3. ACCESS TO FINANCE

INTRODUCTION

A well-functioning financial sector can facilitate the exchange of goods and services, the diversification of risk, the mobilization of savings, and the identification of good business opportunities—all of which encourage investment and entrepreneurship.[1] These functions enable rapid accumulation of physical and human capital, boost technological advances, and thus promote faster growth and higher levels of employment.[2]

This chapter explains the relationship between the financial sector and the formal non-financial private sector in the MENA ES economies. A few fairly consistent patterns emerge. On the borrower side, a large proportion of firms exclude themselves from formal financial markets. More importantly, the evidence is highly suggestive that firms have adjusted production strategies and expectations to the reality of limited involvement with the financial sector, even if this comes at the cost of losing possible growth opportunities. This "disconnect" between firms and banks goes so far that in some economies, even the use of checking and savings accounts by firms is low. Instead, firms rely to a large extent on internal financing.

On the supply side, the financial sector is dominated by banks. Banks in the MENA ES region seem to have adopted a cautious approach, based on traditional lending technologies and conservative practices. Thus, despite comparatively high volumes of private credit, only a small segment of the private sector is financed by the formal financial sector. Credit is highly concentrated, favoring a small number of large clients.

This chapter first provides some context for the survey results by examining financial sector characteristics, drawing on other data sources, including relevant *Doing Business* indicators. It then turns to the question of whether firms in the region are

credit-constrained, presenting an evidence-based indicator of credit constraint. In light of the finding that a substantial proportion of firms seem to be disconnected from the formal financial sector, and are therefore likely to forgo growth opportunities, the third section draws on data from the surveys to examine some supply-side factors that may have contributed to this situation. The last section outlines policy implications.

THE CONTEXT: FINANCIAL SECTORS IN THE MENA REGION

The formal financial sector is dominated by a banking sector that is typically large compared with peer economies

The banking sector dominates the formal financing channels available in the MENA ES region. Bank deposits account for 85 percent of GDP in the MENA ES economies, compared with only 49 percent for the average upper-middle-income economy (see table 3.1). The region's banking sectors are therefore large in relation to peer economies in other regions. The size of the banking sectors reflects the capacity of the banking sector to attract relatively large amounts of deposits. The supply of deposits is supported by remittances and capital inflows.[3] In 2012, the MENA ES economies attracted remittances worth 9.6 percent of GDP, compared with an average of 3.5 percent for upper-middle-income economies.

Lebanon serves as the most striking example. The economy benefits from a large and loyal diaspora, which contributes remittances equivalent to around 16 to 20 percent of Lebanon's GDP. Due in large part to the diaspora, bank deposits have been growing steadily over the years despite episodes of high political instability.[4] The inflows have been supported by the ability to hold deposits in foreign currency and the unrestricted convertibility between local and foreign currency deposits.[5]

Another example is Morocco, where the size of the banking sector may be attributed to successful financial sector reforms, notably between 1986 and 1996. The reforms led to the elimination of credit controls, deregulation of interest rates, improved prudential regulation and supervision, and the first steps toward the liberalization of international capital flows.[6]

TABLE 3.1: Banking sector characteristics

Economy	Deposits (% of GDP)	Loans to deposits	Credit to government (% of GDP)	Credit to private sector (% GDP)
Djibouti	71	38	4	28
Egypt, Arab Rep.	60	48	35	29
Jordan	94	76	41	70
Lebanon	228	38	72	84
Morocco	89	81	17	71
Tunisia	55	128	5	69
West Bank and Gaza	64	43	12	24
Yemen, Rep.	21	20	13	5
MENA ES	85	59	25	48
Lower-middle-income	35	102	7	31
Upper-middle-income	49	100	8	47
High-income: non-OECD	78	82	15	68
High-income: OECD	99	120	17	122

Sources: World Bank Global Financial Development Database, Palestine Monetary Authority, reference year 2012.

Compared with banks, the role of institutional investors and equity markets is limited. With the exception of Morocco, the mutual fund industry is small compared with peer economies. The size of the insurance industry is also limited. While equity markets display comparatively high levels of market capitalization, they are dominated by financial and infrastructure firms. According to the World Bank,[7] the market capitalization of the industry (excluding infrastructure firms) and non-financial services sectors in the wider MENA region represents less than 12 percent of GDP, which suggests that equity markets play a limited role in funding the real economy.

The leasing industry is similarly small by international standards.[8] Leasing firms retain ownership of the leased asset, which should facilitate repossession in case the lessee defaults. Thus, leasing can be an attractive alternative to bank finance in an environment characterized by weak creditor rights. Among the MENA ES economies, leasing is most prevalent in Tunisia, followed by Jordan, Morocco, and Egypt. Most leasing firms are banks or bank-related institutions, reflecting their easy access to

deposit funding. Factoring plays only a minor role in the MENA ES economies.

Ratios of loans to deposits are low in many MENA ES economies and they are often associated with high levels of credit to governments

At 59 percent, the region's loan-to-deposit ratio is well below the average of all income brackets. This means that comparatively few of the deposits received by banks are translated into lending to the non-financial private sector. The low ratios reflect both a large supply of deposits and plentiful opportunities to hold local government debt.[9]

The MENA ES economies receive substantial remittance inflows. Under a floating exchange rate, such capital inflows would put upward pressure on the exchange rate. But all MENA ES central banks that issue their own legal tender pursue an exchange rate arrangement that is pegged in some way. To resist appreciation, the central bank buys foreign currency and thereby creates liquidity in the domestic currency. As a result, capital inflows lead to the creation of local currency bank deposits.

Large local currency deposits in the MENA ES economies are also the result of banks' policies to hold large volumes of local public debt, which is widely available in the region. Household savings are mostly held in the form of bank deposits rather than direct holdings of government debt. Monetary financing of public debt also increases bank deposits as the government spends the borrowed money to pay employees and suppliers.

But large-scale lending to governments also has a cyclical component that is closely associated with the Arab Uprisings. Egypt is the most striking example. Following the protests of 2011, bank claims on the public sector increased from 27 percent of GDP in 2010 to over 50 percent in 2015. This can be attributed to both deteriorating fiscal balances and capital flight.[10] As foreign investors withdrew, the domestic banking system stepped in. With local treasury bill rates approaching 16 percent in 2012, bank claims on the private sector decreased. Because the government was able to offer more attractive risk-adjusted returns, parts of the private sector were crowded out.[11]

Similar patterns, albeit less pronounced, prevail in the other MENA ES economies, where, on average, credit to governments increased by 6 percentage points between 2010 and 2013.[12] In contrast, the average level of credit to governments in lower-middle-income and upper-middle-income economies in the rest of the world did not increase.

Tunisia is the only MENA ES economy with a loan-to-deposit ratio exceeding 100 percent. Relative to Jordan and Morocco, which have similar levels of private credit, the Tunisian deposit base is relatively small. Banks therefore have to rely on wholesale (and cross-border) funding.[13] Tunisia is the only economy in the region where banks experienced significant withdrawals of deposits during the Arab Uprisings; it also suffered from a high ratio of non-performing loans, 13 percent in 2011.[14]

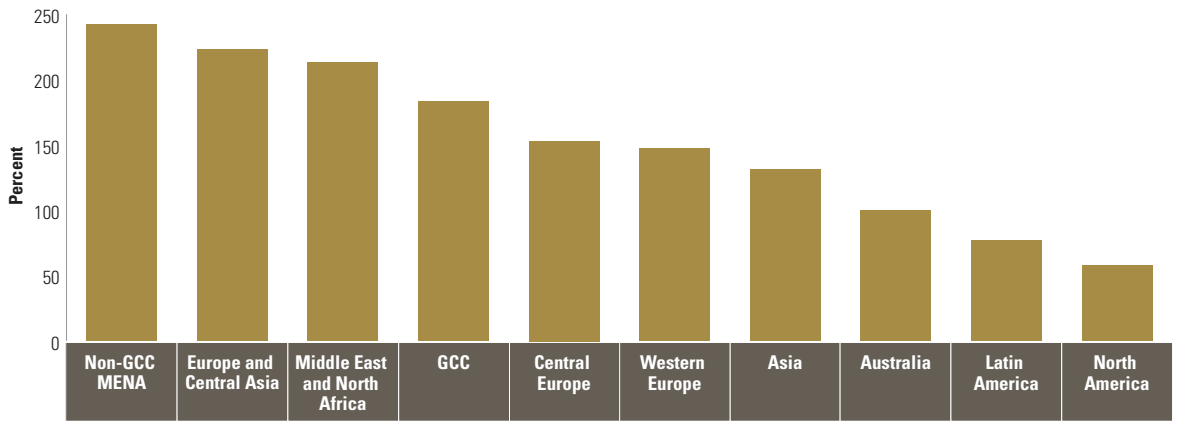
Credit to the private sector is relatively high in the region's upper-middle-income economies, but lending is concentrated

Despite the low loan-to-deposit ratios, private credit to GDP for the MENA ES is well above the average for peer economies. Private credit is especially high in the upper-middle-income economies—Jordan, Lebanon, and Tunisia—and lower-middle-income Morocco. In the other lower-middle-income economies—Djibouti, Egypt, and the West Bank and Gaza—private credit to GDP is in line with peer economies in other regions. Only the Republic of Yemen is lagging behind.

While high volumes of private credit are desirable, they do not necessarily translate into financial access for a broad cross-section of firms. Figure 3.1 shows that credit concentration ratios in non-Gulf Cooperation Council MENA, which is the aggregate corresponding most closely to the MENA ES economies, are among the highest in the world. Within the region, Egypt has the highest credit concentration ratio. In 2010, the top 20 exposures accounted for more than half of total loans in the economy, implying that credit is absorbed primarily by large corporate clients.[15]

A similar divergence between depth and access can be observed on the deposit side. The share of the population that saves in formal financial institutions is much lower than in economies with similar deposit volumes, suggesting a lopsided distribution of wealth. It is the strength of surveys such as the MENA ES that they can give a

FIGURE 3.1: Top 20 loan exposures as a percentage of total bank equity, by world region



Source: World Bank (2011).
Note: Data are regional averages computed between 2005 and 2010.

detailed representation of financial access that is not unduly affected by the largest players.

The institutional financial infrastructure does not facilitate expansion of credit to small and medium-sized enterprises

Financial intermediation in the MENA ES economies takes place against an unfavorable institutional background. Table 3.2 presents institutional quality as represented by the getting credit dimension of *Doing Business*. This set of indicators is based on a case study that seeks to represent the institutions faced by a domestically owned limited liability company that has up to 50 employees and operates in the largest business city. With an average rank of 135, the region scores worse than economies in any income bracket. Jordan and the Republic of Yemen both rank 185 out of the 185 economies examined.

The getting credit ranking has two components: a legal rights index; and a depth of credit information index. The strength of legal rights index measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders, thereby facilitating lending. The index thus assesses the quality of the secured transaction framework. The MENA ES economies have a particularly poor record on legal rights, suggesting that collateral regimes in the MENA ES economies have serious deficiencies across the board, a result highlighted in other studies.[16]

The depth of credit information index measures rules and practices affecting the coverage, scope, and accessibility of credit information available through either a private credit bureau or a public credit registry. The index provides a measure of the extent to which these institutions help to mitigate the informational asymmetries that impede lending to SMEs. In terms of the depth of credit information, the economies of the region fall into two groups. Djibouti, Jordan, and the Republic of Yemen receive a score of 0, while the other economies obtain scores between 5 and 8, indicating advanced credit information systems.

The last two columns of table 3.2 present data on the coverage of credit information systems, which do not affect the index score. In the region, public credit registries have on average better coverage than private credit bureaus. The only economies with functioning private credit bureaus are Egypt and Morocco.

TABLE 3.2: *Doing Business* getting credit indicators

Economy	Getting credit rank	Strength of legal rights index (0-12)	Depth of credit information index (0-8)	Public credit registry coverage (% of adults)	Private credit bureau coverage (% of adults)
Djibouti	181	1	0	0	0
Egypt, Arab Rep.	79	2	8	7	21
Jordan	185	0	0	2	0
Lebanon	109	2	6	24	0
Morocco	109	2	6	0	23
Tunisia	126	2	5	29	0
West Bank and Gaza	109	0	8	23	0
Yemen, Rep.	185	0	0	1	0
MENA ES	135	1	4	11	6
Lower-middle-income	90	5	4	8	15
Upper-middle-income	82	5	5	20	33
High income: non-OECD	91	4	5	16	37
High income: OECD	54	6	6	12	67

Source: Doing Business report, 2016.
Note: GCR: low value better performance. SLRI and DCII: high value, better performance.

FIRMS IN THE MENA REGION ARE NOT TYPICALLY CREDIT-CONSTRAINED, BUT MANY ARE DISCONNECTED

The composition of firm finance in the region is similar to peer economies, but with a slightly larger role for internal funds and great variation in the use of bank and supplier credit

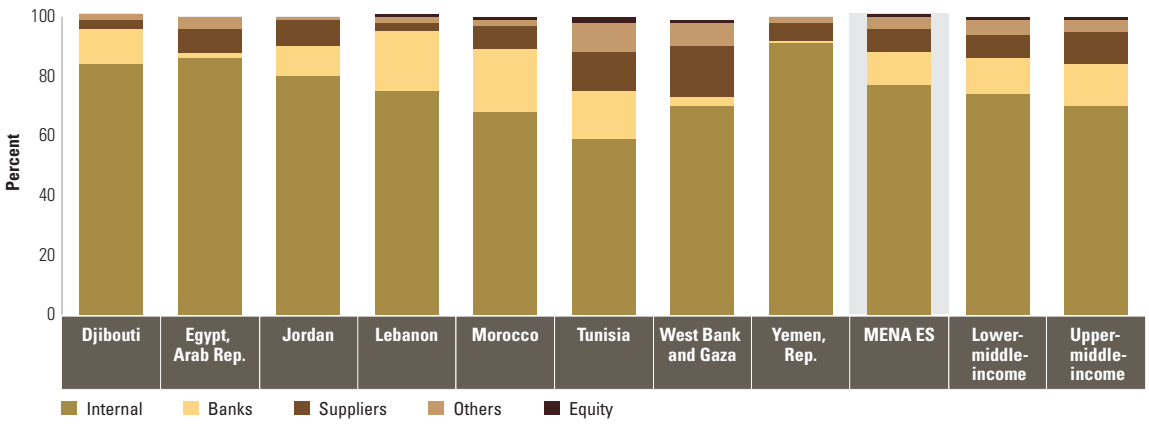
To examine whether firms are credit-constrained, it is first useful to examine the types of finance that they use. The MENA ES data provide detailed information on firms' use of the different sources of funds for both their working capital and their purchases of fixed assets. For each firm, information is available on the relative use of internal funds, bank finance, credit from suppliers or customers, equity finance, and other sources of finance, including informal sources and non-deposit-taking institutions.

Figure 3.2 presents the composition of firm financing. With 77 percent of working capital and investment financed internally, firms in the MENA ES region rely more on internal funds than the average lower-middle-income and upper-middle-income economy.

Unsurprisingly, firms in the MENA ES region are more likely to use external finance from banks wherever financial deepening is greater, as measured by private credit to GDP. The share of bank finance in Lebanon (20 percent), Morocco (21 percent), and Tunisia (16 percent) is well above that of their peer economies' average of 12 percent for lower-middle-income economies and 14 percent for upper-middle-income economies with ES data. Jordan is the only economy where high levels of financial deepening are not associated with a strong use of bank financing by the average firm. In Egypt, the West Bank and Gaza, and the Republic of Yemen, banks play a negligible role for firm financing, with Jordan and Djibouti an intermediate case.

The use of credit from input suppliers and customers in the MENA ES economies is broadly comparable to peer economies, accounting for, on average, 8 percent of firm financing in the region. The use of input supplier credit does not seem to be associated with the level of income of the economy. Supplier credit is most widely used in Tunisia and the West Bank and Gaza, whereas firms in Djibouti and Lebanon rarely resort to this source of financing.

FIGURE 3.2: External sources of finance are similar to comparable economies elsewhere



Source: Enterprise Surveys.

The use of equity finance is negligible throughout the region, reaching a maximum of only 2 percent in the case of Tunisia, which confirms the limited role of equity markets for funding the real economy. Other sources of financing, which include non-deposit-taking financial institutions, microfinance operators, and Islamic finance, are not prevalent either.[17] These sources of finance matter most in Tunisia and the West Bank and Gaza.

Although the discussion on sources of finance used by firms elucidates important features of the relationship between the private sector and the financial sector, it does not measure credit constraints. Combining information on loan applications and their outcomes with data on the sources of finance for both working capital and the purchase of fixed assets yields a measure of the prevalence of credit-constraints faced by firms in the fiscal year 2012. The credit-constraint measure splits firms into three categories—fully credit-constrained, partially credit-constrained, and not credit-constrained (see box 3.1 for details). Fully and partially constrained firms are considered to be credit-constrained in this report.

The MENA ES economies are characterized by an unusually high share of firms that are not credit-constrained

Figure 3.3 shows that on average 73 percent of firms in the MENA ES are not credit-constrained.[18] Because previous Enterprise Survey implemented in other regions do not contain detailed information on loan outcomes, the figure can only provide boundaries for not credit-constrained firms in other regions.[19] Regardless, the share of not credit-constrained firms in the MENA ES region exceeds the upper bound for all other world regions except for ECA, where the upper bound estimate matches the MENA ES average.

Djibouti and Morocco have the highest share of not credit-constrained firms (87 percent) in the region while the Republic of Yemen has the lowest share of not credit-constrained firms (51 percent), followed by Jordan (64 percent), as shown in figure 3.4.

Credit-constrained firms have weaker performance on average

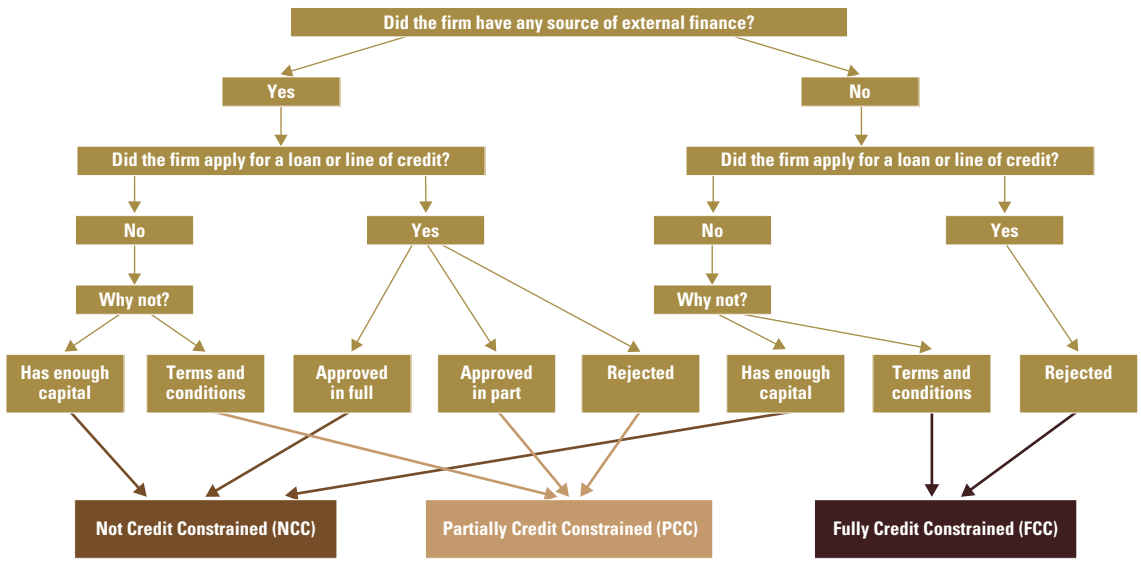
Fully and partially credit-constrained firms (FCC and PCC) in the MENA ES region are associated with lower employment growth, lower levels of capacity utilization, and lower levels of labor productivity as measured as sales per employee (table A3.1).[20]

The negative relationship between performance measures and credit constraints can be interpreted in a number of ways. It is possible that firms face credit constraints because they were evaluated by financial intermediaries to lack creditworthiness, because they proposed projects that were not financially viable, or simply because they did not have good accounting records. All of these

BOX 3.1: A measure of credit constraints

Figure B3.1 shows how external and bank finance usage and applications are used to compute the credit constraint indicator. Based on this indicator, three categories of firms are defined: fully credit-constrained (FCC), partially credit-constrained (PCC), and not credit-constrained (NCC) firms. Credit-constrained firms are defined as those that are fully (FCC) or partially constrained (PCC).

FIGURE B3.1: Correspondence between credit-constrained classification and ES questions



Source: Methodology based on Kuntchev et al. 2014.

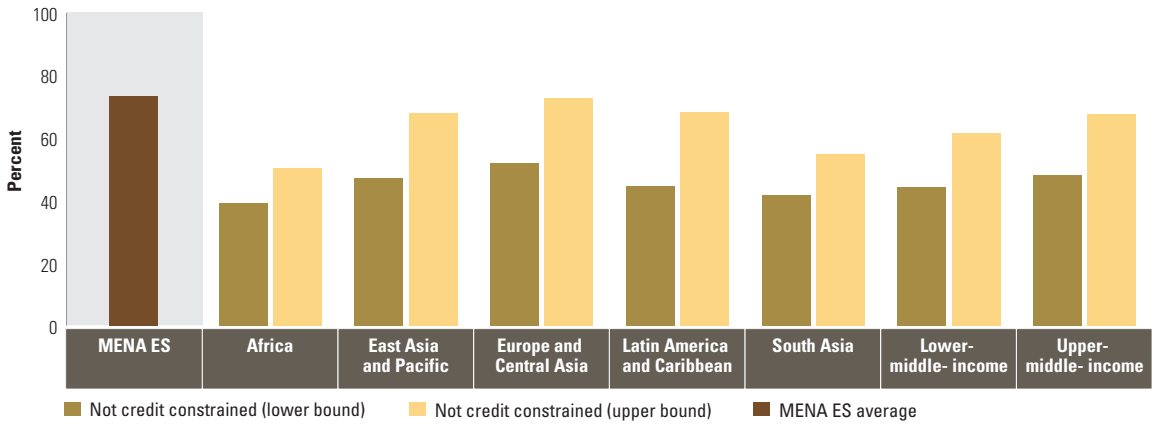
Fully credit-constrained firms (FCC) are those that find it challenging to obtain credit. These are firms that have no source of external financing and typically fall into two categories: those that applied for a loan and were rejected; and those that were discouraged from applying either because of unfavorable terms and conditions or because they did not think the application would be approved. The terms and conditions that discourage firms include complex application procedures, unfavorable interest rates, high collateral requirements, and insufficient size of loan and maturity.

Partially credit-constrained firms (PCC) are those that have been somewhat successful in obtaining external financing. PCC firms include those that have external financing but were discouraged from applying for a loan from a financial institution; and firms that have an external source of financing and applied for a loan that was partially approved or rejected.

Not credit-constrained firms (NCC) are those that do not seem to have any difficulties accessing credit or do not need credit. Firms under this category encompass those that did not apply for a loan as they have sufficient capital either on their own or from other sources; and firms that applied for a loan and the application was approved in full.

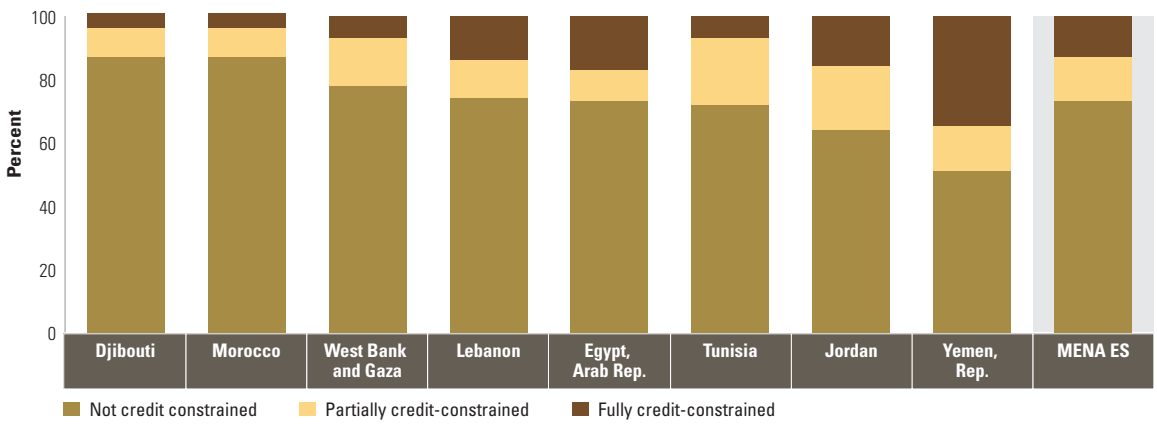
There are limitations to the credit constraint indicator. The indicator does not incorporate any information on creditworthiness of the firm, and therefore among the credit-constrained firms there may be some that were rationed for good reasons, such as insufficiently productive projects or a bad repayment history.

FIGURE 3.3: A high percentage of firms are not credit-constrained



Source: Enterprise Surveys.

FIGURE 3.4: The percentage of not credit-constrained firms varies considerably across MENA ES economies



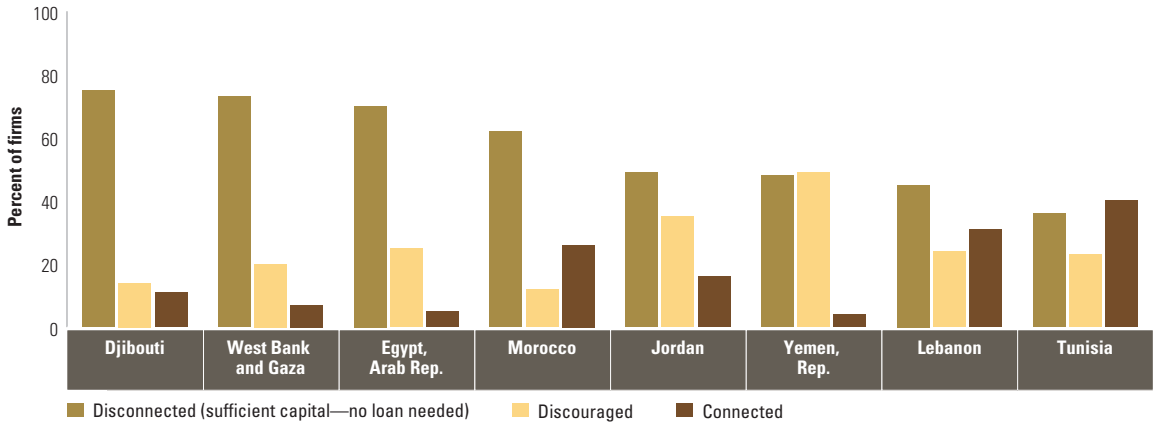
Source: Enterprise Surveys.

factors could be correlated with weak firm performance. But lack of access to credit may also be the cause of low performance as firms are unable to expand due to limited finance. The negative association between credit constraints and performance measures implies that the evidence does not contradict the possibility that credit is being properly allocated and that financial markets are working appropriately even if only a limited cross-section of the private sector benefits.

Many firms in the region are disconnected from the banking sector

Why do the data show such high levels of not credit-constrained firms in the MENA ES region? A closer examination offers important insights. Firms are not credit-constrained for one of two reasons: either they have their loan application approved; or they see themselves as having sufficient amounts of capital and therefore see no need to engage financial intermediaries. In the MENA ES

FIGURE 3.5: Firms' credit relationship with the financial sector



Source: Enterprise Surveys.

economies, the latter type accounts for the vast majority of unconstrained firms. An important question is whether these latter firms are in fact losing growth opportunities because of their stance.

Figure 3.5 shows these results by decomposing the population of firms into three categories: connected, disconnected, and discouraged. Connected firms are those that applied for loans regardless of whether their application was approved or rejected. They are "connected" in the sense that they see financial markets as an option. Disconnected firms are those that did not apply for any loan as they had sufficient capital. Discouraged firms are those that did not apply for any loans due to terms and conditions. Given these definitions, it follows that all disconnected firms are unconstrained (not credit-constrained), but not all unconstrained firms are disconnected.

The share of firms that are disconnected, explicitly stating that they do not need a loan, is highest in Djibouti, the West Bank and Gaza, and Egypt. These figures largely drive the share of unconstrained firms in these economies. At the other end of the spectrum are Tunisia and Lebanon, suggesting that firms in these economies do generally see bank finance as an option. In Morocco, a particularly low share of discouraged firms mirrors the high prevalence of bank financing of firms.

WHAT EXPLAINS THE "DISCONNECT" BETWEEN FIRMS AND THE BANKING SECTOR AND WHAT ARE THE CONSEQUENCES?

Firm-bank disconnectedness reflects a number of different factors and may lead to lost growth opportunities

Firms in economies where there are lower levels of credit to the private sector relative to GDP—such as Djibouti, Egypt, and the West Bank and Gaza—tend to have a higher percentage of firms disconnected from the financial sector. It may be that the prevailing banking systems have led firms to adjust their expectations and production strategies to an environment in which they do not consider banks as an option. It is plausible that some of these firms would engage with the formal financial sector by applying for loans if the banking system were more attuned to their needs.

In some regards, disconnected firms resemble credit-constrained firms more closely than firms with a successful loan application. Both disconnected and credit-constrained firms are significantly less likely to invest and less likely to have expansion plans. The major difference is that disconnected firms are content with their situation whereas credit-constrained firms are not (table A3.2). Indeed, the propensity to view access to finance as a major constraint

is much lower for disconnected firms than for credit-constrained firms and firms that obtained a loan.[21]

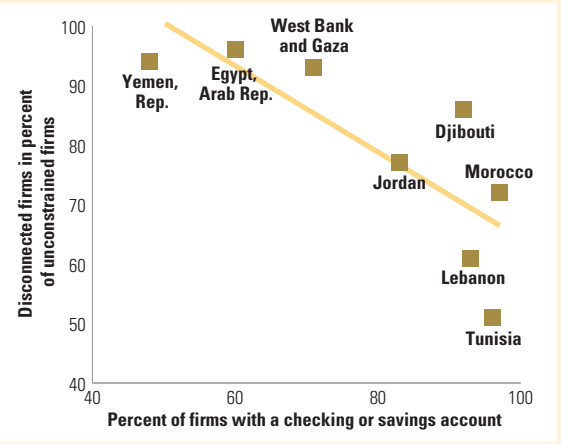
For manufacturing firms, it is possible to examine how the propensity to invest changes with capacity utilization. Disconnected firms with above median capacity utilization have a propensity to invest that is 22 percentage points lower than firms that obtained a loan. The corresponding difference for firms with below median capacity utilization is zero. Thus, disconnected firms are less likely to invest, especially when they are doing well, and they may well be forgoing growth opportunities (table A3.3).

It is possible that firms may also disconnect because of limited growth opportunities. Firms that had no intentions of investing during the fiscal year 2012, the reference period of the survey, may have had no need to apply for a loan. This could be a likely scenario given the political situation in some economies of the region. But the high prevalence of disconnected firms across the region makes it difficult to claim that this reflects just idiosyncratic variation in project timing.

Similarly, it is unlikely that the macroeconomic environment is fully responsible for the larger share of disconnected firms. It could be argued that lack of demand for loans is a consequence of the downturn that most of the MENA ES economies experienced following the events of 2011. While a downturn may explain the lack of demand for investment finance, it does not necessarily explain the lack of demand for working capital. In fact, the demand for working capital may increase to bridge temporary liquidity problems. Furthermore, there is considerable variation in the proportion of disconnected firms across the MENA ES region even though there is little variation in the macroeconomic environment, which was consistently difficult in most economies.

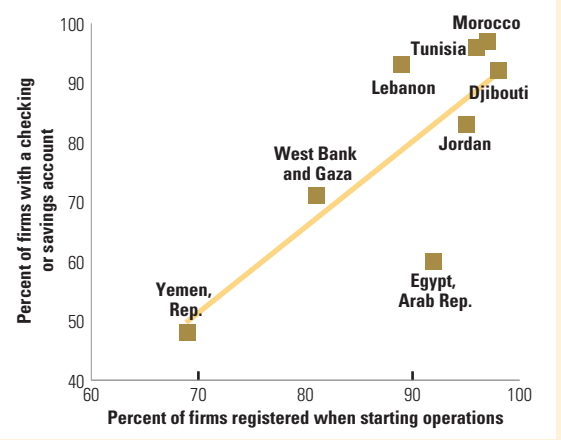
Disconnected firms are also less likely to use banks for cash-flow management and payment services. It turns out that the share of firms with a bank account is lowest in the Republic of Yemen, where only 48 percent of firms in the formal sector have a bank account, followed by Egypt and the West Bank and Gaza. These economies also have the highest share of disconnected firms as a proportion of not credit-constrained firms, which exceeds 90 percent in all three economies (figure 3.6). The fact that a substantial share of the private sector in these economies does not even use banks for cash-flow management and payment services supports the notion that these firms are indeed opting out of the banking system.

FIGURE 3.6: Firms' disconnect from the banking sector concerns both credit and the use of payment services



Source: Enterprise Surveys.

FIGURE 3.7: Checking or saving accounts are more prevalent in economies where a larger share of firms were registered when starting operations



Source: Enterprise Surveys.

Firms that were not registered when starting operations are less likely to have a checking or savings account (figure 3.7). The share of firms that were not registered when starting operations is likely to be higher in economies with a larger informal sector. It is therefore likely that the propensity of firms to disconnect from the banking system also depends on the costs and benefits of participating in

the formal economy. This association is consistent with anecdotal evidence from Egypt, according to which the Egyptians themselves characterize their economy as a cash economy, and in line with the strong role typically ascribed to Egypt's informal sector.

Loan rejection rates are very low, while firms connected to the banking sector tend to be large and more likely to have audited financial reports

One salient result emerging from the MENA ES data is the small share of rejected loan applications. Thus, most of the firms that decide to apply for a loan are successful. As figure 3.8 shows, the rate of rejection of loan applications per firm varies from zero percent in Djibouti to three percent in Tunisia. This seems to indicate that the private sector in the MENA ES economies is divided into two sets of firms. On the one hand, there is a large set of disconnected firms that have adjusted to operate without financing options from financial markets; on the other hand, there is a smaller set of firms—with the exception of Tunisia—that is linked to financial markets and is able to raise funds through credit from financial organizations. In between these two sets are the discouraged firms.

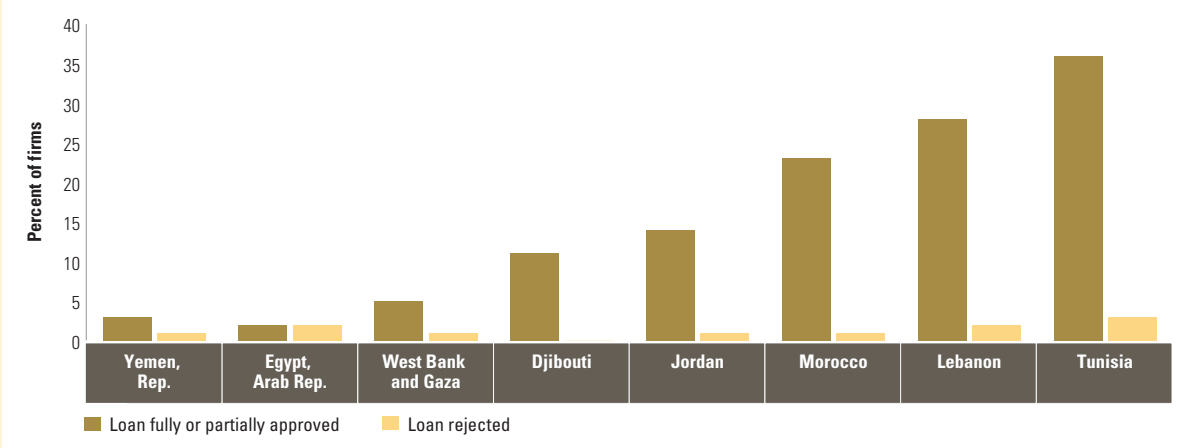
Firms in the MENA ES region that have a loan or line of credit differ significantly from those that do not (table A3.4). SMEs are less likely than large firms to have a loan or a line of credit. Firms that have audited financial reports are also more likely to have a loan or a line of credit than those that do not. This is to be expected given that audited financial reports reduce informational asymmetries, or alternatively signal better-managed firms.[22] Both relationships vary with the depth of the banking sector. It is only in economies with deep banking sectors—Jordan, Lebanon, Morocco, and Tunisia—that the relationship between access to credit and both firm size and audited financial reports applies. For economies in the MENA ES with lower levels of financial deepening—Djibouti, Egypt, and the Republic of Yemen—these relationships are not statistically significant.

The absence of an association between firm size and access to credit in economies lacking depth in the financial sector is probably due to a very small overall share of firms with a bank loan or line of credit. The lack of significance of financial reports may be the result of banks attaching little importance to screening borrowers in economies lacking financial depth.

The availability and type of collateral can play an important role in facilitating access to credit

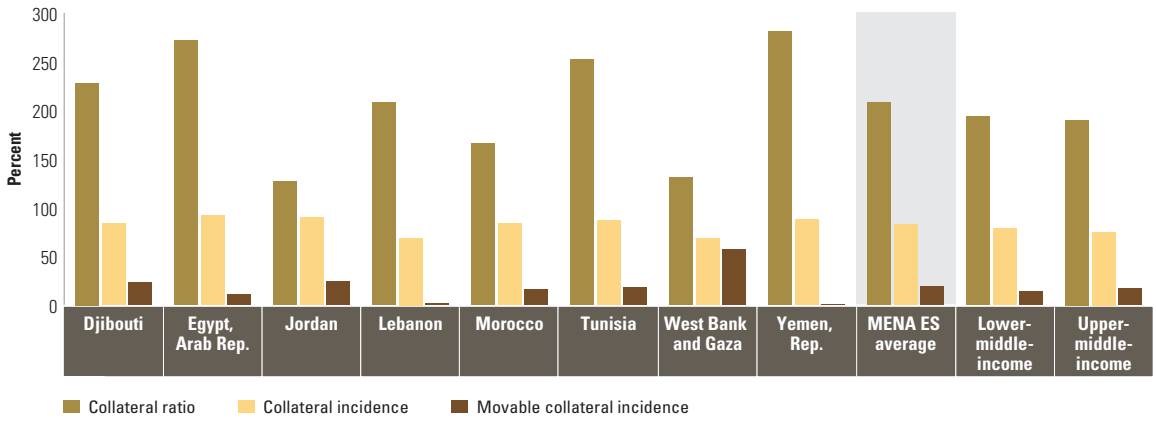
One important aspect of the financial sector that may influence the connectivity with the private sector is the use of collateral. Collateral can facilitate lending when banks face a risky operating environment dominated by opaque firms—that is, firms for which information is difficult to obtain and costly to process. Collateral serves to reduce the risk faced by lenders as losses are recoverable

FIGURE 3.8: Loan applications are rarely rejected



Source: Enterprise Surveys.

FIGURE 3.9: Collateral requirements in the MENA ES economies are comparable to peer economies



Source: Enterprise Surveys.
Note: The collateral ratio is the average ratio of the value of the collateral to the value of the loan at disbursement. Collateral incidence is the share of outstanding loans that are collateralized (with any form of underlying asset, namely real estate, land, movable assets, etc.). Finally, movable collateral incidence is the share of collateralized loans where either machinery and equipment or receivables were pledged as collateral.

through collateral in cases of default. Collateral also increases the incentives for borrowers to repay given the consequences of losing the collateral in case of default. It further mitigates informational asymmetries, as information on the quality of the collateral can substitute for borrower information. Consequently, it has been shown that loans secured by collateral tend to have much more favorable terms—higher loan volumes, longer repayment periods and lower interest rates—than unsecured loans.[23]

Collateralized lending also has drawbacks as collateral requirements can affect the allocation of credit. The availability of assets that can be pledged can become a binding constraint on access to credit when loans need to be collateralized. Secured lending also favors investment in assets that can be pledged as collateral, and thus tilts production toward capital-intensive strategies. As the vast majority of firms' assets are movable, a collateral regime that allows for movable assets tends to facilitate financial access.[24] Movable assets, such as machinery, equipment, or receivables, account for 78 percent of the capital stock of firms in developing economies.[25] But banks have shown reluctance to accept movable assets as collateral and prefer land or real estate instead. Several metrics of collateral use in the MENA ES economies are presented in figure 3.9.

The MENA ES economies have both collateral ratios (the value of collateral to the value of the loan) and collateral incidence (the share of collateralized loans) above the averages for lower-middle-income and upper-middle-income economies. Higher collateral ratios are often required by banks to compensate for costly and long processes to foreclose collateral, while a high overall collateral incidence reflects systems based on relatively prudent and conservative lending practices. Collateral ratios in particular differ widely across economies with the average collateral ratio in Egypt more than twice the level observed in Jordan.

As movable assets represent a substantial share of firms' assets, collateral practices allowing the posting of machinery, equipment, or receivables to secure a loan can be considered business-friendly. The high regional average is driven by West Bank and Gaza where weak land property rights prevent the use of real estate assets as collateral. In fact, a large share of land in the West Bank is simply not registered. Without West Bank and Gaza the regional average is much closer to the average for lower-middle-income economies. At 24 percent, Jordan has the second highest share of loans secured by movable collateral. In contrast, Lebanon and the Republic of Yemen have only 2 and respectively 1 percent of loans secured by movable collateral.

It should be noted, however, that in the MENA region movable assets are often used as secondary collateral, in addition to real estate.[27] Owing to uncertain foreclosure outcomes, banks may ask to complement real estate collateral with more liquid assets. In this case, the relevant measure to assess the tightness of the collateral requirement is the overall collateral ratio.

Firms are more likely to disconnect from the banking system when faced with stringent collateral practices

The collateral regime affects firms' propensity to disconnect from the banking system. Table A3.5 presents the results of an analysis that explains the propensity of a firm to disconnect with the prevailing collateral standards required by banks located in the area where the firm operates. The approach addresses potential reverse causality (from poor firm quality to stringent collateral requirements) by obtaining an estimate of collateral requirements cleansed of client firm characteristics. For a more detailed description of the methodology, see box 3.2.

The analysis shows that young and old firms respond differently to the collateral standards prevalent in the area where they operate. Young firms are less likely to disconnect from the banking system when they are located in an area where the value of required collateral is low relative to the volume of the loan.[28] This may be a reflection of the fact that young firms more frequently experience lack of assets to be pledged as collateral as a binding constraint. Older firms, which over time have been able to accumulate assets, are in a better position to pledge them as collateral.

Firms located in areas where banks accept movable assets as collateral are less likely to disconnect from the banking system. This applies to both young and old firms. Again, this result holds after accounting for other potential determinants of being disconnected (table A3.6).[29]

When firms differ in their ability to meet collateral requirements such requirements can affect the allocation of credit. Box 3.2 goes one step further and links collateral

BOX 3.2: The case of collateral practices for employment growth[a]

Empirical evidence has highlighted the central role of young firms for job creation.[b] There is some debate about whether employment growth is driven by market entry itself or the expansion of existing firms. Earlier work emphasizes the importance of the fast expansion of firms in early stages of their life cycle in the United States compared with slow expansion in Mexico and no expansion in India.[c] This suggests that insufficient job creation could partly be explained by firms' limited ability to expand in early stages of their life cycle.

What can unlock firms' ability to expand?

The availability and cost of external finance is one of the factors that affect the ability of a business to expand.[d] Furthermore firms in different stages of their lifecycle face different external financing environments.[e] Empirical evidence indicates that due to their opacity and the limited availability of assets that can be pledged as collateral, young firms face a larger wedge between the cost of internal and external finance that makes external finance less attractive.[f]

In the MENA ES economies, banks rely extensively on collateralized lending. About 83 percent of loans require some type of collateral with an average value exceeding twice the loan amount. While these requirements are certainly demanding, collateral can facilitate lending when information asymmetries are salient and therefore banks face high credit risk. But collateralized lending can also bring about problems if only a small fraction of firms' assets can be pledged as collateral. As machinery, equipment, and tradables account for most of firms' assets, banking practices allowing movable property as collateral might help. But financial institutions may be reluctant to accept movable property as collateral if they lack the creditor protection that comes with a modern secured transaction regime that encompasses movable property.

The MENA ES provides a unique source of information to investigate the extent to which financing constraints generated through the collateral channel restricts firms' ability to expand and create new jobs. Simply documenting the association between collateral posted by the firm, access to finance, and employment growth is not enough. The central methodological problem that the research design needs to address is reverse causality. Do stringent collateral requirement lead firms to grow slower or do banks require more collateral from slow-growing firms? Both channels are plausible and both imply a negative association between collateral requirements, access to finance, and employment growth.

(continued on next page)

To address the reverse causality problem, the analysis needs to be based on a measure of collateral requirements that is not affected by the characteristics of the specific firm. In practice this measure is derived through a two-stage procedure. The first stage recovers each bank's collateral policies. In the second stage, the estimated collateral policies are aggregated into collateral indices, reflecting market conditions applied by banks in the area where the firm is located.

The MENA ES provides information on the identity of the bank that granted the last loan or line of credit to the firm. This information is used to identify borrower-lender linkages. Single banks' collateral policies are then defined as the average conditional collateral requirement for *all* clients of that specific bank and can be recovered through a regression of the collateral requirement on firm characteristics and a bank-specific parameter.[g] The bank-specific parameter represents the collateral policy, while the firm-level explanatory variables account for firm features that may affect the collateral requirement. Data on the location of bank branches and the firms are then used to obtain a representation of the collateral requirements prevalent in the specific market where the firm is located. This idea is implemented by averaging the estimated collateral policies of all banks that have branches in a circle within a radius of 10km centered on the sample firm. This index is branch-weighted, thus banks that have more branches in the circle receive greater weight in the index.

In practice two collateral indices are constructed to represent different aspects of the collateral environment. The first index tracks the ratio of collateral to loan value (the collateral ratio index), whereas the second index measures the share of collateralized loans where either machinery and equipment or receivables were pledged as collateral (the movable collateral index). The collateral ratio index is given by the negative of the average collateral ratio applied by branches of banks located in the area close to the firm. As it is the negative of the collateral value to the value of the loan, higher values imply lower collateral ratios. The movable collateral index measures the weighted share of branches of banks willing to lend against movable collateral in the area and varies between zero and one. Thus, if banks that are more likely to accept movable collateral have a larger share of branches close to the firm, this will be represented by a higher score of the corresponding movable collateral environment index.

The collateral index is then used to explain firms' employment growth. Table A3.7 shows that firms create more jobs when they are young—under 5 years old. The results also show that these young firms have higher employment growth if they are located in areas where banks with less stringent collateral policies have a stronger presence. Table A3.8 presents results on movable collateral. The regressions indicate that firms' ability to expand diminishes if they are located in areas with a stronger presence of banks less likely to accept movable assets as collateral. This result applies both to young and old firms. The analysis thus provides evidence that collateral practices, by influencing firms' financial choices and options, influence employment creation.

---

a Based on Betz and Ravasan (2015).

b http://www.oecd.org/sti/Flyer_DynEmp.pdf, Haltiwanger and others (2013), Schiffbauer and others (2015), Anyadike-Danes and others (2013), Ayyagari and others (2011), Birch (1979, 1981, and 1987).

c Hsieh and Klenow (2012).

d See Binks and Ennew (1996a) and Oliveira and Fortunato (2006) for empirical evidence, and Clementi and Hopenhayn (2006) for a theoretical exposition.

e This literature is known as financial growth cycle paradigm.

f Schiantarelli (1996), Hubbard (1998).

g Technically the bank-specific parameter is a fixed effect.

requirements to economic performance. It turns out that firms located in areas where stringent collateral practices are dominant have lower employment growth on average.

BANKING SECTOR COMPETITION AND FIRM ACCESS TO CREDIT

The section examines the relationship between some specific characteristics of the banking system and the ability of firms to access credit.[30] Two features of the banking sector are explored: the density of bank branches; and banks' net interest margin, considered as a measure of profitability of banks traditional intermediation activities. While the analysis is far from exhaustive, both features are relevant, as they help to shed some light on the relationship between banking sector competition and firms' access to finance.

A denser network of bank branches is associated with greater access to credit

Branches serve an important role in relationships between borrowers and lenders. These relationships are important to facilitate better access to credit. But banks consider several factors when deciding whether to increase the number of branches. At one extreme, they have the option of branchless banking, which in recent years has received a lot of attention from both market participants and international financial institutions.[31] Branchless banking is attractive given that branches are expensive and require a minimum level of economic activity close to the location to be viable.

In the MENA ES economies,[32] however, a denser network of bank branches is associated with greater access to credit by firms. Firms are more likely to have a loan or line of credit outstanding if they are located in areas with higher branch density (table A3.9).[33] A concern with this finding is that it may be that branches choose to locate in areas of high population density—and therefore high economic activity—where firms are more likely to demand credit. But the positive association between branch density and access to credit holds after accounting for the effects of population density.

High bank profit margins may deter access to credit

The MENA ES data show that profit margins may be negatively associated with access to credit. Firms located in regions where banks earn higher net interest margins are less likely to have a bank loan than firms in regions where banks earn lower margins.[34] This finding holds after accounting for several other factors that could also explain the result, such as firm size, age, sector of activity, owner and manager characteristics, and level of engagement of the firm in trade and with the real economy (table A3.9). This result is consistent with the literature that finds high interest margins to be impediments to financial access.[35]

The literature provides several potential explanations for high interest margins: information asymmetries between lenders and borrowers, high fixed costs for banks, macroeconomic factors,[36] and monopoly rents from lack of competition in the banking sector.[37] Information asymmetries make it difficult for a bank to assess borrowers' creditworthiness effectively, leading to higher lending rates and also credit rationing.[38] High margins can also be due to high fixed costs as a side-effect of a small financial system. Running a bank involves fixed costs that arise, for example, from the necessity to develop and sustain a branch network or IT infrastructure. If these fixed costs are borne by a small number of clients bank lending will be more expensive.

High interest margins can also be driven by the macroeconomic environment; inflation can affect margins if changes in monetary policy affect lending and deposit rates at different speeds. In addition, the creditworthiness of borrowers varies over the business cycle and can likewise affect lending rates. Finally, monopoly rents can lead to high interest margins in the absence of competitive forces to drive down the margins.

In the present context, it seems likely that elevated interest margins result from lack of competition among banks in the MENA ES region. The institutional and macroeconomic factors do not vary within economies and therefore they cannot explain the observed variation of interest margins within an economy. Most banks operate in one economy and thus rely on the local market to cover their fixed costs. Furthermore, monetary policy is set at the national level.

Previous studies indicate that banking markets in the MENA region are less competitive than in other regions of the world.[39] Lack of competition in the banking sector is attributed to a poor credit information environment and lack of market contestability. Additional findings from the MENA ES support this explanation: using the return on average assets as an alternative measure of profit margins provides consistent results (table A3.9). Firms located in areas where banks with high returns on assets have a strong presence are less likely to have a bank loan or line of credit.

POLICY CONCLUSIONS

This chapter highlights that in most MENA ES economies, a substantial share of the private sector does not use banks but chooses to remain disconnected from the financial sector. This may be seriously undermining the potential for growth of the private sector. The chapter also provides evidence that financial exclusion carries costs in terms of

forgone employment growth. Such costs are particularly high in societies plagued by persistent underemployment. While such financial exclusion may be caused by both demand and supply factors, it clearly represents a sub-optimal outcome. The chapter also highlights potential pathways to re-connect firms with the financial system.

More bank competition and lower government funding needs are likely to have a positive effect on access to finance. The first section shows that the MENA ES region stands out for the high level of credit to governments and state-owned enterprises. Governments can offer more attractive risk-adjusted returns than private sector borrowers, crowding out the marginal private sector borrowers. Following the popular protests of 2011, governments have increased spending to maintain economic activity as well as social cohesion. In Egypt, for example, claims on the public sector increased from 27 percent of GDP in 2010 to above 50 percent in 2015. The expansionary policies have strained fiscal buffers, leaving few alternatives to fiscal consolidation, which is likely to undo some of the crowding-out observed in recent years.

Programs aimed at strengthening banks' capacity to assess credit risk should accompany a shift in the regulatory stance toward increased competition. Improvements in financial access should not come at the expense of financial stability. The institutional framework therefore needs to be adapted so that competition does not lead to irresponsible lending practices.[40] Capacity-building measures could help banks interested in entering the SME segment to avoid pitfalls. Such programs may also lower potential resistance to reform from incumbents, as they will be in a better position to cope with the challenges that increased competition entails.

Governments and donors can support capacity-building measures that increase banks' screening capacity and the supply of bankable firms. Such measures should aim to make SMEs less opaque and thus reduce the information asymmetries that plague lending to them. In practice, this may involve helping entrepreneurs develop a business plan or define an organizational structure.[41] A limitation of such programs is that they are typically bound to be small relative to the size of the economy.

Credit guarantee schemes can be an alternative mechanism to alleviate collateral constraints.[42] But the ability of guarantee schemes to foster financial inclusion hinges critically on operational design. In particular, incentives between lender, borrower, and guarantor need to be aligned.[43] In principle, collateral and guarantees can be used on the same loan. Putting up collateral reduces the borrower's incentives to default. If, however, guarantees simply provide back-up protection for collateralized loans, they no longer contribute to financial inclusion. It is therefore crucial that contractual mechanisms governing the level of collateralization prevent this scenario. A modern secured transactions framework is likely to increase the appeal of bank finance. The second section shows how a rigid collateral regime can induce firms to disconnect from the banking system. The MENA ES economies have for many years scored poorly on the legal rights index of *Doing Business*, and earlier work by the World Bank[44] highlights the benefits of a modern secured transactions law and an efficient collateral registry. While it is understandable that policy makers have prioritized other issues, there should now be scope to tackle secured transaction reform, at least in those jurisdictions that experience a return to political stability.

The chapter also shows that access to finance suffers in regions where banks with high interest margins have a stronger presence. This is consistent with earlier work finding that competition between banks is weaker than in other regions.[45] Banks' market power has been attributed to a lack of market contestability: indeed, the region has the highest share of rejected applications for bank licenses among emerging economies.

Increased competition could provide incentives for banks to seek out new market segments such as SME lending.[46] SME lending may not be attractive for banks focusing on corporates as long as the appropriate organizational structure is not in place. Competition, however, could promote organizational and procedural change, and thereby facilitate access to finance. Thus, bank regulators may want to take account of the competitive landscape when evaluating applications for a banking license.

The association between the share of firms with a checking or savings account and the share of firms that were registered when they started their operations suggests

that the banking sector disconnect is also associated with the perceived costs and benefits of formalization. Informal firms may economize on taxes, but informality also implies opportunity costs in terms of forgone growth. Addressing informality, however, is beyond the scope of this report.

Endnotes

1 Creane and others (2004).

2 An extensive empirical literature provides country-level, industry-level and firm-level evidence to show that financial development is conducive to economic growth, see Levine (1997), Levine (1998) and Levine and others (2000).

3 World Bank (2011).

4 IMF (2014, 2015a), http://blog.blominvestbank.com/wp-content/uploads/2014/10/The-banking-sector-in-Lebanon.pdf.

5 ESCWA (2014).

6 Yu and others (2014).

7 World Bank (2011).

8 World Bank (2011).

9 Gray and others (2014).

10 Herrera and others (2013), Gray and others (2014).

11 IMF (2015b).

12 Owing to lack of data, the average does not take into account Lebanon and the West Bank and Gaza.

13 Gray and others (2014).

14 AMF and EBRD (2015), Gray and others (2014), IMF (2013).

15 World Bank (2011).

16 World Bank (2011).

17 With the exception of the Republic of Yemen, Islamic banks have only a small presence in the MENA ES economies. Therefore the survey makes no effort to distinguish Islamic banks from banks and non-bank financial institutions.

18 The results closely resemble those that would be obtained from a simpler measure that classifies as credit-constrained those firms that had their loan application rejected or were discouraged from applying in the first place; see, for example, Popov and Udell (2012).

19 While the MENA ES allows for the measurement of the degree of credit constraint by loan outcomes, for older surveys this information is not available. Thus the outcome of the loan is approximated by whether or not the firm has a loan outstanding.

20 These findings are significant after accounting for firm size, age and sector of activity.

21 These findings hold after accounting for various firm characteristics such as firm size, age, sector of activity, exporting status, as well as owner and manager characteristics.

22 This pattern holds after accounting for other factors such as firm sector of activity, firm age, and attributes of ownership.

23 World Bank (2006).

24 Alvarez de la Campa (2011), Love and others (2015).

25 World Bank (2006).

26 Collateral can be enforced in zone A of the West Bank only, which substantially constrains lending.

27 Alvarez de la Campa (2011).

28 These results hold after accounting for other potential determinants of firms being disconnected.

29 This finding is likely to understate the full benefits of adopting a modern secured transaction framework as they are based on the observed behavioral variation under the existing regimes. It is likely that structural changes to a secured transaction regime would bring additional benefits not accounted for in this analysis.

30 Similar to the approach outlined in box 2.2 the methodology uses data on the location of firms and bank branches to construct branch weighted measures of banking system properties at the subnational level and relate them to credit outcomes at the level of the firm. This within-economy design has the advantage of removing potential confounding factors at the economy level. Confounders are variables that are correlated with the explanatory variable of interest and the outcome. Economies differ in so many dimensions that it is impossible to statistically remove all possible confounding factors. The within-economy approach circumvents this problem by effectively comparing only entities within the same economy.

31 EIB (2014a).

32 Owing to lack of data on the location of bank branches, the analysis does not take into account Djibouti and the Republic of Yemen.

33 This finding stands after accounting for several factors such as firm size, age, sector, and owner characteristics.

34 Bank profit margins are proxied by the net interest margin defined as interest income minus interest expense expressed as a percentage of interest earning assets.

35 Brock and Rojas-Suarez (2000), Beck and Hesse (2009).

36 Beck and Hesse (2009).

37 Anzoategui and others (2010).

38 Stiglitz and Weiss (1981).

39 Anzoategui and others (2010).

40 Economic theory makes conflicting predictions on the relationship between bank competition and financial

stability. According to the "competition-fragility" view, increased competition erodes the charter value of banks (Keeley, 1990). Intense completion between banks leads to excessive risk taking. The quality of the loan portfolio deteriorates with the quality of the marginal borrower, increasing financial stability. According to the "competition-stability" view, market power leads to high interest rates, which triggers excessive risk taking on the side of borrowers (Boyd and de Nicoló, 2005). The evidence in Beck and others (2013) suggests that the trade-off between competition and financial stability depends on country-specific characteristics.

41 McKenzie (2015).

42 See, for example, EIB (2014b).

43 EIB (2014a).

44 World Bank (2011).

45 Anzoategui and others (2010).

46 According to standard economic theory, market power leads to reduced supply at higher cost. In the presence of asymmetric information, on the other hand, banks with market power have greater incentives to establish relationships with young or distressed firms by shifting interest payments into the future (Petersen and Rajan, 1995). In a cross country setting, Beck and others (2004) find that firms in countries with low levels of economic and institutional development perceive access to finance as a greater obstacle when banking markets are concentrated.

APPENDIX A3

TABLE A3.1: Credit constraints and firm performance

Dependent variable: credit constrained (FCC, PCC - Y/N)	Probit (marginal effects)		
	(1)	(2)	(3)
Annual employment growth (%)	-0.46***		
	(0.104)		
Capacity utilization (%)		-0.21**	
		(0.091)	
Log of sales per worker (USD)			-0.03***
			(0.012)
Log of size, 2010	-0.09***		
	(0.016)		
Log of size		-0.09***	-0.08***
		(0.020)	(0.014)
Young firms: 0-5 years (Y/N)	0.05	0.07	0.05
	(0.050)	(0.065)	(0.038)
Firm is part of a larger firm (Y/N)	0.12***	-0.02	0.13***
	(0.039)	(0.074)	(0.038)
Manager has university education (Y/N)	-0.04	-0.04	-0.02
	(0.036)	(0.057)	(0.035)
Manager experience in sector (years)	-0.00	0.00	-0.00
	(0.002)	(0.002)	(0.002)
Exports 10% or more of sales (Y/N)	-0.01	0.06	-0.03
	(0.044)	(0.063)	(0.042)
Foreign ownership (Y/N)	0.01	-0.06	0.02
	(0.061)	(0.069)	(0.058)
Number of observations	4,715	2,760	4,772

Source: Enterprise Surveys.
Note: Marginal effects from probit regression using survey-weighted observations (Stata's svy prefix). Standard errors are reported in parentheses below the coefficient. The dependent variable is the credit-constraint indicator described in box 3.1. All specifications consider a firms as credit constrained if it is either partially or fully credit constrained and include both economy and sector fixed effects. Capacity utilization is defined only for manufacturing firms. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively.

TABLE A3.2: Characteristics of disconnected firms

Dependent variable	Probit (marginal effects)		
	(1)	(2)	(3)
	Investment—purchased fixed assets (Y/N)	Plans to increase size of establish-ment (Y/N)	Access to finance: major or severe obstacle (Y/N)
Disconnected (no need for a loan due to sufficient funds - Y/N)	-0.16***	-0.10**	-0.12***
	(0.041)	(0.042)	(0.044)
Credit constrained (FCC, PCC) (Y/N)	-0.19***	-0.17***	0.15***
	(0.041)	(0.063)	(0.054)
Wald test: disconnected = credit constrained	1.17	2.63	43.25***
P-value	0.280	0.105	0.000
Number of observations	5,403	5,316	5,394

Source: Enterprise Surveys.
Note: Marginal effects from probit regression using survey-weighted observations (Stata's svy prefix). Other control variables included but not reported include size, age, manager education, manager experience in the sector, exporting status, gender of the owner, foreign ownership, multi-establishment firm and legal status. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively.

TABLE A3.3: Investment and capacity utilization

Dependent variable	(1)
	Investment—purchased fixed assets (Y/N)
Disconnected (no need for a loan due to sufficient funds—Y/N)	-0.02
	(0.958)
Above median capacity utilization (Y/N)	0.43
	(0.180)
Disconnected * above median capacity utilization	-0.64*
	(0.080)
	Marginal effects of interaction
Disconnected | above median capacity utilization = 0	0.00
	(0.095)
Disconnected | above median capacity utilization = 1	-0.22
	(0.094)
P-value of the difference	0.087*
Number of observations	2,202

Source: Enterprise Surveys.
Note: Coefficient estimates and marginal effects from Probit regression using survey-weighted observations (Stata's svy prefix). The marginal effects show the difference in the probability to invest relative to firms that obtained a loan condition on the state of capacity utilization. Capacity utilization is defined only for manufacturing firms. Control variables included but not reported include size, age, manager education, manager experience in the sector, exporting status, gender of the owner, foreign ownership, multi-establishment firm and legal status. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively.

TABLE A3.4: Probability of having a loan or line of credit

	Probit (marginal effects)		
	(1)	(2)	(3)
Dependent variable: Firm has a loan or line of credit from a bank (Y/N)	All MENA ES	Djibouti, Egypt, West Bank and Gaza, Yemen	Jordan, Lebanon, Morocco, Tunisia
Young firms: 0-5 years (Y/N)	-0.08***	-0.06**	-0.09*
	(0.031)	(0.026)	(0.053)
Small and medium firms (less than 100 full time employees) (Y/N)	-0.10***	-0.06	-0.16***
	(0.037)	(0.050)	(0.047)
Female principal owner (Y/N)	0.04	-0.02	0.09**
	(0.029)	(0.031)	(0.043)
Foreign ownership (Y/N)	-0.05	-0.00	-0.10*
	(0.036)	(0.043)	(0.055)
External auditor reviewed financial statements (Y/N)	0.07***	-0.00	0.16***
	(0.025)	(0.024)	(0.042)
Shareholding company (Y/N)	0.07**	0.06	0.07
	(0.032)	(0.046)	(0.047)
Manager has university education (Y/N)	0.05**	0.05*	0.04
	(0.025)	(0.028)	(0.039)
Manager experience in sector (years)	0.00	0.00	0.00
	(0.001)	(0.001)	(0.002)
Exports 10% or more of sales (Y/N)	-0.00	-0.02	0.01
	(0.027)	(0.029)	(0.039)
Firm is part of a larger firm (Y:1 N:0)	0.07**	0.10**	0.03
	(0.034)	(0.042)	(0.048)
Number of observations	5,486	3,597	1,889

Source: Enterprise Surveys.
Note: Marginal effects from probit regression using survey-weighted observations (Stata's svy prefix). Standard errors are reported in parentheses below the coefficient. All regressions include economy and sector fixed effects. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively.

TABLE A3.5: Collateralized lending and the banking system disconnect

	Probit (marginal effects)		
	(1)	(2)	(3)
Dependent variable: Disconnect (no need for a loan due to sufficient funds—Y/N)	Full sample	Collateral environment based on loans only after 2005	Single firms or HQ of multi-establishment firms
Collateral Environment Index (higher values means less collateralization of loans)	0.00		
	(0.003)		
Collateral Environment Index * young firms (younger than five)	-0.01**		
	(0.005)		
Collateral Environment Index 2005 (based only on loans after 2005)		0.00	0.00
		(0.003)	(0.003)
Collateral Environment Index 2005 * young firms (younger than five)		-0.01*	-0.01*
		(0.005)	(0.005)
Young firms (younger than five) (Y/N)	-0.05	-0.04	-0.05
	(0.046)	(0.046)	(0.046)
Number of observations	4,855	4,855	4,054

Source: Enterprise Surveys.
Note: Marginal effects from probit regression using survey-weighted observations (Stata's svy prefix). Standard errors are reported in parentheses below the coefficient. The collateral ratio index is a branch-weighted average of the collateral policies of banks that have branches in a circle with radius 10km centered on the sample firm. The MENA ES has information on the identity of the bank that granted the last loan or line of credit. It is therefore possible to estimate banks' collateral policies as bank-specific effects in a fixed effect regression of the collateral ratio on firm characteristics (not shown). Other control variables included but not reported include size, manager education, exporting status, gender of the manager, foreign ownership, multi-establishment firms, having a website, having audited financial reports. Firms and banks from Djibouti and the Republic of Yemen are not part of the sample. For more details on the methodology see box 3.2. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively.

TABLE A3.6: Movable collateral and the banking system disconnect

	Probit (marginal effects)		
	(1)	(2)	(3)
Dependent variable: disconnect (no need for a loan due to sufficient funds—Y/N)	Full sample	Collateral environment based on loans only after 2005	Single firms or HQ of multi-establishment firms
Movable Collateral Environment Index (higher values means greater acceptance of movable collateral for loans)	-0.96**		
	(0.455)		
Movable Collateral Environment Index 2005 (based on loans after 2005)		-1.02*	-1.11**
		(0.525)	(0.528)
Young firms (younger than five) (Y/N)	-0.04	-0.04	-0.04
	(0.045)	(0.045)	(0.045)
Number of observations	4,855	4,855	4,625

Source: Enterprise Surveys.
Note: Marginal effects from probit regression using survey-weighted observations (Stata's svy prefix). Standard errors are reported in parentheses below the coefficient. The movable collateral index is a branch-weighted average of the collateral policies of banks that have branches in a circle with radius 10km centered on the sample firm. The MENA ES has information on the identity of the bank that granted the last loan or line of credit. It is therefore possible to estimate banks' collateral policies as bank-specific effects in a fixed effect regression of an indicator for movable collateral on firm characteristics (not shown). Other control variables included but not reported include size, manager education, exporting status, gender of the manager, foreign ownership, multi-establishment firms, having a website, having audited financial reports as well as economy and sector fixed effects. Firms and banks from Djibouti and the Republic of Yemen are not part of the sample. For more details on the methodology see box 3.2. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively.

TABLE A3.7: Collateralized lending and employment growth

	(1)	(2)	(3)
Dependent variable: employment growth	Full sample	Collateral environment based on loans only after 2005	Single firms or HQ of multi-establishment firms
Collateral Environment Index (higher values mean less collateralization of loans)	0.00		
	(0.002)		
Collateral Environment Index * young firms (younger than five)	0.01**		
	(0.005)		
Collateral Environment Index 2005 (based only on loans after 2005)		0.00	0.00
		(0.002)	(0.002)
Collateral Environment Index 2005 * young firms (younger than five)		0.01**	0.01**
		(0.005)	(0.005)
Young firms (younger than five) (Y/N)	0.13**	0.13**	0.13**
	(0.053)	(0.053)	(0.053)
Number of observations	4,256	4,256	4,054

Source: Enterprise Surveys.
Note: OLS using survey-weighted observations (Stata's svy prefix). Standard errors are reported in parentheses below the coefficient. The collateral ratio index is a branch-weighted average of the collateral policies of banks that have branches in a circle with radius 10km centered on the sample firm. The MENA ES has information on the identity of the bank that granted the last loan or line of credit. It is therefore possible to estimate banks' collateral policies as bank-specific fixed effects in a regression of collateral ratio on firm characteristics (not shown). Other control variables included but not reported include initial size (log), manager education, exporting status, gender of the manager, foreign ownership, multi-establishment firms, having a website, having audited financial reports and economy and sector fixed effects. Firms and banks from Djibouti and the Republic of Yemen are not part of the sample. For more details on the methodology see box 3.2. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively.

TABLE A3.8: Movable collateral and employment growth

Dependent variable: employment growth	(1) Full sample	(2) Collateral environment based on loans after 2005	(3) Single firms or HQ of multi-establishment firms
Movable Collateral Environment Index (higher values mean greater acceptance of movable collateral for loans)	0.66**		
	(0.312)		
Movable Collateral Environment Index 2005 (based on loans after 2005)		0.77**	0.83**
		(0.362)	(0.362)
Young firms (younger than five) (Y/N)	0.13**	0.13**	0.14**
	(0.054)	(0.054)	(0.054)
Number of observations	4,855	4,855	4,625

Source: Enterprise Surveys.
Note: OLS using survey-weighted observations (Stata's svy prefix). Standard errors are reported in parentheses below the coefficient. The movable collateral index is a branch-weighted average of the collateral policies of banks that have branches in a circle with radius 10km centered on the sample firm. The MENA ES has information on the identity of the bank that granted the last loan or line of credit. It is therefore possible to estimate banks' collateral policies as bank-specific effects in a fixed effect regression of an indicator for movable collateral on firm characteristics (not shown). Other control variables included but not reported include initial size (log), manager education, exporting status, gender of the manager, foreign ownership, multi-establishment firms, having a website, having audited financial reports. Firms and banks from Djibouti and the Republic of Yemen are not part of the sample. For more details on the methodology see box 3.2. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively.

TABLE A3.9: Probability of firms having a loan and characteristics of the banking system

Dependent variable: firm has a loan or line of credit from a bank (Y/N)	Probit (marginal effects) (1)	(2)	(3)
Log of bank branches per firm	0.09***		
	(0.003)		
Net interest margin, 2nd tercile		-0.03	
		(0.378)	
Net interest margin, 3rd tercile		-0.09***	
		(0.002)	
Return on assets, 2nd tercile			-0.03
			(0.274)
Return on assets, 3rd tercile			-0.06*
			(0.084)
Young firms: 0-5 years (Y/N)	-0.08**	-0.08**	-0.07*
	(0.030)	(0.042)	(0.058)
Small and medium firms (less than 100 full time employees) (Y/N)	-0.13***	-0.13***	-0.12***
	(0.001)	(0.000)	(0.001)
Female principal owner (Y/N)	0.04	0.05	0.05
	(0.178)	(0.164)	(0.127)
Foreign ownership (Y/N)	-0.07*	-0.06	-0.07
	(0.090)	(0.119)	(0.107)
Financial statement reviewed by external auditor (Y/N)	0.10***	0.11***	0.11***
	(0.000)	(0.000)	(0.000)
Shareholding firm (Y/N)	0.06*	0.06*	0.06*
	(0.095)	(0.088)	(0.087)
Manager education: university (Y/N)	0.03	0.03	0.04
	(0.310)	(0.307)	(0.164)
Years of experience of the top manager working in the firm's sector	0.00	0.00	0.00
	(0.228)	(0.296)	(0.275)
Exporter (Y/N)	-0.01	-0.01	0.00
	(0.706)	(0.765)	(0.928)
Firm is part of a larger firm (Y/N)	0.04	0.05	0.05
	(0.218)	(0.201)	(0.132)
Log of population density	-0.01	0.00	0.00
	(0.228)	(0.894)	(0.800)
Number of observations	5,155	5,155	5,155

Source: Enterprise Surveys, Bankscope.
Note: Marginal effects from Probit regression using survey-weighted observations (Stata's svy prefix). Branch density is given by the log of bank branches at the locality level divided by the number of sample firms in that locality. Net interest margin and return on assets are branch weighted averages at the locality level. The resulting distributions exhibit bunching at the country level. To generate sufficient within-country variation they are then split into terciles. Firms and banks from Djibouti and the Republic of Yemen are not part of the sample. Bank balance sheet data comes from Bureau van Dijk's Bankscope. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively.

REFERENCES

Alvarez de la Campa, Alejandro. 2011. "Increasing Access to Credit through Reforming Secured Transactions in the MENA Region." *Policy Research Working Paper* 5313, World Bank, Washington, DC.

Anyadike-Danes, Michael, Mark Hart, and Jun Du. 2013. "Firm dynamics and job creation in the UK." *ERC White Paper* 6.

Anzoategui, Diego, Maria Soledad Martínez Peria, and Roberto Rocha. 2011. "Bank Competition in the Middle East and North Africa." *Policy Research Working Paper* 5363, World Bank, Washington, DC.

Arab Monetary Fund and European Bank for Reconstruction and Development. 2015. Joint IFI Needs Assessment on Local Capital Market Development: Egypt—Jordan – Morocco—Tunisia. Abu Dhabi: Arab Monetary Fund and London: European Bank for Reconstruction and Development.

Ayyagari, Meghana, Asli Demirgüç-Kunt, and Vojislav Maksimovic. 2011. "Small vs. young firms across the world: contribution to employment, job creation, and growth." *World Bank Policy Research Working Paper* 5631.

Beck, Thorsten, Olivier De Jonghe, and Glenn Schepens. 2013. "Bank Competition and Stability: Cross-country heterogeneity." *Journal of Financial Intermediation* 22(2): 2018-244.

Beck, Thorsten, Asli Demirgüç-Kunt, and Vojislav Maksimovic. 2004. "Bank Competition and Access to Finance: International Evidence." *Journal of Money, Credit, and Banking* 36(3): 627-648.

Beck, Thorsten, Ross Levine, and Norman Loayza. 2000. "Finance and the sources of growth." *Journal of Financial Economics* 58: 261-300.

Beck, Thorsten, and Heiko Hesse. 2009. "Why are interest spreads so high in Uganda." *Journal of Development Economics* 88(2): 192-204.

Betz, Frank, and Farshad Ravasan. 2015. "Collateral regimes and missing job creation in the MENA region." Unpublished manuscript.

Birch, David GW. 1979. "The job generation process." MIT Program on Neighborhood and Regional Change.

———.1981. "Who Creates Jobs?" *Public Interest* 65(1), 3–14.

———. 1987. "Job creation in America: How our smallest companies put the most people to work." *University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship*.

Binks, Martin R., and Christine T. Ennew. 1996. "Growing firms and the credit constraint." *Small Business Economics* 8(1): 17-25.

Boyd, John, and Gianni de Nicoló. 2005. "The Theory of Bank Risk Taking Revisited." *Journal of Finance* 60 (3): 1329-1343.

Brock, Philip, and Liliana Rojas Suarez. 2000. "Understanding the behavior of bank spreads in Latin America." *Journal of Development Economics* 63: 113-34.

Clementi, Gian Luca, and Hugo A. Hopenhayn. 2006. "A theory of financing constraints and firm dynamics." *The Quarterly Journal of Economics* 121(1): 229-65.

Creane, Susan, Rishi Goyal, Ahmed Mushfiq Mobarak, and Randa Sab. 2004. "Evaluating Financial Sector Development in the Middle East and North Africa: New Methodology and Some New Results." Topics in Middle Eastern and North African Economies, Proceedings of the Middle East Economic Association, Vol. 6.

Economic and Social Commission for Western Asia. 2014. "Remittances to Lebanon: Economic Impact and the Role of Banks." Beirut: Economic and Social Commission for Western Asia.

European Investment Bank. 2014a. *Digital Financial Services in Africa: Beyond the Kenyan Success Story*. Luxembourg: European Investment Bank and UN Capital Development Fund.

European Investment Bank. 2014b. *Credit Guarantee Schemes for SME lending in Central, Eastern and South-Eastern Europe*. Luxembourg: European Investment Bank.

Gray, Simon, Philippe Karam, and Rima Turk. 2014. "Are banks really lazy? Evidence from Middle East and North Africa." *IMF Working Paper* WP/14/86.

Haltiwanger, John, Ron S. Jarmin, and Javier Miranda. 2013. "Who creates jobs? Small versus large versus young." *Review of Economics and Statistics* 95(2): 347-61.

Hsieh, Chang-Tai, and Peter J. Klenow. 2014. "The Life Cycle of Plants in India and Mexico." *The Quarterly Journal of Economics* 129(3): 1035-84.

Herrera, Santiago, Christophe Hurlin, and Chahir Zaki. 2013. "Why don't banks lend to Egypt's private sector?" *Economic Modelling* 33 (1): 347-56.

Hubbard, Glenn R. 1998. "Capital-market imperfections and investment." *Journal of Economic Literature* 36 (1): 193-225.

International Monetary Fund. 2013. Regional Economic Outlook Update, Middle East and Central Asia, World Economic and Financial Surveys, Washington D.C.

International Monetary Fund. 2014. Lebanon 2014 Article IV Consultation—Staff Report. Washington, DC: International Monetary Fund.

International Monetary Fund. 2015a. Lebanon 2015 Article IV Consultation—Staff Report. Washington, DC: International Monetary Fund.

International Monetary Fund. 2015b. Arab Republic of Egypt 2014 Article IV Consultation—Staff Report. Washington, DC: International Monetary Fund.

Keeley, Michael. 1990. "Deposit insurance, risk, and market power in banking." *American Economic Review* 80: 1183-1200.

Kuntchev, Veselin, Rita Ramalho, Jorge Rodríguez-Meza, and Judy S. Yang. 2014. "What Have We Learned from the Enterprise Survey Regarding Access to Finance by SMEs?" *Policy Research Working Paper* 6670, updated May 2014, World Bank, Washington, DC.

Levine, Ross. 1997. "Financial development and economic growth: views and agenda." *Journal of Economic Literature* 35(2): 688–726.

Levine, Ross. 1998. "The legal environment, banks and long-run economic growth." *Journal of Money Credit and Banking* 30 (3): 596-613.

Levine, Ross, Norman Loayza, and Thorsten Beck. 2000. "Financial intermediation and growth: causality and causes." *Journal of Monetary Economics* 46(1): 31–77.

Love, Inessa, Maria Soledad Martinez Peria, and Sandeep Singh. 2015. "Collateral Registries for Movable Assets: Does Their Introduction Spur Firms' Access to Bank Financing?" *Journal of Financial Services Research*, forthcoming DOI 10.1007/s10693-015-0213-2.

Oliveira, Blandina, and Adelino Fortunato. 2006. "Firm growth and liquidity constraints: A dynamic analysis." *Small Business Economics* 27(2): 139-56.

McKenzie, David J. 2015. Identifying and spurring high-growth entrepreneurship: experimental evidence from a business plan competition. *Policy Research working paper*; no. WPS 7391; Impact Evaluation series. Washington, D.C.: World Bank Group.

Perez-Quiros, Gabriel, and Allan Timmermann. 2000. "Firm size and cyclical variations in stock returns." *The Journal of Finance* 55(3): 1229-62.

Petersen, Mitchell and Raghuram Rajan. 1995. "The Effect of Credit Market Competition on Lending Relationships." *Quarterly Journal of Economics* 110(2): 407-443.

Popov, Alexander, and George Udell. 2012. "Cross-border banking, credit access, and the financial crisis." *Journal of International Economics* 87(1): 147-161

Schiantarelli, Fabio. 1996. "Financial constraints and investment: methodological issues and international evidence." *Oxford Review of Economic Policy* 12(2): 70-89.

Schiffbauer, Marc, Abdoulaye Sy, Sahar Hussain, Hania Sahnoun, and Philip Keefer. 2014. *Jobs or Privileges: Unleashing the employment potential of the Middle East and North Africa*. World Bank Publications.

Stiglitz, Joseph, and Andrew Weiss. 1981. "Credit Rationing in Markets with Imperfect Information." *American Economic Review* 71(3): 393-410.

World Bank. 2006. *Reforming Collateral Laws to Expand Access to Finance*. Washington, DC: World Bank.

World Bank. 2011. *Financial Access and Stability—A Roadmap for the Middle East and North Africa*. MENA Development Report. Washington, DC: World Bank.

World Bank. 2016. *Doing Business 2016: Measuring Regulatory Quality and Efficiency*. Washington, DC: World Bank.

Yu, Jung-Suk, M. Kabir Hassan, Abudllah Mamun, and Abul Hassan. 2014. "Financial Sectors Reform and Economic Growth in Morocco: An Empirical Analysis." *Journal of Emerging Market Finance* 13(1): 69–102.