Chapter 11
Determinants of Financial Development Across the Mediterranean

Rym Ayadi, Emrah Arbak, Sami Ben Naceur, and Willem Pieter De Groen

11.1 Literature Review

A well-developed financial system is instrumental in attaining sustainable and balanced growth. It increases the availability of funding by mobilizing idle savings, facilitating transactions, and attracting foreign investments. Such markets can achieve an improved allocation of financial resources and enhanced risk management, transparency, and corporate governance practices. Moreover, developed financial systems can ease the availability of some credit to more opaque businesses, such as first-time or low-income (and low-collateral) borrowers or SME. In short, FD can serve to improve not only the growth prospects but also the distribution of economic opportunities.

The economics literature has identified a number of determinants that contribute to a more developed financial system. Among these determinants, the institutional and regulatory preconditions are perhaps the most studied factors underlying a well-functioning financial system. Starting with the seminal contribution of La Porta et al. (1997), many studies have found that FD is stronger when institutions that protect and match the needs of investors are present (see Demirguc-Kunt and Levine 2008 for a literature review).

R. Ayadi (✉) • W.P. De Groen
Centre for European Policy Studies (CEPS), Brussels, Belgium
e-mail: rym.ayadi@ceps.eu; willem.pieter.degroen@ceps.eu

E. Arbak
National Bank of Belgium, Brussels, Belgium
e-mail: emrah.arbak@nbb.be

S.B. Naceur
ESSEC, University of Tunis, Tunis, Tunisia

Economic Research Forum, Cairo, Egypt
e-mail: SBenNaceur@imf.org

R. Ayadi et al. (eds.), *Economic and Social Development of the Southern and Eastern Mediterranean Countries*, DOI 10.1007/978-3-319-11122-3_11

A related stream of literature highlights that, as important as they may be, current institutions are determined by less adaptable forces, such as natural and geographical endowments, which may shape the way that the initial institutions were founded (Acemoglu et al. 2001, 2002). Going along with such an explanation, Beck et al. (2003) find that environments less hospitable for European settlers have produced more 'extractive' institutions, as opposed to those that that would promote self-sufficiency and a wider availability of financial resources.

The empirical evidence shows that reinforcing the rights of creditors and contract enforcement tends to deepen financial markets (Levine et al. 2000; Demirguc-Kunt et al. 2004; Law and Azman-Saini 2008). The availability of information on borrowers also improves the availability of credit and enhances the efficiency of financial institutions, especially in less developed systems (Barth et al. 2004; Demirgüç-Kunt et al. 2004; Detragiache et al. 2005; Djankov et al. 2007).

Certain regulatory arrangements could also be detrimental to the development and the performance of financial markets. Most notably, Barth et al. (2000, 2004) provide evidence showing that regulations that restrict the activities of banks could be more prone to banking crises and may hinder market deepening. Similarly, Cull et al. (2005) find that excessively generous deposit guarantee systems tend to undermine FD and stability, especially in countries with inadequately developed legal and regulatory systems.

Lastly, institutional quality, in particular, the extent to which institutional checks and balances exist, are also found to be crucial in determining the success of financial reforms and mitigating the likelihood of crises (Barth et al. 2004; Acemoglu and Johnson 2005; Demetriades and Andrianova 2005; Tressel and Detragiache 2008).

While institutions are at the top of the list of the most often cited determinants of FD, an emerging strand of literature argues that political pressure by interest groups may also have an impact, possibly by shaping the institutions and regulatory framework. According to Pagano and Volpin (2001), countries with closed and static political regimes tend to resist the availability of external financing, since the ensuing competition would threaten the entrenched powers of the political elite. Rajan and Zingales (2003) illustrate that these pressures may weaken as economies open up to international trade and finance, resulting in the subsequent development of financial systems. Using a firm-level dataset of a large number of Pakistani firms, Khwaja and Mian (2005) confirm that despite higher default rates, politically-connected firms receive more funds.

Perotti and Volpin (2004) provide evidence that greater political accountability is associated with higher entry in sectors that are more dependent on external financing. Similarly, Perotti and von Thadden (2006) show that the political actors in countries weakened by a high rate of inflation tend to support more 'corporatist' financial systems, i.e. with limited minority shareholder rights and less developed capital markets. Based on a similar reasoning, Perotti and Schwienbacher (2009) provide evidence that countries that have experienced wealth distribution shocks were less likely to develop private pension schemes.

Political instability and civil unrest may also curtail FD. Mauro (1995) uses a cross-country sample to show that corruption has a significant and robust impact in

lowering investment. Detragiache et al. (2005) find that both political instability and corruption may have a detrimental effect on FD among their sample of low-income countries. Political stability was also found by Aggarwal and Goodell (2009) to be an important factor for a preference for market financing, as opposed to bank-based financing. More recently, Roe and Siegel (2011) showed that political stability has a robust positive impact on FD; when inequality, the main driver of political instability, is rampant, investor-protection institutions are less effective.

Public ownership in the banking sector can also have an impact on FD. On the one hand, Gerschenkron (1962) suggests that the government can help kick-start lending in under-developed systems by fostering the development of necessary institutions, such as laws, contracts and courts, and by subsidizing private banks or taking part in the risk through credit guarantees. On the other hand, Shleifer and Vishny (1994) and Shleifer (1998) argue that governments do not have the necessary incentives or the resources to ensure efficient investments, often supporting politically attractive projects. Several studies confirm the latter view, suggesting that state-owned banks tend to have an inefficient allocation of credit, creating significant systemic risks and generating potential for political capture and corruption (La Porta et al. 2002; Barth et al. 2004). In particular, Dinc (2005) provides convincing evidence on the use of public banks as a political tool by showing that credit to the private sector tends to increase during election years. There is some indication, however, that the results depend on the sample of countries analyzed. In particular, Detragiache et al. (2005) show that state-owned banks tend to have higher efficiencies and are better at mobilizing deposits in developing countries.

Turning to macroeconomic factors, a well-functioning financial system requires an environment of economic stability and certainty. In theory, higher inflation reduces real returns and, in doing so, it reduces likely lenders and increases likely borrowers, effectively exacerbating market imperfections (Huybens and Smith 1999). Indeed, countries with endemic inflation problems have experienced significantly lower levels of banking and stock market development, especially at low-to-moderate levels of inflation (Boyd et al. 2001). Many other studies have substantiated these results by including inflation as an explanatory variable. Demirguc-Kunt and Detragiache (2005) have also shown that a high inflation environment is more prone to banking crises.

Fiscal policy is also of paramount importance for the development of the financial sector. Aside from the potential for inflation, heavily indebted governments may engage in financial repression to use the financial sector as an 'easy' source of funding (Bencivenga and Smith 1992; Roubini and Sala-i-Martin 1992, 1995). There is considerable evidence that excessive public debt may crowd-out private investment, especially in emerging economies with less developed financial systems (Caballero and Krishnamurthy 2004; Christensen 2005). In addition to financial crowding-out, the safe returns from a large public debt may make banks become too complacent and undermine their efficiencies. Hauner (2008, 2009) confirms the so-called 'lazy-bank' view, which argues that financial systems become less efficient in countries that run high fiscal deficits.

FD can also be determined by a country's openness to financial inflows. Most developing countries have inadequate domestic savings, making foreign funding an

important source of growth. Well-developed financial systems are more effective in turning external capital flows into growth-generating activity (Bailliu 2000; Hermes and Lensink 2003).

A downside of larger foreign capital flows is the increased risk of capital and current account crises. Although Eichengreen and Hausmann (1999) find some evidence to the contrary, Domac and Martinez Peria (2003) show that the likelihood of a banking crisis is greater in developing countries with flexible exchange regimes. FD is a key factor in ensuring that external shocks do not reverberate within the domestic economy by triggering a financial crisis. Using a sample of 11 MENA countries, Ben Naceur et al. (2008) show that having policies in place that prioritize the efficient allocation of domestic resources, such as achieving a well-developed stock market, could be beneficial before liberalizing the financial systems. In explaining why capital account liberalization does not seem to have a clear growth-augmenting role in most developing countries, Prasad and Rajan (2008) suggest that the subpar development of institutions may be to blame. Similarly, Chinn and Ito (2006) show that financial opening can only be beneficial when appropriate legal systems and institutions are in place.

Perhaps a more important flow into developing countries is that of remittances and official aid from other countries. In the SEMC, remittances accounted for 23 % of GDP in Jordan, 24 % of GDP in Lebanon, and for approximately 9 % of the region's total GDP in 2007 (World Bank 2008).

There is a rich and growing literature on the impact of remittances on growth, poverty, human capital development and investment (Cox-Edwards and Ureta 2003; Adams and Page 2005; Acosta et al. 2007; Woodruff and Zenteno 2007; Freund and Spatafora 2008; Mundaca 2009). For the MENA region, Amoroso et al. (2004) highlight the need for policies that route remittance flows to aid local development. They recommend establishing strategic partnerships between the banking systems in both receiving and sending countries. Giuliano and Ruiz-Arranz (2009) find that remittances serve as a good substitute for financing investments in underdeveloped financial systems, but the authors stop short of assessing their impact on banking and stock market development.

In theory, to the extent that they are stored in deposit accounts, remittances may expand access to finance and provide unbanked recipients information about other banking products. Billmeier and Massa (2009) show that remittances contribute significantly to stock market development, especially in countries without a sizeable natural-resource endowment. Aggarwal et al. (2011) provide strong evidence that remittances improve bank deposits and, to a slightly lesser extent, credit to the private sector, after accounting for a variety of sources for endogeneity and reverse-causality.

Lastly, trade flows can also have an impact on FD. As noted above, an open economy may weaken the incentives and the political power of interest groups to resist financial deepening (Rajan and Zingales 2003; Braun and Raddatz 2008). Alternatively, increasing exporting opportunities may serve to boost the demand for external funding. The present evidence shows that such a relation is particularly strong in countries with predominantly high-tech manufacturing activities (Do and Levchenko 2004, 2007). At the same time, the opposite seems to hold for less

developed economies, where industries that are dependent on external financing are less predominant (Kim et al. 2011).

11.2 Econometric Analysis

11.2.1 Empirical Specification

We examine the impact of a variety of macroeconomic, democratic, legal and other institutional variables on FD in the SEMC. The econometric model, which follows Chinn and Ito (2006) and Hauner (2009), is specified as follows:

$$\frac{FD_{i,t}}{FD_{i,t-s}} - 1 = \alpha_0 + \gamma FD_{i,t-s} + \beta' X_{i,t-s} + \varepsilon_{i,t}, \tag{11.1}$$

where X is a vector of control variables and s is the number of lag years. To avoid problems of endogeneity and remove the impact of short-term cyclicality, the model is specified as a growth rate over level regressions with non-overlapping periods, each comprised of $s + 1$ years. Equation 11.1 then identifies the growth of the level of FD as a function of the initial level of FD and other time-variant explanatory variables. The specification uses 5-year non-overlapping periods for bank-related FD variables while 3-year non-overlapping periods are used for stock market indicators due to the unavailability of time series data for most countries in the sample.

The estimations are based on random-effect panel regressions, using alternating time dummies. Hausman tests on the orthogonality of the fixed error terms with the covariates were also run to ensure the appropriateness of the random-effects specification (as opposed to a fixed-effect specification).

11.2.2 Data

The measures of FD are extracted from the dataset of Beck et al. (2009). For banking development measures, the dataset includes most SEMC (except Lebanon, Libya and Palestine) and seven EU–MED countries for the years 1985–2009. For the measures on capital market development, the dataset covers all of the EU–MED countries and SEMC (except Algeria and Syria) for the years 1989–2009 (see Table 11.1). The data on financial services relies, to a large extent, on the FSDB of Beck et al. (2009). However, adjustments were made to ensure its consistency.[1]

[1] In Algeria, the pre-1993 figures on credit to the private sector were eliminated due to a misclassification of loans to public enterprises as private sector loans in the FSDB.

Table 11.1 Sources of statistical data

Variable	Source	N	Mean	St. Dev.	Min	Max
Credit to private sector (% GDP)	Beck et al. (2009)	633	51.73	36.58	3.57	224.20
Bank deposits (% GDP)	Beck et al. (2009)	655	57.57	32.21	5.56	228.53
Stock market cap. (% GDP)	Beck et al. (2009)	327	40.20	39.80	0.29	242.02
Stock market turnover (% GDP)	Beck et al. (2009)	330	26.12	46.10	0.00	372.27
Log real GDP per capita (USD)	WDI	743	8.25	1.10	6.07	10.07
Total trade (% GDP)	WDI	866	54.42	39.48	0.00	194.76
Financial openness index	Chinn and Ito (2008)	640	−0.18	1.54	−1.84	2.48
Inflation (% growth in deflator)	WDI	726	11.56	24.05	−9.42	390.68
Growth of government debt (%)	Jaimovich and Panizza (2010)	430	3.03	12.35	−72.87	141.38
Legal and democratic quality index	PRS	415	24.98	13.49	1.11	54.76
Financial reform index	Abiad et al. (2008)	396	10.01	6.33	0.00	21.00
Net FDI (% GDP)	IFS	675	1.33	3.37	−10.09	28.96
Net portfolio investments (% GDP)	IFS	672	−0.21	5.62	−73.55	18.88
Official aid and grants (% GDP)	IFS	557	1.35	2.94	−3.26	20.20
Remittances (% GDP)	IFS	557	2.76	6.60	−52.51	29.92
Other net investments (% GDP)	IFS	641	2.25	7.04	−39.85	89.22

11.2.3 Measures of Financial Development

We use six measures of FD. The amount of *bank credit to the private sector* (as a % of GDP) represents the general level of development in the banking sector. The share of *bank deposits* (as a % of GDP) provides the extent of access and deposit mobilization the financial system offers. The *technical growth rate* is measured as the average distance between national frontiers and the meta-frontier. *Meta-efficiency* is the distance of a bank from the meta-frontier, which is defined by the product of country cost efficiency and technical growth rate. *Stock market capitalization* (as a % of GDP) is included to provide an estimate of the size of the equity market while *stock market total value traded* (as a % of GDP) is used as a measure of the extent of activities in the domestic equity markets.

11.2.4 Independent Variables

A number of explanatory variables were used as determinants of FD. A *lagged FD* variable was included in each regression. *GDP per capita* (in constant USD) was used to control for wealth effects. Several studies highlight that per-capita income could serve as a good proxy for the general development and sophistication of institutions (La Porta et al. 1997, 1998; Beck et al. 2003; Djankov et al. 2007). *Inflation*, measured as the annual growth of the GDP deflator, is included because inflation is found to be an important determinant of banking sector development and equity market activity (Boyd et al. 2001).

The availability of currency-linked financial products could sweep and possibly reverse some of these negative effects of inflation. To control for the potential offsetting impact of a liberalized economy, an index of *financial openness* as well as an *interactive term* between inflation and financial openness were introduced. The financial openness index, developed by Chinn and Ito (2002, 2008), measures the extent of capital controls based on information from the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions*.

Fiscal balances could also be an important factor of FD (see Sect. 11.1). The *growth in government debt* (as a share of GDP) was used to assess the impact of fiscal pressures on FD. The data come from a database constructed by Jaimovich and Panizza (2010), which gathers information on central government debt from a number of alternative sources, including, most notably, the IMF IFS, the WB WDI, official websites and other publications.

To assess the impact of legal institutions and democratic governance on the development of financial systems, a composite index on *legal quality and democratic accountability* was constructed, using four indicators from the ICRG, published by the PRS Group (see https://www.prsgroup.com/about-us/our-two-methodologies). First, an index for the quality of legal institutions was built, equaling the first principal components of bureaucratic quality, control of corruption, and law and order. The resulting index was then multiplied by the ICRG index on democratic accountability. The multiplication implies that the resulting index treats both legal quality and democratic accountability as complements.

The supervisory reform index, based on Abiad et al. (2008), provides a measure of the extent to which the banking sector is regulated. The index measures whether (i) the country has adopted risk-based capital measures as foreseen under the Basel I capital accord; (ii) the supervisory agency is independent from executives' influence; (iii) there are exemptions provided to specific institutions (i.e. public banks); and (iv) the on- and off-site examinations are adequately and effectively conducted. A greater value implies a more regulated market. Since the capital market could be impacted by a broader set of reform initiatives and because of a lack of variation in the capital market index (also based on Abiad et al. 2008), for the stock market development variables, the broader *financial reform index* was used.

An interactive term on the last two variables was also included to control for the potential for complementarities.

Lastly, capital flow variables, controlling for net FDI, net portfolio investment, official aid and grants, remittances and other net flows, were included one by one. All of these were obtained from the IMF IFS database.

11.3 Results

The results of the estimations are reported in Tables 11.2, 11.3, 11.4, 11.5, and 11.6. In each table, the first six columns provide the results with period dummies, while the latter six provide the results without period dummies. Following the base regressions in columns I and VII, capital inflow variables are added sequentially. Hausman specification tests confirm the validity of the random-effect specifications in most of the cases.

For banking development variables, inflation seems to have a negative impact, although the results appear more significant for bank deposits. Having an open capital account appears to offset these inflationary effects, also significantly so for bank deposits. These results show that, notwithstanding their effects on macroeconomic stability, the availability of currency-linked savings products could prevent losses in deposits when inflationary pressures are present.

The most significant and persistent determinant of private capital seems to be the growth of public debt, implying a clear confirmation of the 'crowding-out' hypothesis. Indeed, increasing public debt by one percentage point of GDP reduces private credit by a third of percentage points of GDP. This could be one of the main reasons why private credit is underdeveloped in Egypt and Lebanon. Some of the EU–MED, such as Greece, may also be impacted by this factor.

Strong legal institutions, good democratic governance, and adequate implementation of financial reforms have a substantial positive impact on both private credit and deposits, but only when they occur at the same time. Indeed, the interactive term *Interaction (Legal/dem. x Reform)* has a positive and significant coefficient in all cases but one (except for column XII in Table 11.3) In turn, partial implementation of strong democratic and legal institutions or supervisory reforms may undermine deposits, which can be seen in the coefficient estimates for the non-interactive terms.

External flows, in the form of official aid and portfolio investments, may also be beneficial for credit growth and deposits. This is most likely due to an income effect, whereby capital inflows increase households' incomes and firms' earnings, which are then deposited into bank accounts and become available for lending.

For bank efficiency variables (Table 11.4), the results show that greater capital account openness improves banks' technical growth rate and meta-efficiency. In addition, a better legal system and a more democratically-oriented regime should contribute to enhancing the efficiency of banks. Inflation appears to be positively related to bank efficiency, which is surprising because a more stable macroeconomic environment should result in lower cost efficiency. This result could explain how banks strive to strengthen their cost efficiency when inflation is high and

Table 11.2 Determinants of bank credit to the private sector (Authors' estimation)

Variable	I	II	III	IV	V	VI	VII	VIII	XI	X	XI	XII
Lag of dependent variable	−0.100*	−0.103*	−0.098*	−0.080	−0.101*	−0.118**	−0.097**	−0.096**	−0.092**	−0.089**	−0.094**	−0.110**
	(0.052)	(0.053)	(0.051)	(0.051)	(0.053)	(0.053)	(0.046)	(0.042)	(0.041)	(0.042)	(0.042)	(0.044)
Log GDP per capita (USD)	0.284	0.075	−0.035	−0.221	0.125	0.197	0.755	0.531	0.253	0.212	0.123	0.429
	(1.333)	(1.433)	(1.319)	(1.301)	(1.639)	(1.325)	(1.446)	(1.208)	(1.145)	(1.176)	(1.421)	(1.161)
Trade openness (total trade/GDP)	0.015	0.018	0.020	−0.059	0.020	0.019	0.036	0.019	0.024	−0.020	0.031	0.023
	(0.033)	(0.034)	(0.032)	(0.047)	(0.043)	(0.033)	(0.042)	(0.033)	(0.031)	(0.045)	(0.040)	(0.032)
Financial openness	−0.975	−0.838	−0.783	−1.277	−0.906	−0.669	−1.772*	−1.113	−0.938	−1.249	−0.932	−0.869
	(1.013)	(1.073)	(0.999)	(0.982)	(1.103)	(1.035)	(0.955)	(0.957)	(0.910)	(0.924)	(0.996)	(0.953)
Inflation (%)	−0.189	−0.186	−0.171	−0.254*	−0.189	−0.169	−0.275**	−0.243*	−0.224*	−0.296**	−0.235*	−0.234*
	(0.140)	(0.142)	(0.138)	(0.138)	(0.142)	(0.140)	(0.126)	(0.132)	(0.128)	(0.136)	(0.133)	(0.131)
Interaction (Infl. × Fin. open.)	0.260	0.252	0.208	0.373	0.258	0.181	0.421	0.357	0.297	0.445	0.332	0.315
	(0.362)	(0.366)	(0.356)	(0.351)	(0.367)	(0.365)	(0.337)	(0.346)	(0.337)	(0.347)	(0.349)	(0.344)
Growth in public debt (% GDP)	−0.334***	−0.335***	−0.336***	−0.347***	−0.336***	−0.350***	−0.442***	−0.400***	−0.404***	−0.430***	−0.398***	−0.410***
	(0.126)	(0.127)	(0.123)	(0.121)	(0.127)	(0.125)	(0.116)	(0.119)	(0.115)	(0.119)	(0.118)	(0.118)
Legal and democratic quality	−0.194	−0.059	0.019	−0.198	−0.150	−0.191	−1.004	−0.801	−0.660	−0.897	−0.683	−0.746
	(1.121)	(1.177)	(1.106)	(1.076)	(1.165)	(1.113)	(0.837)	(0.853)	(0.826)	(0.837)	(0.878)	(0.840)
Supervisory reform	−1.263	−1.324	−1.840	−2.164	−1.305	−1.033	0.300	−0.038	−0.512	−0.093	−0.230	0.015
	(2.015)	(2.041)	(2.004)	(1.980)	(2.055)	(2.009)	(1.683)	(1.808)	(1.773)	(1.775)	(1.845)	(1.787)
Interaction (Legal/dem. × Reform)	0.106**	0.103**	0.105**	0.122***	0.106**	0.098**	0.121**	0.102**	0.100**	0.111**	0.100**	0.097**
	(0.049)	(0.050)	(0.048)	(0.047)	(0.049)	(0.049)	(0.048)	(0.049)	(0.046)	(0.047)	(0.048)	(0.047)

(continued)

Table 11.2 (continued)

Variable	I	II	III	IV	V	VI	VII	VIII	XI	X	XI	XII
Net FDI (% GDP)		−0.133						0.010				
		(0.312)						(0.294)				
Net portfolio investment (% GDP)			0.707						0.715*			
			(0.432)						(0.425)			
Official aid and grants (% GDP)				0.754**						0.425		
				(0.361)						(0.337)		
Remittances (% GDP)					−0.053						−0.141	
					(0.311)						(0.288)	
Other net investments (% GDP)						0.302						0.233
						(0.243)						(0.231)
Period dummies	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Observations	54	54	54	54	54	54	54	54	54	54	54	54
R2 within	0.49	0.50	0.51	0.52	0.50	0.50	0.50	0.47	0.49	0.48	0.49	0.46
R2 between	0.41	0.41	0.45	0.55	0.39	0.40	0.19	0.27	0.29	0.30	0.24	0.27
R2 overall	0.44	0.44	0.47	0.50	0.44	0.46	0.38	0.39	0.42	0.41	0.39	0.40
Wald-test	30.23	29.78	34.21	37.22	29.51	32.20	34.20	26.30	30.90	28.89	26.69	27.96
… p-value	0.01	0.03	0.02	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.01	0.00
Hausman test	13.32	6.79	8.77	12.64	10.29	7.33	4.00	5.69	−3.25	13.08	11.07	1.37
… p-value	0.50	0.96	0.89	0.63	0.80	0.95	0.95	0.89	1.00	0.29	0.44	1.00

Note: *, **, and *** stand for significance at 10 %, 5 % and 1 %, respectively. All estimates are based on RE panel regression, with standard errors in parentheses. Each period is comprised of 5 years. The dataset covers the years 1985–2009. The constant terms and period coefficients were omitted to save space

Table 11.3 Determinants of bank deposits (Authors' estimation)

Variable	I	II	III	IV	V	VI	VII	VIII	XI	X	XI	XII
Lag of dependent variable	−0.035	−0.035	−0.036	−0.055	−0.054	−0.035	−0.072*	−0.045	−0.042	−0.049	−0.055	−0.043
	(0.037)	(0.038)	(0.034)	(0.036)	(0.038)	(0.037)	(0.043)	(0.036)	(0.033)	(0.035)	(0.036)	(0.035)
Log GDP per capita (USD)	1.104	1.092	0.812	0.490	1.735*	1.128	1.076	1.004	0.729	0.772	1.435	0.936
	(0.852)	(0.886)	(0.806)	(0.858)	(0.926)	(0.864)	(1.139)	(0.798)	(0.748)	(0.801)	(0.888)	(0.782)
Trade openness (total trade/GDP)	0.018	0.018	0.024	−0.026	−0.005	0.018	0.027	0.017	0.025	0.002	0.003	0.019
	(0.021)	(0.022)	(0.020)	(0.028)	(0.025)	(0.021)	(0.037)	(0.022)	(0.021)	(0.029)	(0.026)	(0.022)
Financial openness	−0.781	−0.775	−0.584	−0.672	−0.972	−0.766	−1.024	−0.673	−0.475	−0.635	−0.806	−0.611
	(0.676)	(0.691)	(0.638)	(0.648)	(0.675)	(0.685)	(0.704)	(0.686)	(0.651)	(0.677)	(0.689)	(0.687)
Inflation (%)	−0.175*	−0.175*	−0.158*	−0.203**	−0.157*	−0.173*	−0.215**	−0.180*	−0.164*	−0.200**	−0.178*	−0.184**
	(0.092)	(0.093)	(0.086)	(0.089)	(0.091)	(0.093)	(0.089)	(0.093)	(0.088)	(0.094)	(0.092)	(0.093)
Interaction (Infl. × Fin. open.)	0.427*	0.427*	0.377*	0.451*	0.392	0.420*	0.481**	0.395	0.342	0.420*	0.393	0.400
	(0.242)	(0.245)	(0.228)	(0.232)	(0.239)	(0.246)	(0.244)	(0.248)	(0.236)	(0.247)	(0.245)	(0.247)
Growth in public debt (% GDP)	−0.067	−0.067	−0.068	−0.071	−0.051	−0.071	−0.147*	−0.122	−0.126*	−0.134*	−0.119	−0.129*
	(0.076)	(0.077)	(0.071)	(0.073)	(0.075)	(0.078)	(0.078)	(0.077)	(0.073)	(0.077)	(0.076)	(0.078)
Legal quality and democ. acct.	−1.810**	−1.804**	−1.592**	−1.484**	−1.881***	−1.833**	−2.114***	−2.055***	−1.910***	−2.037***	−2.155***	−2.035***
	(0.725)	(0.741)	(0.685)	(0.708)	(0.714)	(0.737)	(0.604)	(0.604)	(0.576)	(0.600)	(0.605)	(0.604)
Supervisory reform	−1.686	−1.687	−2.244*	−2.447*	−1.602	−1.617	0.368	0.050	−0.357	0.020	0.265	0.157
	(1.284)	(1.299)	(1.222)	(1.273)	(1.262)	(1.315)	(1.152)	(1.200)	(1.151)	(1.191)	(1.194)	(1.209)
Interaction (Legal/dem. × Reform)	0.063**	0.063**	0.064**	0.081***	0.069**	0.061**	0.067**	0.053*	0.050*	0.056*	0.055*	0.047
	(0.029)	(0.030)	(0.027)	(0.029)	(0.029)	(0.030)	(0.033)	(0.031)	(0.029)	(0.031)	(0.030)	(0.032)
Net FDI (% GDP)		−0.013						0.076				
		(0.202)						(0.208)				
Net portfolio inv. (% GDP)			0.709***						0.666**			
			(0.270)						(0.290)			

(continued)

Table 11.3 (continued)

Variable	I	II	III	IV	V	VI	VII	VIII	XI	X	XI	XII
Official aid and grants (% GDP)				0.534**						0.211		
				(0.237)						(0.239)		
Remittances (% GDP)					0.294						0.215	
					(0.185)						(0.193)	
Other net investments (% GDP)						0.045						0.059
						(0.141)						(0.141)
Period dummies	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Observations	58	58	58	58	58	58	58	58	58	58	58	58
R2 within	0.52	0.52	0.56	0.55	0.53	0.52	0.41	0.38	0.42	0.37	0.38	0.37
R2 between	0.28	0.28	0.46	0.44	0.38	0.27	0.17	0.25	0.40	0.31	0.30	0.23
R2 overall	0.46	0.46	0.54	0.52	0.49	0.46	0.31	0.33	0.40	0.34	0.35	0.33
Wald-test	36.45	35.61	48.34	44.98	40.29	35.79	28.81	22.83	30.49	23.79	24.48	22.90
. . . p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.01	0.02
Hausman test	14.98	14.75	19.03	12.68	9.76	13.97	2.43	2.72	0.87	8.95	7.52	7.87
. . . p-value	0.38	0.47	0.21	0.63	0.84	0.53	0.99	0.99	1.00	0.63	0.76	0.73

Note: *, **, and *** stand for significance at 10 %, 5 % and 1 %, respectively. All estimates are based on RE panel regression, with standard errors in parentheses. Each period is comprised of 5 years. The dataset covers the years 1985–2009. The constant terms and period coefficients were omitted to save space

Table 11.4 Determinants of bank meta-efficiency and technical growth rate (Authors' estimate)

Variable	Meta-efficiency						Technical growth rate					
	I (RE)	II (FE)	III (RE)	IV (RE)	V (RE)	VI (FE)	I (RE)	II (FE)	III (RE)	IV (RE)	V (RE)	VI (FE)
Lag of dependent variable	−22.022**	−19.875	−20.267*	−26.855***	−21.692**	−16.207	−30.488***	−32.555**	−29.013***	−36.499***	−31.027***	−28.293
	(10.231)	(12.936)	(10.534)	(9.876)	(9.982)	(15.702)	(10.473)	(12.864)	(10.814)	(9.967)	(10.215)	(15.814)
Log GDP per capita (USD)	−0.946	7.194	−0.525	−0.996	−2.516	6.863	−0.907	8.675	−0.527	−0.945	−2.601	8.431
	(1.124)	(15.808)	(1.244)	(1.052)	(1.546)	(16.745)	(1.207)	(17.148)	(1.338)	(1.106)	(1.658)	(18.075)
Trade openness	−0.014	−0.391*	−0.015	0.054	0.042	−0.406	−0.024	−0.409*	−0.025	0.054	0.036	−0.439
	(0.041)	(0.187)	(0.042)	(0.051)	(0.056)	(0.274)	(0.044)	(0.205)	(0.045)	(0.053)	(0.060)	(0.304)
Financial openness	1.317	5.286***	1.194	1.711*	2.069*	5.998**	1.380	5.207***	1.260	1.864*	2.181*	6.087*
	(0.952)	(1.470)	(0.971)	(0.912)	(1.065)	(2.556)	(1.016)	(1.600)	(1.043)	(0.956)	(1.134)	(2.815)
Inflation (%)	0.911*	2.284**	0.889*	0.823*	0.954*	2.210**	0.823	2.467**	0.794	0.732	0.851*	2.404**
	(0.504)	(0.746)	(0.509)	(0.474)	(0.493)	(0.784)	(0.521)	(0.804)	(0.529)	(0.479)	(0.508)	(0.845)
Interaction (Infl. × Fin. open.)	−0.796	−3.625	−0.664	−0.359	−1.116	−3.223	−0.721	−4.538*	−0.578	−0.256	−1.031	−4.117
	(1.146)	(2.087)	(1.166)	(1.095)	(1.140)	(2.187)	(1.177)	(2.231)	(1.210)	(1.099)	(1.167)	(2.325)
Growth in public debt (% GDP)	0.331	0.110	0.396	0.388	0.255	0.164	0.239	−0.042	0.297	0.300	0.146	0.016
	(0.252)	(0.277)	(0.266)	(0.238)	(0.252)	(0.290)	(0.271)	(0.293)	(0.287)	(0.250)	(0.272)	(0.306)
Legal quality and democ. acct.	2.269*	0.636	2.056*	2.526**	2.472**	0.746	2.470*	0.999	2.294*	2.745**	2.737**	1.099
	(1.262)	(1.747)	(1.298)	(1.188)	(1.239)	(1.879)	(1.307)	(1.889)	(1.347)	(1.204)	(1.287)	(2.024)
Supervisory reform	2.551	−3.392	1.956	2.237	2.239	−4.016	2.499	−3.699	1.982	2.111	2.268	−4.428
	(2.496)	(3.119)	(2.619)	(2.341)	(2.444)	(3.445)	(2.605)	(3.383)	(2.740)	(2.394)	(2.544)	(3.731)
Interaction (Leg/dem. × Reform)	−0.082	−0.054	−0.079	−0.086	−0.077	−0.050	−0.083	−0.067	−0.080	−0.087	−0.079	−0.063
	(0.057)	(0.077)	(0.057)	(0.053)	(0.055)	(0.084)	(0.059)	(0.083)	(0.060)	(0.055)	(0.058)	(0.090)
Net FDI (% GDP)		−0.418						−0.450				
		(0.329)						(0.358)				
Net portfolio inv. (% GDP)			−0.246						−0.225			
			(0.300)						(0.323)			
Official aid and grants (% GDP)				−0.619**						−0.734**		
				(0.310)						(0.328)		

(continued)

Table 11.4 (continued)

Variable	Meta-efficiency						Technical growth rate					
	I (RE)	II (FE)	III (RE)	IV (RE)	V (RE)	VI (FE)	I (RE)	II (FE)	III (RE)	IV (RE)	V (RE)	VI (FE)
Remittances (% GDP)					−0.435						−0.470	
					(0.302)						(0.324)	
Other net investments (% GDP)						0.332						0.381
						(0.499)						(0.550)
Constant	7.597	−23.012	5.020	5.824	17.873	−23.250	13.317	−24.800	10.879	11.676	24.616*	−25.423
	(11.391)	(134.985)	(11.906)	(10.697)	(13.205)	(143.769)	(12.339)	(146.622)	(12.974)	(11.331)	(14.331)	(155.288)
Period Dummies	No	No	No	No	No	No	No	No	No	No	No	No
Observations	32	32	32	32	32	32	32	32	32	32	32	32
R2 within	0.538	0.821	0.542	0.583	0.546	0.800	0.590	0.829	0.586	0.645	0.594	0.811
R2 between	0.599	0.0516	0.639	0.803	0.788	0.0971	0.571	0.0361	0.610	0.778	0.764	0.0814
R2 overall	0.543	0.00810	0.557	0.618	0.585	0.00228	0.567	0.0157	0.577	0.654	0.608	0.00589
F-test (p-value)		0.0122				0.0196		0.00977				0.0153
Wald test (p-value)	0.00553		0.00859	0.000654	0.00297		0.00217	0.00540	0.00413	8.65e-05	0.00109	
Hausman test (p-value)	0.427	0.00321	0.186	0.105	0.243	2.58e-08	1	0.00921	1	0.346	0.983	0.000335

Note: *, **, and *** stand for significance at 10 %, 5 %, and 1 %, respectively. All estimates are based on fixed or RE panel regression depending on the Hausman test, with standard errors in parentheses. Each period is comprised of 5 years. The dataset covers the years 1985–2009

Table 11.5 Determinants of stock market capitalization (Authors' estimation)

Variable	I	II	III	IV	V	VI	VII	VIII	XI	X	XI	XII
Lag of dependent variable	−0.084	−0.072	−0.082	−0.175	−0.156	−0.138	−0.212	−0.208	−0.213	−0.275*	−0.251*	−0.253*
	(0.152)	(0.149)	(0.153)	(0.152)	(0.159)	(0.152)	(0.147)	(0.147)	(0.149)	(0.147)	(0.150)	(0.146)
Log GDP per capita (USD)	−4.116	−2.667	−3.965	−5.315	−0.724	−4.475	−6.758**	−5.739	−6.810**	−7.943**	−4.575	−7.228**
	(3.558)	(3.614)	(3.638)	(3.484)	(5.267)	(3.498)	(3.412)	(3.562)	(3.463)	(3.396)	(4.595)	(3.364)
Trade openness (total trade/GDP)	−0.106	−0.124	−0.110	−0.179	−0.145	−0.074	−0.083	−0.095	−0.081	−0.145	−0.096	−0.060
	(0.122)	(0.120)	(0.124)	(0.136)	(0.148)	(0.121)	(0.130)	(0.131)	(0.133)	(0.146)	(0.154)	(0.129)
Financial openness	2.153	2.772	2.087	2.394	2.138	2.600	2.767	3.194	2.791	3.112	2.990	3.218
	(2.510)	(2.499)	(2.546)	(2.446)	(2.538)	(2.477)	(2.703)	(2.737)	(2.733)	(2.640)	(2.698)	(2.669)
Inflation (%)	−0.434	−0.311	−0.448	−0.527	−0.504	−0.397	−0.310	−0.226	−0.301	−0.387	−0.349	−0.232
	(0.400)	(0.401)	(0.408)	(0.392)	(0.407)	(0.393)	(0.426)	(0.434)	(0.433)	(0.418)	(0.427)	(0.421)
Interaction (Infl. × Fin. open.)	1.863*	1.625	1.896*	2.069**	2.093**	1.779*	1.574	1.415	1.556	1.738	1.712	1.387
	(1.017)	(1.011)	(1.034)	(0.992)	(1.041)	(0.999)	(1.083)	(1.095)	(1.101)	(1.059)	(1.091)	(1.070)
Growth in public debt (% GDP)	−0.315	−0.447	−0.325	−0.059	−0.325	−0.315	−0.417	−0.518	−0.414	−0.131	−0.365	−0.395
	(0.309)	(0.315)	(0.314)	(0.322)	(0.314)	(0.303)	(0.316)	(0.332)	(0.320)	(0.343)	(0.315)	(0.311)
Legal quality and democ. acct.	−0.657	−0.838	−0.643	−1.120	−1.025	−0.564	−0.386	−0.516	−0.388	−0.912	−0.775	−0.343
	(0.906)	(0.899)	(0.916)	(0.906)	(0.956)	(0.891)	(0.967)	(0.976)	(0.976)	(0.976)	(1.026)	(0.950)
Financial reform	−2.012	−2.446*	−2.055	−2.756**	−2.920**	−2.230*	−1.313	−1.634	−1.307	−2.029	−2.060	−1.485
	(1.327)	(1.333)	(1.350)	(1.327)	(1.458)	(1.309)	(1.267)	(1.307)	(1.279)	(1.284)	(1.327)	(1.249)
Interaction (Legal/dem. × Reform)	1.224	1.566	1.215	1.974*	1.726	1.245	1.176	1.422	1.178	1.948	1.668	1.233
	(1.120)	(1.122)	(1.131)	(1.136)	(1.170)	(1.099)	(1.214)	(1.239)	(1.225)	(1.237)	(1.261)	(1.193)
Net FDI (% GDP)		2.533						1.707				
		(1.562)						(1.711)				
Net portfolio inv. (% GDP)			−0.216						0.120			
			(0.825)						(0.853)			
Official aid and grants (% GDP)				1.744*						1.592		
				(0.949)						(1.012)		

(continued)

Table 11.5 (continued)

Variable	I	II	III	IV	V	VI	VII	VIII	XI	X	XI	XII
Remittances (% GDP)					1.043						0.724	
					(1.075)						(1.010)	
Other net investments (% GDP)						−1.105*						−1.169*
						(0.647)						(0.678)
Period dummies	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Observations	66	66	66	65	65	66	66	66	66	65	65	66
R2 within	0.48	0.50	0.48	0.51	0.49	0.49	0.32	0.32	0.31	0.35	0.35	0.32
R2 between	0.65	0.69	0.64	0.75	0.69	0.76	0.56	0.59	0.57	0.64	0.57	0.69
R2 overall	0.51	0.53	0.51	0.55	0.53	0.54	0.35	0.36	0.35	0.40	0.37	0.38
Wald-test	51.41	55.72	50.52	58.17	53.13	56.30	29.52	30.51	29.01	34.69	31.59	33.54
… p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hausman test	8.26	8.30	10.56	7.23	10.21	6.14	7.54	7.26	8.77	6.33	9.84	5.75
… p-value	0.91	0.94	0.84	0.97	0.86	0.99	0.67	0.78	0.64	0.85	0.55	0.89

Note: *, **, and *** stand for significance at 10 %, 5 %, and 1 %, respectively. All estimates are based on random-effects (RE) panel regression, with standard errors in parentheses. Periods are comprised of 3 years due to limited number of observations in all regressions. The dataset covers the years 1989–2009. The constant terms and period coefficients were omitted to save space

Table 11.6 Determinants of total value traded in stock market (Authors' estimation)

Variable	I	II	III	IV	V	VI	VII	VIII	XI	X	XI	XII
Lag of dependent variable	−0.702	−0.588	−0.731	−0.651	−0.675	−0.561	−0.768*	−0.695	−0.776*	−0.722	−0.709	−0.605
	(0.454)	(0.465)	(0.464)	(0.462)	(0.455)	(0.466)	(0.454)	(0.462)	(0.460)	(0.459)	(0.454)	(0.462)
Log GDP per capita (USD)	−0.470	3.125	0.622	−2.357	15.160	−1.801	−10.368	−6.887	−10.021	−11.200	−2.282	−12.801
	(15.199)	(15.505)	(15.582)	(15.447)	(22.599)	(15.154)	(14.482)	(15.022)	(14.711)	(14.856)	(19.276)	(14.422)
Trade openness (total trade/GDP)	−0.494	−0.539	−0.515	−0.578	−0.826	−0.471	−0.550	−0.593	−0.560	−0.470	−0.673	−0.541
	(0.440)	(0.441)	(0.447)	(0.563)	(0.615)	(0.438)	(0.470)	(0.473)	(0.476)	(0.595)	(0.621)	(0.465)
Financial openness	6.561	8.506	6.246	6.544	4.379	6.781	5.571	7.139	5.504	6.406	5.303	5.888
	(10.006)	(10.134)	(10.124)	(10.194)	(10.428)	(9.952)	(10.660)	(10.823)	(10.759)	(10.746)	(10.825)	(10.549)
Inflation (%)	−1.674	−1.306	−1.756	−1.833	−2.111	−1.653	−1.795	−1.489	−1.838	−1.842	−2.030	−1.630
	(1.684)	(1.712)	(1.711)	(1.729)	(1.743)	(1.675)	(1.765)	(1.801)	(1.793)	(1.794)	(1.796)	(1.750)
Interaction (Infl. × Fin. open.)	5.188	4.406	5.397	5.532	6.431	5.048	5.341	4.731	5.441	5.486	6.033	4.858
	(4.289)	(4.337)	(4.359)	(4.375)	(4.467)	(4.267)	(4.487)	(4.546)	(4.553)	(4.530)	(4.578)	(4.451)
Growth in public debt (% GDP)	0.047	−0.286	−0.034	0.500	0.002	0.162	−0.026	−0.387	−0.045	0.294	0.197	0.127
	(1.343)	(1.373)	(1.370)	(1.471)	(1.371)	(1.338)	(1.335)	(1.397)	(1.350)	(1.500)	(1.339)	(1.325)
Legal quality and democ. acct. index	−8.977**	−9.082**	−9.006**	−9.387**	−10.272**	−8.072*	−6.652	−6.844	−6.681	−7.051	−7.737*	−5.667
	(4.254)	(4.245)	(4.291)	(4.342)	(4.432)	(4.293)	(4.476)	(4.490)	(4.518)	(4.531)	(4.626)	(4.479)
Financial reform	−13.076**	−13.907**	−13.444**	−14.645**	−16.72***	−13.465**	−10.465*	−11.466**	−10.511*	−12.587**	−13.218**	−10.807**
	(5.843)	(5.877)	(5.968)	(6.064)	(6.470)	(5.819)	(5.417)	(5.542)	(5.470)	(5.627)	(5.692)	(5.365)
Interaction (Legal/dem. × Reform)	10.406*	10.843**	10.520*	11.167**	11.879**	9.509*	8.674	9.218	8.722	9.439*	9.978*	7.754
	(5.354)	(5.356)	(5.408)	(5.478)	(5.491)	(5.373)	(5.647)	(5.690)	(5.702)	(5.732)	(5.739)	(5.622)
Net FDI (% GDP)		7.676						6.519				
		(6.907)						(7.293)				
Net portfolio inv. (% GDP)			−1.390						−0.722			
			(3.551)						(3.579)			
Official aid and grants (% GDP)				2.113						0.694		
				(4.123)						(4.308)		
Remittances (% GDP)					4.398						2.729	
					(4.404)						(4.157)	

(continued)

Table 11.6 (continued)

Variable	I	II	III	IV	V	VI	VII	VIII	XI	X	XI	XII
Other net investments (% GDP)						−3.506						−4.297
						(2.816)						(2.906)
Period dummies	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Observations	66	66	66	65	65	66	66	66	66	65	65	66
R2 within	0.34	0.36	0.35	0.35	0.36	0.36	0.16	0.17	0.16	0.18	0.19	0.19
R2 between	0.86	0.89	0.83	0.86	0.84	0.87	0.84	0.87	0.83	0.81	0.76	0.87
R2 overall	0.40	0.41	0.40	0.41	0.42	0.42	0.23	0.24	0.23	0.25	0.26	0.26
Wald-test	33.12	34.51	32.71	33.15	34.38	35.03	16.61	17.35	16.36	18.00	18.54	19.15
. . . p-value	0.00	0.00	0.01	0.01	0.00	0.00	0.08	0.10	0.13	0.08	0.07	0.06
Hausman test	1.66	1.52	2.16	2.40	4.04	2.09	1.63	1.39	2.49	2.37	6.18	1.24
. . . p-value	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	1.00

Note: *, **, and *** stand for significance at 10 %, 5 %, and 1 %, respectively. All estimates are based on RE panel regression, with standard errors in parentheses. Periods are comprised of 3 years due to limited number of observations in all regressions. The dataset covers the years 1989–2009. The constant terms and period coefficients were omitted to save space

investment is low, so as to compensate for lower revenues stemming from fewer opportunities. External flows, however, in the form of foreign aid, tend to deteriorate efficiency in banks, which is related to less stringent conditions on using this type of funding in an efficient way and also because such funding usually transits through public banks, which have more socially-oriented objectives than profitability and efficiency.

For the indicators of stock market development (Table 11.5), the results are more limited. Beyond the positive impact of the interactive term on good institutions, democratic governance, and financial reforms, stock market capitalization appears to be weakly improved by official transfers, once again potentially owing to an income effect. Per-capita incomes appear to have a negative impact (implying 'catching-up' effects as less developed countries develop more quickly than their richer counterparts). Yet these effects are not present when period dummies are present. Conversely, having an open capital account during inflationary periods also inflates market capitalization, possibly because of the rapid arbitrage possibilities facing countries with high inflation and real interest rates.

As for the stock market value traded (Table 11.6), the interactive term on legal and democratic quality and reforms is also significant, highlighting once again the importance of having quality legal institutions, democratic governance, and the adequate implementation of financial reforms. As is the case for deposits, partial financial reforms (i.e. those without high-quality legal institutions or anti-democratic governance practices) could lead to less activity in the stock market.

11.4 Conclusion

We use a sample of EU-MED and SEMC for the years 1985–2009 to assess the reasons why FD is lagging behind in the region.

For banking development variables, inflation has a negative impact, although the results are more significant for bank deposits. Having an open capital account seems to offset these inflationary effects, also significantly so for bank deposits. The growth of public debt is the most significant and persistent determinant of private capital, confirming the 'crowding-out' hypothesis.

Strong legal institutions, good democratic governance and the adequate implementation of financial reforms have a substantial positive impact on both private credit and deposits, but only when they occur at the same time.

External flows, in the form of official aid and portfolio investments, may also be beneficial for credit growth and deposits. This is most likely due to an income effect, whereby capital inflows increase households' incomes and firms' earnings, which are then deposited into bank accounts and become available for lending.

For bank efficiency variables, the results show that more capital account openness improves banks' technical growth rate and meta-efficiency. In addition, a better legal system and more democratically-oriented regime should contribute to enhancing the efficiency of banks. Inflation appears to be positively related to bank

efficiency, which is surprising because a more stable macroeconomic environment should result in lower cost efficiency.

For the indicators of stock market development, the results are more limited. Beyond the positive impact of the interactive term on good institutions, democratic governance, and financial reforms, stock market capitalization can be weakly improved by official transfers, once again potentially stemming from an income effect. Per capita income appears to have negative impact.

As for stock market value traded, the interactive term on legal and democratic quality and reforms is also significant, highlighting once again the importance of having quality legal institutions, democratic governance, and the adequate implementation of financial reforms. As is the case for deposits, partial financial reforms could lead to less activity in the stock market.

In a nutshell, better institutions, lower government expenditures, and financial sector reforms (especially regulation and supervision) could lead to improvements in the functioning of banks and could help develop stock markets in the SEMC.

References

Abiad A, Tressel T, Detragiache E (2008) A new database of financial reforms, vol WP/08/266, IMF working paper. International Monetary Fund, Washington, DC

Acemoglu D, Johnson S (2005) Unbundling institutions. J Polit Econ 113(5):949–995

Acemoglu D, Johnson S, Robinson JA (2001) The colonial origins of comparative development: an empirical investigation. Am Econ Rev 91(5):1369–1401

Acemoglu D, Johnson S, Robinson JA (2002) Reversal of fortune: geography and institutions in the making of the modern world income distribution. Q J Econ 117(4):1231–1294

Acosta P, Fajnzylber P, Lopez JH (2007) The impact of remittances on poverty and human capital: evidence from Latin American household surveys, vol 4247, World Bank policy research working paper. The World Bank, Washington, DC

Adams RH, Page J (2005) Do international migration and remittances reduce poverty in developing countries? World Dev 33(10):1645–1669

Aggarwal R, Goodell JW (2009) Markets and institutions in financial intermediation: national characteristics as determinants. J Bank Financ 33(10):1770–1780

Aggarwal R, Demirguc-Kunt A, Peria MSM (2011) Do remittances promote financial development? J Dev Econ 96(2):255–264

Amoroso B, Gallina A, Zupi M (2004) A favourable macroeconomic environment, innovative financial instruments and international partnership to channel worker's remittances towards the promotion of local development: two case studies in Morocco and Tunisia, vol FEM21-08, FEMISE Research Report. FEMISE, Marseille

Bailliu JN (2000) Private capital flows, financial development, and economic growth in developing countries, vol 00–15, Bank of Canada working paper. Bank of Canada, Ottawa

Barth JR, Caprio G Jr, Levine R (2000) Banking systems around the globe: do regulation and ownership affect performance and stability? vol 2325, World Bank policy research working paper. The World Bank, Washington, DC

Barth JR, Caprio G, Levine R (2004) Bank regulation and supervision: what works best? J Financ Intermed 13(2):205–248

Beck T, Demirguc-Kunt A, Levine R (2003) Law, endowments, and finance. J Financ Econ 70 (2):137–181

Beck T, Demirguc-Kunt A, Levine R (2009) Financial institutions and markets across countries and over time: data and analysis, vol 4943, World Bank policy research working paper. The World Bank, Washington, DC

Ben Naceur S, Ghazouani S, Omran M (2008) Does stock market liberalization spur financial and economic development in the MENA region? J Comp Econ 36(4):673–693

Bencivenga VR, Smith BD (1992) Deficits, inflation, and the banking system in developing countries: the optimal degree of financial repression. Oxf Econ Pap 44(4):767–790

Billmeier A, Massa I (2009) What drives stock market development in emerging markets -institutions, remittances, or natural resources? Emerg Mark Rev 10(1):23–35

Boyd JH, Levine R, Smith BD (2001) The impact of inflation on financial sector performance. J Monet Econ 47(2):221–248

Braun M, Raddatz C (2008) The politics of financial development: evidence from trade liberalization. J Financ 63(3):1469–1508

Caballero RJ, Krishnamurthy A (2004) Fiscal policy and financial depth, vol 10532, NBER working paper. National Bureau of Economic Research, Cambridge, MA

Chinn MD, Ito H (2002) Capital account liberalization, institutions and financial development: cross country evidence, vol 8967, NBER working paper. National Bureau of Economic Research, Cambridge, MA

Chinn MD, Ito H (2006) What matters for financial development? Capital controls, institutions, and interactions. J Dev Econ 81(1):163–192

Chinn MD, Ito H (2008) A new measure of financial openness. J Comp Policy Anal 10(3):309–322

Christensen J (2005) Domestic debt markets in Sub-Saharan Africa. IMF Staff Pap 52(3):518–538

Cox-Edwards A, Ureta M (2003) International migration, remittances, and schooling: evidence from El Salvador. J Dev Econ 72(2):429–461

Cull R, Senbet LW, Sorge M (2005) Deposit insurance and financial development. J Money Credit Bank 37(1):43–82

Demetriades PO, Andrianova S (2005) Sources and effectiveness of financial development: what we know and what we need to know, vol RP2005/76, UNU-WIDER working paper. UNU WIDER, Helsinki

Demirguc-Kunt A, Detragiache E (2005) Cross-country empirical studies of systemic bank distress: a survey, vol 3719, World Bank policy research working paper. The World Bank, Washington, DC

Demirguc-Kunt A, Levine R (2008) Finance, financial sector policies, and long-run growth, vol 4469, World Bank policy research working paper. The World Bank, Washington, DC

Demirguc-Kunt A, Laeven L, Levine R (2004) Regulations, market structure, institutions, and the cost of financial intermediation. J Money Credit Bank 36(3):593–622

Detragiache E, Gupta P, Tressel T (2005) Finance in lower income countries: an empirical exploration, vol WP/05/167, IMF working paper. International Monetary Fund, Washington, DC

Dinc IS (2005) Politicians and banks: political influences on government-owned banks in emerging markets. J Financ Econ 77(2):453–479

Djankov S, McLiesh C, Shleifer A (2007) Private credit in 129 countries. J Financ Econ 84 (2):299–329

Do Q-T, Levchenko AA (2004) Trade and financial development, vol 3347, World Bank policy research working paper. The World Bank, Washington, DC

Do Q-T, Levchenko AA (2007) Comparative advantage, demand for external finance, and financial development. J Financ Econ 86(3):796–834

Domac I, Martinez Peria MS (2003) Banking crises and exchange rate regimes: is there a link? J Intern Econ 61(1):41–72

Eichengreen B, Hausmann R (1999) Exchange rates and financial fragility, vol 7418, NBER working paper. National Bureau of Economic Research, Cambridge, MA

Freund C, Spatafora N (2008) Remittances, transaction costs, and informality. J Dev Econ 86 (2):356–366

Gerschenkron A (1962) Economic backwardness in historical perspective. Harvard University Press, Cambridge, MA
Giuliano P, Ruiz-Arranz M (2009) Remittances, financial development, and growth. J Dev Econ 90(1):144–152
Hauner D (2008) Credit to government and banking sector performance. J Bank Financ 32 (8):1499–1507
Hauner D (2009) Public debt and financial development. J Dev Econ 88(1):171–183
Hermes N, Lensink R (2003) Foreign direct investment, financial development and economic growth. J Dev Stud 40(1):142–163
Huybens E, Smith BD (1999) Inflation, financial markets and long-run real activity. J Monet Econ 43(2):283–315
Jaimovich D, Panizza U (2010) Public debt around the world: a new data set of central government debt. Appl Econ Lett 17(1–3):19–24
Khwaja AI, Mian A (2005) Do lenders favor politically connected firms? Rent provision in an emerging financial market. Q J Econ 120(4):1371–1411
Kim D-H, Lin S-C, Suen Y-B (2011) Interactions between financial development and trade openness. Scott J Polit Econ 58(4):567–588
La Porta R, Lopez-de-Silane F, Shleifer A, Vishny RW (1997) Legal determinants of external finance. J Financ 52(3):1131–1150
La Porta R, Lopez-de-Silanes F, Shleifer A (1998) Law and finance. J Polit Econ 106(6):1113–1155
La Porta R, Lopez-de-Silanes F, Shleifer A (2002) Government ownership of banks. J Financ 57 (1):265–301
Law SH, Azman-Saini WNW (2008) The quality of institutions and financial development, vol 12107, MPRA paper. University Library of Munich, Munich. http://mpra.ub.uni-muenchen.de/12107/1/MPRA_paper_12107.pdf. Accessed 27 September 2014
Levine R, Loayza N, Beck T (2000) Financial intermediation and growth: causality and causes. J Monet Econ 46(1):31–77
Mauro P (1995) Corruption and growth. Q J Econ 110(3):681–712
Mundaca BG (2009) Remittances, financial market development, and economic growth: the case of Latin America and the Caribbean. Rev Dev Econ 13(2):288–303
Pagano M, Volpin P (2001) The political economy of finance. Oxf Rev Econ Policy 17(4):502–519
Perotti E, Schwienbacher A (2009) The political origin of pension funding. J Financ Intermed 18 (3):384–404
Perotti E, Volpin P (2004) Lobbying on entry, vol 04-088/2, Tinbergen Institute discussion paper. http://papers.tinbergen.nl/04088.pdf. Accessed 27 September 2014
Perotti EC, Von Thadden E-L (2006) The political economy of corporate control and labor rents. J Polit Econ 114(1):145–174
Prasad ES, Rajan RG (2008) A pragmatic approach to capital account liberalization. J Econ Perspect 22(3):149–172
Rajan RG, Zingales L (2003) The great reversals: the politics of financial development in the twentieth century. J Financ Econ 69(1):5–50
Roe MJ, Siegel JI (2011) Political instability: effects on financial development, roots in the severity of economic inequality. J Comp Econ 39(3):279–309
Roubini N, Sala-i-Martin X (1992) Financial repression and economic growth. J Dev Econ 39 (1):5–30
Roubini N, Sala-i-Martin X (1995) A growth model of inflation, tax evasion, and financial repression. J Mon Econ 35(2):275–301
Shleifer A (1998) State versus private ownership. J Econ Perspect 12(4):133–150
Shleifer A, Vishny RW (1994) Politicians and firms. Q J Econ 109(4):995–1025
Tressel T, Detragiache E (2008) Do financial sector reforms lead to financial development? Evidence from a new dataset, vol WP/08/265, IMF working paper. International Monetary Fund, Washington, DC

Woodruff C, Zenteno R (2007) Migration networks and microenterprises in Mexico. J Dev Econ 82(2):509–528

World Bank (2008) Economic developments and prospects: regional integration for global competitiveness. World Bank MENA Region, Washington, DC