rate of Interest and Other Essays*, ed. By Robinson, J. (London: MacMillan).

36. Schäfer, D., and Steiner, S., 2014, "Financial Development and Employment: Evidence from Transition Countries," Discussion Paper No.1390 DIW Berlin, German Institute for Economic Research

37. Schumpeter, J.A., 1934, *The Theory of Economic Development,* (R. Opie, trans.), Cambridge, MA: Harvard University Press (original work published in 1912).

38. Svirydzenka, K., 2016, "Introducing a New Broad Base of Financial Development," IMF Working Paper, No. 16/5 (Washington, D.C.: International Monetary Fund).

Table A. List of countries

Asia	MENA	Central and East Europe	Advanced Countries	Africa	Latin America
Azerbaijan	UAE	Albania	Australia	Angola	Argentina
Bangladesh	Bahrain	Armenia	Austria	Benin	Bolivia
China, Mainland	Algeria	Bulgaria	Belgium	Burkina Faso	Brazil
Hong Kong	Egypt	Bosnia and Herzegovina	Canada	Botswana	Chile
Indonesia	Israel	Belarus	Switzerland	C.A.R.	Colombia
India	Jordan	Czech Republic	Cyprus	Cote D'Ivoire	Costa Rica
Iran, I. Rep. Of	Kuwait	Estonia	Germany	Cameroon	Dominican Republic
Japan	Lebanon	Georgia	Denmark	Congo, Republic of	Ecuador
Kazakhstan	Libya	Croatia	Spain	Djibouti	Guatemala
Kyrgyz Republic	Moldova	Hungary	Finland	Eritrea	Honduras
Korea, Republic of	Mauritania	Lithuania	France	Ethiopia	Jamaica
Sri Lanka	Oman	Latvia	United Kingdom	Gabon	Maldives
Malaysia	Qatar	Moldova	Greece	Ghana	Mexico
Nepal	Saudi Arabia	Poland	Grenada	Guinea	Macedonia, FYR
Pakistan	Sudan	Romania	Ireland	Gambia, The	Nicaragua
Philippines	South Sudan	Russian Federation	Italy	Guinea-Bissau	Panama
Singapore	Syria	Serbia	Luxembourg	Equatorial Guinea	Peru
Thailand	Tunisia	Slovak Republic	Malta	Kenya	Sierra Leone
Taiwan, China	Turkey	Slovenia	Netherlands	Liberia	El Salvador
Uzbekistan	Yemen	Tajikistan	Norway	Madagascar	Uruguay
Vietnam		Turkmenistan	New Zealand	Mali	Venezuela
		Ukraine	Portugal	Mozambique	
			Sweden	Malawi	
			United States	Namibia	
				Niger	
				Nigeria	
				Rwanda	
				Senegal	
				Chad	
				Togo	
				Tanzania	
				Uganda	
				South Africa	
				Congo, Dem. Rep. of	
				Zambia	

Table 1. Financial Development and Employment ratios, 15 and over

	(1)	(2)	(3)	(4)	(5)
	Employment	Employment	Employment	Employment	Employment
Empl.Lag	0.930***	0.929***	0.925***	0.922***	0.929***
	(49.69)	(49.03)	(50.23)	(48.77)	(48.01)
FD	2.568***	0.439	2.138**	2.467***	
	(3.76)	(0.30)	(3.07)	(3.64)	
Government	0.126	0.121	0.148		0.129
	(0.83)	(0.79)	(0.99)		(0.83)
Trade	0.00398*	0.00448*	0.00398*	0.00429*	0.00408*
	(2.15)	(2.40)	(2.15)	(2.28)	(2.09)
GDP Growth	8.358***	8.229***	8.248***	8.196***	8.838***
	(12.20)	(11.90)	(12.08)	(11.83)	(12.50)
Enrolment	0.00161	0.00124	0.00200	0.00170	0.00167
	(0.40)	(0.31)	(0.50)	(0.42)	(0.42)
Inflation	0.00910	0.00821	-0.0113	0.00848	0.00933
	(1.75)	(1.57)	(-1.33)	(1.62)	(1.76)
FD2		2.345			
		(1.64)			
FD*Inflation			0.111**		
			(2.92)		
FD*Institution				0.803*	
				(2.13)	
Institution				-0.184	
				(-1.02)	
FD*low					-0.172
					(-0.13)
FD*low-mid					2.188*
					(2.00)
FD*up-mid					2.157*
					(2.22)
FD*high					2.368*
					(2.55)
Low Income					-0.00740
					(-0.01)
Lower-Mid Income					-0.266
					(-0.54)
Upper-Mid Income					0.0659
					(0.13)
N	1249	1249	1249	1249	1245

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2. Financial Institution Development and Employment ratios, 15 and over

	(1)	(2)	(3)	(4)	(5)
	Employment	Employment	Employment	Employment	Employment
Empl. Lag	0.922***	0.922***	0.915***	0.915***	0.923***
	(48.46)	(48.15)	(48.90)	(47.72)	(47.54)
FI	2.502***	2.162	1.880**	2.655***	
	(4.35)	(1.57)	(3.15)	(4.76)	
Government	0.0603	0.0570	0.0804		0.0736
	(0.39)	(0.36)	(0.52)		(0.46)
Trade	0.00315	0.00306	0.00355	0.00312	0.00371
	(1.70)	(1.62)	(1.90)	(1.67)	(1.91)
GDP Growth	8.971***	8.950***	8.873***	8.897***	9.217***
	(12.86)	(12.70)	(12.79)	(12.72)	(13.02)
Enrolment	0.00182	0.00200	0.00224	0.00196	0.00137
	(0.45)	(0.49)	(0.55)	(0.48)	(0.34)
Inflation	0.0105*	0.0103	-0.0229*	0.0104*	0.0105*
	(2.00)	(1.95)	(-2.13)	(1.98)	(1.97)
FI2		0.358			
		(0.26)			
FI*Inflation			0.123***		
			(3.54)		
FI*Institution				0.648	
				(1.67)	
Institution				-0.168	
				(-0.82)	
FI*low					1.085
					(0.71)
FI*low-mid					2.529**
					(3.00)
FI*up-mid					1.324
					(1.66)
FI*high					2.361*
					(2.03)
Low Income					0.0617
					(0.08)
Lower-Mid Income					-0.201
					(-0.29)
Upper-Mid Income					0.516
					(0.72)
N	1249	1249	1249	1249	1245

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3. Financial Market Development and Employment ratios, 15 and over

	(1)	(2)	(3)	(4)	(5)
	Employment	Employment	Employment	Employment	Employment
Empl. Lag	0.948***	0.945***	0.946***	0.937***	0.937***
	(50.27)	(49.55)	(50.69)	(48.70)	(49.13)
FM	0.731	-1.464	0.541	0.419	
	(1.57)	(-1.44)	(1.11)	(0.86)	
Government	0.236	0.208	0.249		0.205
	(1.62)	(1.43)	(1.71)		(1.36)
Trade	0.00365*	0.00375*	0.00349	0.00416*	0.00406*
	(1.96)	(2.02)	(1.89)	(2.19)	(2.08)
GDP Growth	8.218***	8.330***	8.147***	8.127***	8.660***
	(11.77)	(11.93)	(11.67)	(11.57)	(12.19)
Enrolment	0.00126	0.00127	0.00128	0.00153	0.00143
	(0.32)	(0.32)	(0.32)	(0.38)	(0.36)
Inflation	0.00859	0.00855	0.00412	0.00763	0.00861
	(1.66)	(1.66)	(0.70)	(1.47)	(1.64)
FM2		2.611*			
		(2.45)			
FM*Inflation			0.0449		
			(1.34)		
FM*Institution				0.840**	
				(2.80)	
Institution				-0.103	
				(-0.69)	
FM*low					-0.627
					(-0.76)
FM*low-mid					0.364
					(0.44)
FM*up-mid					1.090
					(1.46)
FM*high					1.189*
					(2.10)
Low Income					-0.366
					(-1.18)
Lower-Mid Income					-0.343
					(-1.18)
Upper–Mid Income					-0.0316
					(-0.12)
N	1249	1249	1249	1249	1245

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4. Financial Institutions Depth and Employment ratios, 15 and over

	(1)	(2)	(3)	(4)	(5)
	Employment	Employment	Employment	Employment	Eemployment
Empl.Lag	0.947***	0.952***	0.934***	0.947***	0.946***
	(49.46)	(48.23)	(49.75)	(48.57)	(48.19)
FID	1.283	0.807	0.960	1.293	
	(1.95)	(0.62)	(1.43)	(1.87)	
Government	0.174	0.143	0.174		0.187
	(1.18)	(0.97)	(1.16)		(1.22)
Trade	0.00254	0.00289	0.00272	0.00237	0.00247
	(1.38)	(1.56)	(1.46)	(1.27)	(1.29)
GDP Growth	8.629***	8.618***	8.544***	8.669***	9.303***
	(12.39)	(12.19)	(12.31)	(12.37)	(13.04)
Enrolment	0.00160	0.000728	0.00207	0.00182	0.00128
	(0.41)	(0.19)	(0.52)	(0.46)	(0.32)
Inflation	0.00940	0.00859	-0.00898	0.00927	0.0113*
	(1.81)	(1.67)	(-1.27)	(1.79)	(2.13)
FID2		0.411			
		(0.35)			
FID*Inflation			0.155***		
			(3.81)		
FID*Institution				0.227	
				(0.64)	
Institution				0.0257	
				(0.16)	
FID*low					-1.350
					(-0.66)
FID*low-mid					1.425
					(1.36)
FID*up-mid					1.311
					(1.44)
FID*high					0.575
					(0.72)
Low Income					-0.609
					(-1.48)
Lower-Mid Income					-0.654
					(-1.73)
Upper–Mid Income					-0.256
					(-0.71)
N	1249	1249	1249	1249	1245

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5. Financial Markets Depth and Employment ratios, 15 and over

	(1)	(2)	(3)	(4)	(5)
	Employment	Employment	Employment	Employment	Employment
Empl. Lag	0.949***	0.952***	0.944***	0.946***	0.941***
	(50.66)	(49.31)	(51.31)	(49.92)	(48.76)
FMD	0.544	-0.0318	0.312	0.428	
	(1.36)	(-0.04)	(0.75)	(1.00)	
Government	0.229	0.222	0.230		0.219
	(1.56)	(1.50)	(1.56)		(1.44)
Trade	0.00348	0.00351	0.00373*	0.00358	0.00305
	(1.90)	(1.92)	(2.04)	(1.93)	(1.61)
GDP Growth	8.325***	8.330***	8.221***	8.263***	8.801***
	(12.05)	(12.06)	(11.94)	(11.86)	(12.46)
Enrolment	0.00111	0.00121	0.00137	0.00154	0.00116
	(0.28)	(0.30)	(0.34)	(0.39)	(0.29)
Inflation	0.00908	0.00915	-0.000184	0.00879	0.0103*
	(1.75)	(1.77)	(-0.03)	(1.70)	(1.96)
FMD2		0.605			
		(0.79)			
FMD*Inflation			0.102**		
			(2.85)		
FMD*Institution				0.334	
				(1.26)	
Institution				0.0144	
				(0.10)	
FMD*low					-1.479
					(-1.44)
FMD*low-mid					1.247
					(1.44)
FMD*up-mid					1.225
					(1.88)
FMD*high					0.370
					(0.77)
Low Income					-0.566
					(-1.95)
Lower-Mid Income					-0.638*
					(-2.38)
Upper-Mid Income					-0.253
					(-1.11)
N	1249	1249	1249	1249	1245

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6. Financial Institutions Efficiency and Employment ratio, 15 and over

	(1)	(2)	(3)	(4)	(5)
	Employment	Employment	Employment	Employment	Employment
Empl.Lag	0.937***	0.937***	0.937***	0.926***	0.918***
	(50.56)	(50.41)	(50.50)	(51.47)	(52.28)
FIE	1.578***	-0.734	1.186*	1.995***	
	(3.45)	(-0.40)	(2.16)	(4.30)	
Government	0.202	0.216	0.204		0.199
	(1.36)	(1.46)	(1.38)		(1.30)
Trade	0.00390*	0.00435*	0.00396*	0.00433*	0.00418*
	(2.11)	(2.36)	(2.14)	(2.31)	(2.17)
GDP Growth	8.223***	8.149***	8.219***	7.888***	8.279***
	(11.96)	(11.83)	(11.95)	(11.29)	(11.75)
Enrolment	0.00164	0.00189	0.00196	0.00171	0.00145
	(0.41)	(0.47)	(0.49)	(0.42)	(0.36)
Inflation	0.0110*	0.0114*	-0.00786	0.0106*	0.0105*
	(2.09)	(2.13)	(-0.49)	(2.02)	(1.98)
FIE2		2.283			
		(1.31)			
FIE*Inflation			0.0394		
			(1.28)		
FIE*Institution				1.220**	
				(3.04)	
Institution				-0.598*	
				(-2.25)	
FIE*low					0.261
					(0.39)
FIE* low-mid					0.986
					(1.47)
FIE*up-mid					1.091
					(1.44)
FIE*high					5.036***
					(4.63)
Low Income					2.515**
					(3.05)
Lower-Mid Income					2.234**
					(2.69)
Upper-Mid Income					2.576**
					(2.99)
N	1249	1249	1249	1249	1245

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7. Financial Markets Efficiency and Employment ratios, 15 and over

	(1)	(2)	(3)	(4)	(5)
	Employment	Employment	Employment	Employment	Employment
Empl.Lag	0.949***	0.949***	0.950***	0.933***	0.934***
	(50.12)	(50.36)	(49.93)	(48.92)	(49.95)
FME	0.217	0.379	0.292	0.0159	
	(1.04)	(0.61)	(1.22)	(0.07)	
Government	0.237	0.233	0.225		0.217
	(1.64)	(1.60)	(1.56)		(1.45)
Trade	0.00321	0.00355	0.00316	0.00389*	0.00355
	(1.74)	(1.93)	(1.71)	(2.06)	(1.83)
GDP Growth	8.278***	8.182***	8.304***	8.161***	8.575***
	(11.90)	(11.67)	(11.94)	(11.70)	(12.09)
Enrolment	0.00155	0.00125	0.00118	0.00167	0.00120
	(0.39)	(0.32)	(0.30)	(0.42)	(0.30)
Inflation	0.00864	0.00832	0.00920	0.00775	0.00945
	(1.67)	(1.62)	(1.67)	(1.49)	(1.79)
FME2		-0.152			
		(-0.29)			
FME*Inflation			-0.0124		
			(-0.57)		
FME*Institution				0.570***	
				(3.62)	
Institution				-0.0160	
				(-0.12)	
FME*low					-0.229
					(-0.69)
FME*low-mid					-0.193
					(-0.52)
FME*up-mid					0.572
					(1.33)
FME*high					0.692*
					(2.41)
Low Income					-0.473
					(-1.72)
Lower-Mid Income					-0.387
					(-1.59)
Upper-Mid Income					-0.0410
					(-0.19)
N	1249	1249	1249	1249	1245

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 8. Financial Institutions Access and Employment ratio, 15 and over

	(1)	(2)	(3)	(4)	(5)
	Employment	Employment	Employment	Employment	Employment
Empl.Lag	0.929***	0.930***	0.926***	0.921***	0.936***
	(47.72)	(49.40)	(48.40)	(48.30)	(47.36)
FIA	1.247***	3.606***	1.150**	1.459***	
	(3.56)	(4.30)	(3.28)	(4.29)	
Government	0.111	0.0428	0.103		0.121
	(0.72)	(0.28)	(0.67)		(0.77)
Trade	0.00303	0.00306	0.00347	0.00334	0.00354
	(1.64)	(1.65)	(1.87)	(1.79)	(1.86)
GDP Growth	9.082***	9.283***	8.929***	8.919***	9.246***
	(12.82)	(13.11)	(12.61)	(12.57)	(13.05)
Enrolment	0.00209	0.00117	0.00229	0.00224	0.000857
	(0.52)	(0.29)	(0.56)	(0.55)	(0.21)
Inflation	0.00922	0.00915	-0.0222	0.00945	0.0102
	(1.78)	(1.76)	(-1.63)	(1.82)	(1.94)
FIA2		-2.561**			
		(-3.11)			
FIA*Inflation			0.0669**		
			(2.61)		
FIA*Institution				0.999*	
				(2.54)	
Institution				-0.455	
				(-1.74)	
FIA*low					-0.0876
					(-0.15)
FIA*low-mid					1.257**
					(2.86)
FIA*up-mid					0.310
					(0.66)
FIA*high					0.410
					(0.60)
Low Income					-0.545
					(-1.04)
Lower-Mid Income					-0.667
					(-1.56)
Upper-Mid Income					0.00947
					(0.02)
N	1249	1249	1249	1249	1245

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.00$

Table 9. Financial Markets Depth and Employment ratio, 15 and over

	(1)	(2)	(3)	(4)	(5)
	Employment	Employment	Employment	Employment	Employment
Empl.Lag	0.951***	0.951***	0.950***	0.952***	0.942***
	(50.23)	(49.50)	(50.60)	(49.38)	(49.58)
FMA	0.350	-2.836*	0.0554	0.326	
	(0.80)	(-2.14)	(0.12)	(0.66)	
Government	0.250	0.248	0.256		0.217
	(1.73)	(1.74)	(1.78)		(1.46)
Trade	0.00343	0.00335	0.00340	0.00338	0.00357
	(1.88)	(1.85)	(1.86)	(1.83)	(1.87)
GDP Growth	8.383***	8.409***	8.273***	8.466***	8.865***
	(12.17)	(12.26)	(12.00)	(12.20)	(12.65)
Enrolment	0.00101	-0.000153	0.00126	0.00122	0.00203
	(0.25)	(-0.04)	(0.32)	(0.30)	(0.51)
Inflation	0.00855	0.00805	0.00374	0.00812	0.00878
	(1.65)	(1.57)	(0.66)	(1.56)	(1.67)
FMA2		2.642*			
		(2.56)			
FMA*Inflation			0.0551		
			(1.94)		
FMA*Institution				0.00485	
				(0.02)	
Institution				0.112	
				(0.76)	
FMA* low					-2.497
					(-0.30)
FMA*low-mid					-0.333
					(-0.45)
FMA*up-mid					0.0753
					(0.13)
FMA*high					0.204
					(0.42)
Low Income					-0.455
					(-1.47)
Lower-Mid Income					-0.352
					(-1.28)
Upper-Mid Income					0.0284
					(0.12)
N	1249	1249	1249	1249	1245

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 10. Financial Development and Employment ratio, 15 and over

	FD	FI	FM	FID	FMD	FIE	FME
Empl.Lag	0.923***	0.926***	0.933***	0.937***	0.935***	0.926***	0.934***
	(46.06)	(46.14)	(46.46)	(46.73)	(47.30)	(47.29)	(46.48)
Financial	2.120*	2.051**	0.586	1.064	0.398	1.957***	0.269
	(2.46)	(2.96)	(0.96)	(1.27)	(0.77)	(3.44)	(0.97)
Government	0.214	0.169	0.309	0.260	0.289	0.290	0.320
	(1.13)	(0.89)	(1.68)	(1.39)	(1.56)	(1.57)	(1.75)
Trade	0.00484*	0.00445	0.00455*	0.00395	0.00446	0.00527*	0.00453
	(2.06)	(1.89)	(1.92)	(1.67)	(1.90)	(2.23)	(1.91)
GDP Growth	10.77***	11.27***	10.67***	10.96***	10.75***	10.65***	10.69***
	(11.94)	(12.18)	(11.66)	(11.93)	(11.86)	(11.84)	(11.70)
Enrolment	0.000319	0.000466	0.000360	0.000694	-0.000168	0.000460	0.000812
	(0.06)	(0.09)	(0.07)	(0.14)	(-0.03)	(0.09)	(0.16)
Inflation	0.00840	0.00938	0.00716	0.00763	0.00760	0.0111	0.00692
	(1.25)	(1.38)	(1.07)	(1.13)	(1.13)	(1.63)	(1.03)
N	1279	1279	1279	1279	1279	1279	1279

	FIA	FMA
Empl.Lag	0.933***	0.940***
	(45.81)	(46.54)
Financial	0.807	-0.169
	(1.91)	(-0.30)
Government	0.251	0.338
	(1.32)	(1.85)
Trade	0.00417	0.00446
	(1.78)	(1.91)
GDP Growth	11.30***	10.86***
	(12.06)	(11.98)
Enrolment	0.00106	0.000516
	(0.21)	(0.10)
Inflation	0.00729	0.00720
	(1.09)	(1.07)
N	1279	1279

t statistics in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 11. Financial Development and Employment ratio, 15 and over, Female

	FD	FI	FM	FID	FMD	FIE	FME
Empl Lag	0.941***	0.932***	0.960***	0.948***	0.958***	0.949***	0.964***
	(38.30)	(37.70)	(37.89)	(38.20)	(37.72)	(38.42)	(36.74)
Financial	2.864**	2.051**	1.359*	1.788*	0.826	1.437*	0.392
	(3.24)	(2.70)	(2.28)	(2.06)	(1.59)	(2.48)	(1.45)
Government	-0.0926	-0.124	0.0206	-0.0608	0.0233	-0.00144	0.0367
	(-0.49)	(-0.64)	(0.12)	(-0.33)	(0.13)	(-0.01)	(0.21)
Trade	0.00746**	0.00683**	0.00750**	0.00598*	0.00678**	0.00718**	0.00682**
	(3.13)	(2.86)	(3.17)	(2.51)	(2.89)	(3.02)	(2.89)
GDP Growth	5.712***	6.039***	5.435***	5.884***	5.612***	5.488***	5.589***
	(6.35)	(6.62)	(5.98)	(6.47)	(6.21)	(6.08)	(6.16)
Enrolment	-0.00448	-0.00434	-0.00473	-0.00425	-0.00436	-0.00450	-0.00427
	(-0.88)	(-0.84)	(-0.96)	(-0.84)	(-0.87)	(-0.88)	(-0.86)
Inflation	-0.00770	-0.00538	-0.00757	-0.00627	-0.00682	-0.00451	-0.00721
	(-1.14)	(-0.79)	(-1.14)	(-0.93)	(-1.03)	(-0.66)	(-1.09)
N	1279	1279	1279	1279	1279	1279	1279

	FIA	FMA
Empl. Lag	0.944***	0.958***
	(36.53)	(38.76)
Financial	0.731	1.048
	(1.60)	(1.86)
Government	-0.0488	0.0263
	(-0.26)	(0.15)
Trade	0.00653**	0.00686**
	(2.75)	(2.95)
GDP Growth	6.029***	5.587***
	(6.52)	(6.24)
Enrolment	-0.00416	-0.00539
	(-0.81)	(-1.08)
Inflation	-0.00698	-0.00769
	(-1.04)	(-1.16)
N	1279	1279

t statistics in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 12. Financial Development and Employment ratio for youths, aged 15-24

	FD	FI	FM	FID	FMD	FIE	FME
Empl.Lag	0.941***	0.948***	0.942***	0.949***	0.947***	0.943***	0.942***
	(45.28)	(44.85)	(44.94)	(44.38)	(45.37)	(45.82)	(44.40)
Financial	2.732*	1.929*	1.244	2.194	0.641	2.360**	0.575
	(2.24)	(2.00)	(1.40)	(1.85)	(0.86)	(2.96)	(1.43)
Government	-0.0549	-0.0761	0.0531	-0.0126	0.0432	-0.00271	0.0691
	(-0.21)	(-0.29)	(0.20)	(-0.05)	(0.17)	(-0.01)	(0.27)
Trade	0.00951**	0.00843*	0.00969**	0.00791*	0.00897**	0.00934**	0.00941**
	(2.84)	(2.53)	(2.86)	(2.36)	(2.69)	(2.78)	(2.78)
GDP Growth	13.44***	13.77***	13.08***	13.56***	13.20***	13.10***	13.10***
	(10.25)	(10.20)	(9.89)	(10.10)	(10.02)	(9.99)	(9.92)
Enrolment	-0.00117	-0.000869	-0.00126	-0.00100	-0.00105	-0.000867	-0.000736
	(-0.16)	(-0.12)	(-0.17)	(-0.14)	(-0.15)	(-0.12)	(-0.10)
Inflation	0.00424	0.00530	0.00412	0.00456	0.00478	0.00778	0.00410
	(0.44)	(0.55)	(0.43)	(0.48)	(0.50)	(0.80)	(0.43)
N	1279	1279	1279	1279	1279	1279	1279

	FIA	FMA
Empl.Lag	0.948***	0.947***
	(44.68)	(44.94)
Financial	0.343	0.0891
	(0.58)	(0.11)
Government	0.0428	0.0674
	(0.16)	(0.26)
Trade	0.00840*	0.00866**
	(2.52)	(2.60)
GDP Growth	13.52***	13.25***
	(9.92)	(10.05)
Enrolment	-0.000839	-0.00109
	(-0.12)	(-0.15)
Inflation	0.00454	0.00432
	(0.48)	(0.45)
N	1279	1279

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 13. Financial Development and Unemployment ratio, 15 and over

	FD	FI	FM	FID	FMD	FIE	FME
Empl.Lag	0.869***	0.870***	0.883***	0.947***	0.888***	0.866***	0.886***
	(39.82)	(39.23)	(40.75)	(49.46)	(40.87)	(40.75)	(40.53)
Financial	-2.548**	-2.257**	-0.843	1.283	-0.168	-2.499***	-0.330
	(-2.79)	(-3.02)	(-1.33)	(1.95)	(-0.31)	(-4.12)	(-1.15)
Government	-0.456*	-0.414*	-0.555**	0.174	-0.540**	-0.510**	-0.573**
	(-2.31)	(-2.07)	(-2.87)	(1.18)	(-2.78)	(-2.60)	(-2.97)
Trade	-0.00678**	-0.00617*	-0.00664**	0.00254	-0.00628*	-0.00700**	-0.00672**
	(-2.74)	(-2.49)	(-2.65)	(1.38)	(-2.56)	(-2.81)	(-2.70)
GDP Growth	-12.26***	-12.85***	-12.11***	8.629***	-12.31***	-12.08***	-12.19***
	(-13.24)	(-13.57)	(-12.85)	(12.39)	(-13.21)	(-13.06)	(-12.98)
Enrolment	0.00540	0.00525	0.00530	0.00160	0.00564	0.00539	0.00485
	(1.01)	(0.98)	(1.00)	(0.41)	(1.06)	(1.00)	(0.91)
Inflation	-0.00795	-0.00905	-0.00670	0.00940	-0.00706	-0.0101	-0.00630
	(-1.13)	(-1.28)	(-0.96)	(1.81)	(-1.01)	(-1.42)	(-0.90)
N	1279	1279	1279	1279	1279	1279	1279

	FIA	FMA
Empl.Lag	0.882***	0.889***
	(39.62)	(40.39)
Financial	-0.731	-0.638
	(-1.64)	(-1.07)
Government	-0.500*	-0.583**
	(-2.51)	(-3.05)
Trade	-0.00612*	-0.00663**
	(-2.48)	(-2.71)
GDP Growth	-12.73***	-12.31***
	(-13.26)	(-13.25)
Enrolment	0.00461	0.00584
	(0.86)	(1.10)
Inflation	-0.00707	-0.00688
	(-1.01)	(-0.99)
N	1279	1279

t statistics in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 14. Financial Development and Labour Force ratio, 15 and over

	FD	FI	FM	FID	FMD	FIE	FME
Empl.Lag	0.949***	0.947***	0.954***	0.953***	0.952***	0.955***	0.956***
	(47.62)	(47.54)	(46.92)	(46.79)	(47.58)	(46.82)	(46.38)
Financial	1.626**	1.208**	0.735	1.057	0.685*	0.597	0.204
	(2.93)	(2.62)	(1.87)	(1.88)	(2.01)	(1.63)	(1.14)
Government	-0.196	-0.210	-0.130	-0.163	-0.138	-0.127	-0.124
	(-1.56)	(-1.64)	(-1.06)	(-1.30)	(-1.11)	(-1.03)	(-1.01)
Trade	0.00163	0.00112	0.00177	0.000799	0.00147	0.00148	0.00139
	(1.04)	(0.71)	(1.13)	(0.51)	(0.94)	(0.95)	(0.88)
GDP Growth	0.756	1.004	0.581	0.903	0.628	0.674	0.659
	(1.32)	(1.71)	(0.99)	(1.55)	(1.08)	(1.17)	(1.13)
Enrolment	0.000718	0.000747	0.000737	0.000805	0.000665	0.000691	0.00102
	(0.21)	(0.22)	(0.22)	(0.24)	(0.19)	(0.20)	(0.30)
Inflation	-0.00292	-0.00189	-0.00307	-0.00257	-0.00250	-0.00130	-0.00286
	(-0.66)	(-0.43)	(-0.70)	(-0.58)	(-0.57)	(-0.29)	(-0.65)
N	1279	1279	1279	1279	1279	1279	1279

	FIA	FMA
Empl. Lag	0.947***	0.952***
	(47.01)	(47.71)
Financial	0.596*	0.243
	(2.09)	(0.65)
Government	-0.187	-0.127
	(-1.46)	(-1.04)
Trade	0.00107	0.00134
	(0.68)	(0.86)
GDP Growth	1.053	0.708
	(1.77)	(1.23)
Enrolment	0.000856	0.000648
	(0.25)	(0.19)
Inflation	-0.00264	-0.00312
	(-0.60)	(-0.71)
N	1279	1279

t statistics in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 15. Financial Development and Employment during the Global Financial Crisis. 2008-2010

	(1)	(2)	(3)	(4)
	Employment ILO	Employment ILO	Employment ILO	Employment ILO
Empl. Lag	0.956***	0.952***	0.970***	0.982***
	(45.16)	(43.39)	(46.42)	(41.97)
FD	2.677***			
	(3.93)			
FD*Crisis	-0.769***			
	(-6.08)			
Government	0.0813	0.0329	0.183	0.0969
	(0.56)	(0.22)	(1.30)	(0.69)
Trade	0.00398*	0.00320	0.00380*	0.00251
	(2.23)	(1.80)	(2.12)	(1.43)
GDP Growth	7.325***	7.754***	7.426***	7.575***
	(10.52)	(10.79)	(10.53)	(10.77)
Enrolment	0.000224	0.000754	-0.000419	-0.000284
	(0.06)	(0.19)	(-0.11)	(-0.08)
Inflation CPI	0.00977	0.0115*	0.00889	0.00968*
	(1.93)	(2.25)	(1.77)	(1.96)
FI		2.417***		
		(4.20)		
FI*Crisis		-0.689*** (-3.55)		
FM			0.978*	
			(2.12)	
FM*Crisis			-0.754*** (-4.25)	
FID				1.218*
				(1.96)
FID*Crisis				-0.901***
				(-6.66)
N	1249	1249	1249	1249

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 16. Financial Development and Employment during the Global Financial Crisis

	(1)	(2)	(3)	(4)
	Employment ILO	Employment ILO	Employment ILO	Employment ILO
Empl. Lag	0.976***	0.955***	0.960***	0.973***
	(44.35)	(46.84)	(49.14)	(46.33)
FMD	0.523			
	(1.34)			
FMD*Crisis	-0.777***			
	(-5.51)			
Government	0.171	0.207	0.168	0.239
	(1.21)	(1.43)	(1.19)	(1.72)
Trade	0.00314	0.00373*	0.00349	0.00363*
	(1.79)	(2.06)	(1.93)	(2.06)
GDP Growth	7.619***	7.505***	7.584***	7.705***
	(10.98)	(10.58)	(10.75)	(11.11)
Enrolment	-0.000283	0.00140	0.000663	-0.000877
	(-0.07)	(0.36)	(0.17)	(-0.23)
Inflation CPI	0.00937	0.0122*	0.00915	0.00829
	(1.87)	(2.35)	(1.80)	(1.65)
FIE		1.509***		
		(3.31)		
FIE*Crisis		-0.370***		
		(-3.81)		
FME			0.454*	
			(2.12)	
FME*Crisis			-0.526***	
			(-4.53)	
FMA				0.566
				(1.32)
FMA*Crisis				-0.690***
				(-5.20)
N	1249	1249	1249	1249

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

About EMNES

The Euro-Mediterranean Network for Economic Studies (EMNES) is a network of partner and associate research institutions and think tanks working on the Mediterranean region. EMNES aims to provide a renewed vision for socio-economic development in the Mediterranean region, mainly focusing on employment creation, social inclusion, and sustainable development.

EMNES' areas of research include the role of institutions and institutional reforms, macro-economic policies, private sector and micro, small and medium sized enterprises and employment creation, role of education, innovation, skill mismatch and migration, finance, regulation and the real economy and regional integration.

EMNES will produce books, studies, scientific and policy papers and will disseminate through the organisation of annual conferences, and workshop meetings in the region, bringing together leading senior and junior researchers, academics, policy makers and representatives in civil society, to discuss and debate optimal policies for the future of the region.

EMNES is built on four core principles: independence, excellence, policy relevance and deep knowledge on Euro-Mediterranean affairs.

EMNES' Network Partners

Centre for European Policy Studies (CEPS) (Belgium)
Euro-Mediterranean University (EMUNI) (Slovenia)
Free University of Berlin (FUB) (Germany)
Institut Tunisien de la Compétitivité et des Etudes Quantitatives (ITCEQ) (Tunisia)
Institut des Hautes Etudes Commerciales (IHEC) (Tunisia)
Euro-Mediterranean University of Fes (UEMF) (Morocco)
Institut Agronomique et Vétérinaire Hassan II (IAV) (Morocco)
University of Cairo- Faculty of Economics and Political Science (FEPS) (Egypt)
Yarmook University (YU) (Jordan)
Euro-Mediterranean Economists Association (EMEA) (Spain)
Forum for Euro-Mediterranean Innovation in Action (FEMIA) (France)
Institute of Computers and Communications Systems - E3M lab, National Technical University of Athens (ICCS) (Greece)
Istanbul Policy Center - Sabanci University (IPC) (Turkey)
Institute of Studies for the Integration of Systems (ISINNOVA) (Italy)
University of Barcelona Regional Quantitative Analysis Group (UB-AQR) (Spain)
Centre International de Hautes Etudes Agronomiques Méditerranéennes - Istituto Agronomico Mediterraneo di Bari (CIHEAM) (Italy)
Fondazione Eni Enrico Mattei (FEEM) (Italy)
International Institute for Cooperatives Alphonse & Dorimène Desjardins at HEC Montreal (Canada)

EMNES funding: European Commission and EMNES' partners.

Disclaimer

The EMNES' documents are produced with the financial assistance of the European Union within the context of the EU project "Support to economic research, studies and dialogue of the Euro-Mediterranean Partnership" under contract number ENPI/2014/354-488. The contents of EMNES' documents are the sole responsibility of the authors and can under no circumstances be regarded as reflecting the position of the European Union.

EURO-MEDITERRANEAN ECONOMISTS ASSOCIATION
European Commission
Financially supported by the European Commission