4. JOBS AND SKILLS IN THE FORMAL PRIVATE SECTOR

INTRODUCTION

The importance of jobs in the MENA region can hardly be exaggerated. The region has been suffering from structural unemployment for years, with an unemployment rate averaging over 12 percent in the 1990s and 2000s, substantially higher than elsewhere in the world.1 While the economic performance of the region over the last two decades has been reasonably good, it has failed to keep pace with large increases in population and demand for jobs. A World Bank study from the early 2000s estimated that close to 6 million new jobs each year would be required to absorb new labor market entrants.2 But the MENA region was able to add only 3.2 million jobs per year during the 2000s.3

Recent developments, punctuated by downturns in growth following the Arab Uprisings, have made the situation more tenuous. Several governments in the region responded to this uncertainty by ramping up public expenditure, particularly on food and energy subsidies, resulting in government fiscal deficits of approximately 10 percent of GDP in Egypt, Jordan, Lebanon, Tunisia, and the Republic of Yemen.[4] Given the tight fiscal and budgetary situation, it is highly unlikely that the public sector—long a desired source of employment—alone will be able to create enough jobs in the coming years. The only solution to high unemployment rates lies with the development of a dynamic and competitive formal private sector.

Aside from overall job creation, employment opportunities for young people and women in the MENA region are important, not only for economic

reasons, but also for social and political ones. Women's participation in the labor market in the region is one of the lowest in the world; youth unemployment is one of the highest.[5] The youth unemployment rate neared 30 percent in the region in 2013, more than twice as high as the global average.[6] Failure to provide jobs for millions of people can lead to social unrest and political turmoil, as was evident during the Arab Uprisings. Along with the demand for more political inclusion, young people in particular took to the streets out of frustration with the lack of opportunities to put their skills and talents to productive use.[7] Creating these jobs remains a key challenge.

The formal private sector constitutes only a fraction of total employment in the MENA ES region, which is known for a high level of public sector employment and a large informal sector.[8] Precise estimates of the importance of the formal private sector for employment are difficult to obtain, but labor force and household surveys suggest that the share of private formal employment ranges from around 10 percent in Morocco and Egypt to 15 percent in Tunisia and 25 percent in Jordan. Public sector employment also ranges from just under 10 percent in the Republic of Yemen to more than 30 percent in Jordan.[9] At the same time, informality accounts for roughly 50 percent of non-agricultural sector employment. Given the limits of public sector employment creation and the typically low productivity and wages of the informal sector,[10] greater attention must be devoted to the role of the formal private sector in creating productive employment.

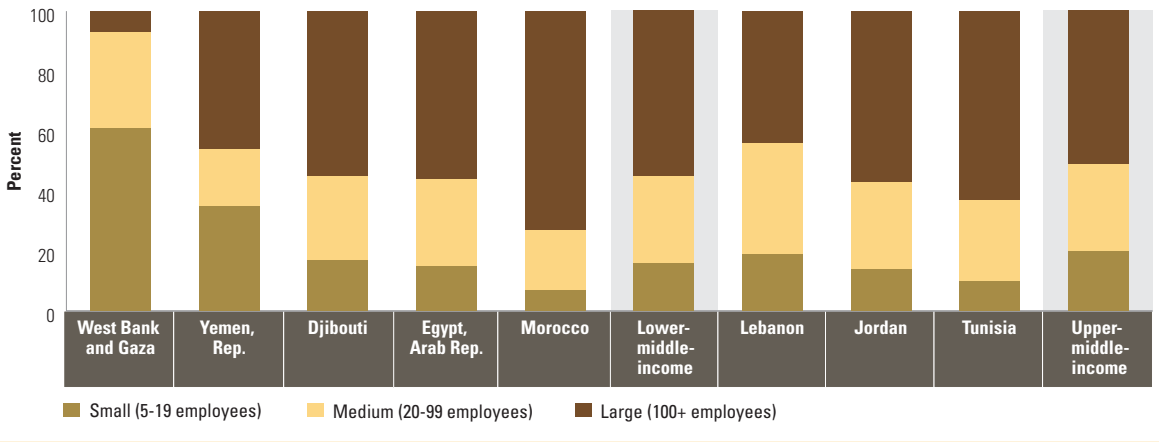
Despite its importance, there is little systematic research on the role of the formal private sector in providing employment in the MENA region. Lack of data is one reason. This chapter uses the MENA ES data to shed light on key issues, such as the share of jobs provided by different types of firms, women and youth employment, firm dynamism, and the relationship between employment, skills, and wages.

EMPLOYMENT IN THE FORMAL PRIVATE SECTOR

Larger firms provide the majority of formal private sector jobs in the MENA ES region

The MENA ES data provide a unique source of information on employment provided by different types of firms, combined with evidence on firm productivity. This will help policy makers to identify appropriate policies and actions for fostering job growth. A pattern that has been widely observed—particularly in developing economies—is that private sector jobs tend to be clustered in either a vast abundance of smaller firms or a handful of substantially larger ones.[11] In the MENA region, previous analysis has found that most jobs are in large firms.[12] In all MENA ES economies except the West Bank and Gaza, the largest share of private sector jobs is indeed in large firms (figure 4.1).[13]

FIGURE 4.1: The proportion of employment by firm size



Source: Enterprise Surveys.

The relatively small share of employment in small and medium-sized enterprises (SMEs) is notable, particularly given a strong policy focus on those firms as sources of gainful employment in the private sector. This share is not explained by a relative lack of SMEs: in the MENA ES economies, 96 percent of establishments have fewer than 100 employees. Rather, firms in the MENA ES economies tend to be smaller (with a handful of large firms being exceptionally large). Figure 4.2 shows the proportion of firms in ES economies below the median size of the same income group. In all economies except Morocco and Tunisia, the majority of MENA ES firms are smaller than the comparative median size (15 employees in lower-middle-income economies and 13 employees in upper-middle-income economies).

Put simply, firms in the MENA ES economies are smaller on average. Morocco and Tunisia have the smallest employment shares in SMEs; they are also the only two MENA ES economies with average firm size higher than in their peer economies. This distribution may have implications for overall productivity: although larger firms in the MENA ES economies tend to be more productive (as explained in chapter 2), they are rare. Less productive SMEs are abundant.

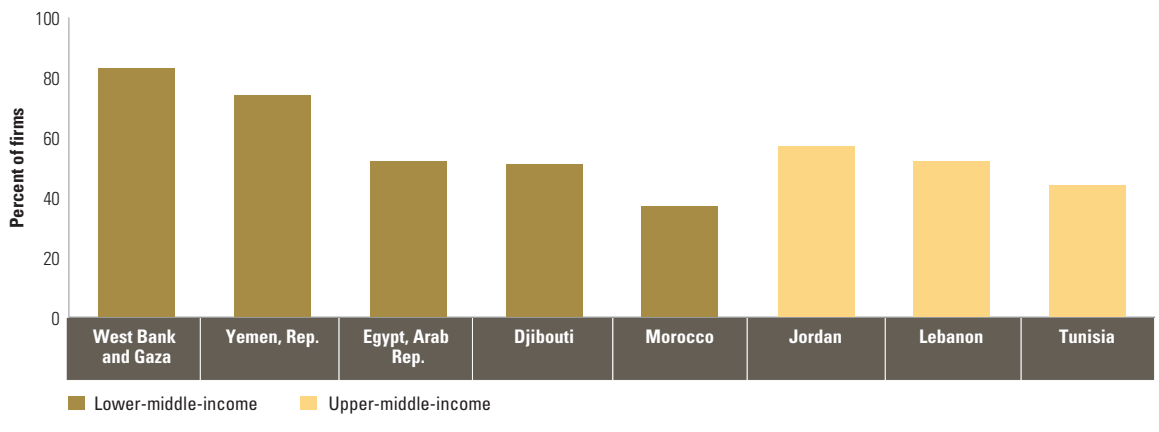
Firms older than 10 years provide three quarters of jobs

If small firms are in the early stages of their lifecycle, they may represent dynamic sectors and new sources of employment growth; but if firms do not grow in size over time, the large presence of small firms may be indicative of market distortions that hamper competition and obstruct the incentives or opportunities for firms to grow.[14] It is often argued that younger firms tend to be more dynamic, learn faster from mistakes, provide better quality jobs, and generate higher employment growth than their older counterparts.[15] Conversely, older firms may tend to have better political connections and enjoy protection from competitive forces, undermining economic dynamism.[16] One study concludes that the latter forces are more predominant in the MENA region.[17]

The dominance of older firms is borne out by the distribution of jobs between young and old firms in the MENA ES economies. About three quarters of jobs are provided by firms that are more than 10 years old. The contribution of young firms to private sector employment stands out as particularly high in Djibouti, Egypt, and the West Bank and Gaza.[18] In contrast, in Lebanon, Tunisia, and the Republic of Yemen, older firms are the source of more jobs.

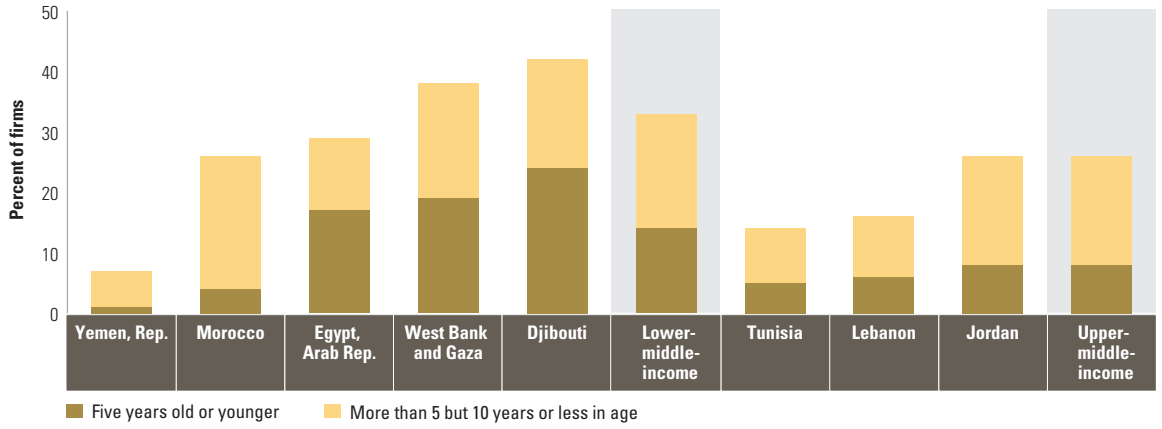
Firms in the MENA ES also tend to be older on average (table 4.1), which may be indicative of high barriers to entry for new firms.[19] A continual and efficient entry of new firms would necessarily lower the average age of firms, but this seems not to be the case in the MENA ES economies.

FIGURE 4.2: The proportion of firms below income-group median size



Source: Enterprise Surveys.

FIGURE 4.3: The proportion of young firms in total formal private sector employment is lower than elsewhere in the world



Source: Enterprise Surveys.

As discussed in chapter 2, the business environment varies substantially across these economies. This variation is also found in the *Doing Business* sub-indicator measuring the ease of starting a business.[20] Several MENA ES economies maintain burdensome regulations for business start-ups: Djibouti ranks last of 185 economies, the West Bank and Gaza 179th, and the Republic of Yemen and Lebanon rank 110th and 114th respectively. While Egypt ranks 26th globally, followed by Tunisia, which is 50th, recent upheaval in both economies risks discouraging new entrants, which will limit competitive pressure on incumbent firms. At the same time, MENA ES economies maintain remarkably high shares of employment in micro-sized firms[21] (which are not covered by the MENA ES) as well as pervasive informality.[22] If productive firms are unable to grow over their lifecycle, the incentives for new firms to enter the market will be undermined.

TABLE 4.1: Average firm age

	Mean	Median
Djibouti	16	12
Egypt, Arab Rep.	14	12
Morocco	20	16
West Bank and Gaza	16	12
Yemen, Rep.	24	21
Lower-middle-income	16	13
Jordan	16	13
Lebanon	22	20
Tunisia	20	17
Upper-middle-income	16	13

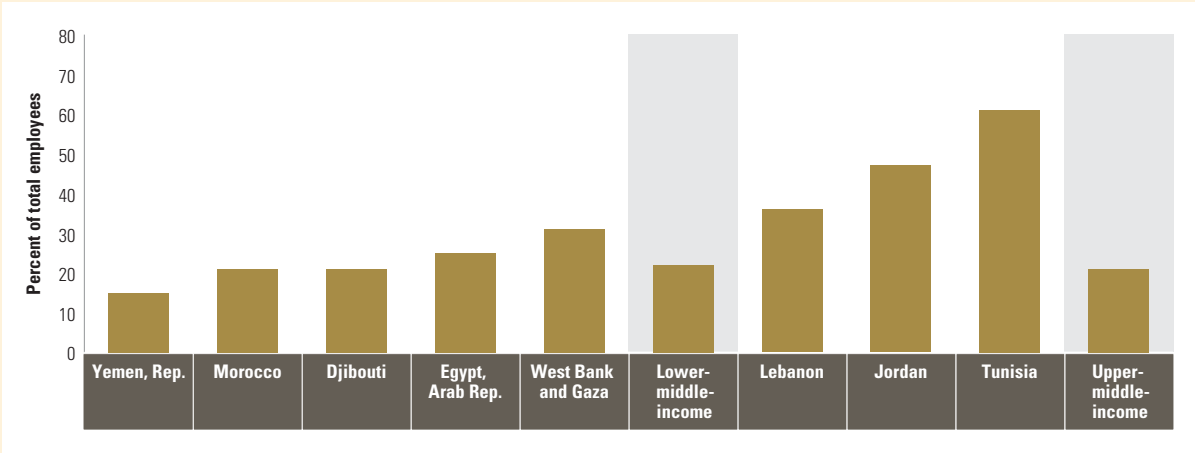
Source: Enterprise Surveys.

Exporters account for a higher proportion of formal jobs in the region than elsewhere in the world

One additional source of competitive market forces can come from abroad to the extent that economies engage in foreign trade. As detailed in chapter 5, several firms in the MENA ES economies are internationally engaged; but a very large share of these traders tend to be SMEs, possibly due to market distortions. Similarly, the distribution of jobs shows that on average 30 percent of employment in the formal private sector in the MENA ES economies occurs in exporting firms (figure 4.4), more so than in other parts of the world (22 percent in all other economies with ES data).

There is substantial variation, however. Tunisia stands out with exporters providing close to 61 percent of formal private sector jobs (the result of an explicit policy of focusing on the export sector), followed by Jordan and Lebanon (47 and 32 percent). At the other extreme, only 15 percent of jobs in the Republic of Yemen are provided by exporting firms. Not surprisingly, exporting firms contribute more to jobs in the relatively rich economies (Jordan, Lebanon, and Tunisia) than elsewhere.[23] From a policy perspective, this international exposure may result in global factors influencing domestic employment. The task of policy then

FIGURE 4.4: The proportion of jobs provided by exporters is higher than in the rest of the world



Source: Enterprise Surveys.

is to maximize the gains offered by positive global shocks and guard against the negative ones.

THE FORMAL PRIVATE SECTOR'S CONTRIBUTION TO WOMEN'S EMPLOYMENT

According to the United Nations Development Program's Gender Inequality Index, in 2014, the MENA region was the second most unequal region for women, preceded only by Sub-Saharan Africa.[24] These results are in part driven by women's low participation in the labor market: the region's women tend to be comparatively well educated, showing important advances in investment in human capital, but their labor market participation remains low.[25] Increasing women's employment in the MENA ES economies is important not only for purely economic reasons, increasing the productive capacity of the region, but also for society's well-being and stability.

Women's employment is low compared with other regions

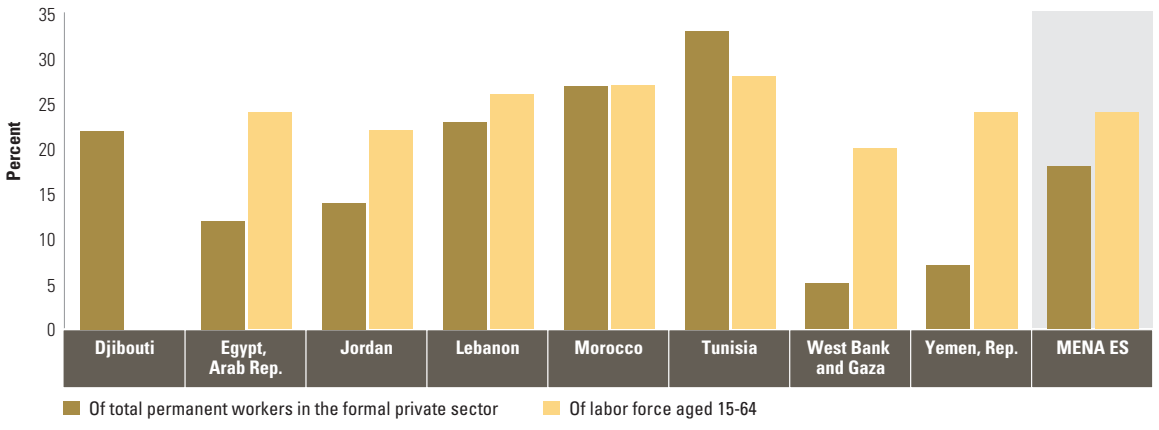
Labor force participation rates for women in the MENA region are lower than the average for low- and middle-income economies, as previous reports have shown extensively.[26] In the average firm in the MENA ES economies, women constitute 17 percent of the workforce (full-time permanent workers). This is significantly lower than what is found in the rest of the world with ES data (34 percent), including upper-middle-income economies (37 percent) and lower-middle-income economies (29 percent).

In the MENA ES region, the average percentage of women employed in the formal private sector as a whole is even lower than the proportion of women in the labor force (18 percent compared with 24 percent, as shown in figure 4.5).[27] Because labor force data also include the unemployed and sectors not covered by the MENA ES (such as agriculture, government, the informal sector, and the financial and social services sectors), the lower proportion of women employed in firms in the MENA ES economies may be due to different factors: either unemployment is higher among women, or women tend to work more in sectors not covered by the Enterprise Survey.[28] Both factors seem to be at play and are suggestive of a gap in women's employment in the formal private sector.[29]

Women's employment is higher in labor-intensive sectors and exporting firms

Previous evidence suggests that women are more likely to be employed in sectors that are relatively labor-intensive as well as in retail.[30] In the MENA ES economies, labor-intensive manufacturing sectors—such as the production of garments, footwear, leather, and furniture—have the highest average share of women workers (21 percent), followed by retail (20 percent), and other services (17 percent). In other manufacturing sectors, which are less labor-intensive, only 13 percent of employees are

FIGURE 4.5: The percentage of women employed in the formal private sector is smaller than the percentage of women in the total labor force



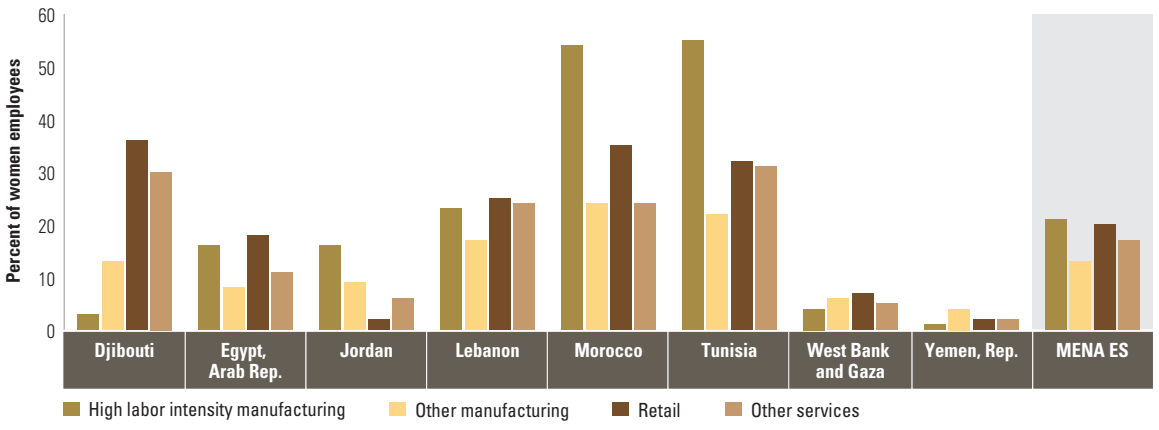
Source: Enterprise Surveys; ILOSTAT.

women.[31] There are important differences, however: Djibouti, the West Bank and Gaza, and the Republic of Yemen stand out with low shares of women employed by labor-intensive manufacturers (figure 4.6).

Differences also emerge after accounting for basic firm characteristics (table A4.1): firms in the formal private sector in Djibouti, Lebanon, Morocco, and Tunisia tend to employ significantly more women than firms in Egypt, Jordan, the West Bank and Gaza, or the Republic of Yemen. All else equal, firms located in capitals or main business cities also tend to have a higher percentage of women. These results indicate that other factors might explain the differences in women's employment across and within economies, factors probably associated with cultural norms and differential enforcement of customs and laws.[32]

Earlier studies generally support a positive effect of globalization on women's employment.[33] One reason could be that women tend to be concentrated in labor-intensive exporting sectors that expand following trade liberalization.

FIGURE 4.6: Labor-intensive manufacturing and retail have the highest percentage of women employees



Source: Enterprise Surveys.
Note: High labor intensity manufacturing includes manufacturing of wearing apparel, leather, and furniture.

Another possibility is that by increasing competition, international trade makes it more expensive for employers to discriminate against women employees. MENA ES results confirm that the share of women employees is 4 percentage points higher for firms that export,[34] even after discounting other potential explanations such as the sector of activity and labor intensity (first column, table A4.1). The larger percentage of women employed by firms in manufacturing sectors with high labor intensity compared with sectors with lower labor intensity is also confirmed when accounting for basic firm characteristics (first column, table A4.1).

Women's participation in top management and firm ownership is low by international standards

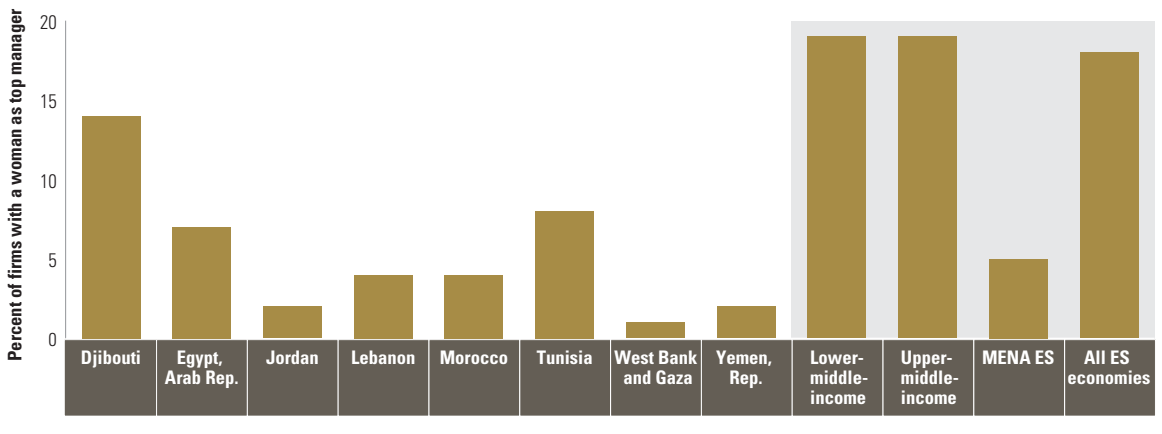
Looking at women's participation in entrepreneurship, MENA has the highest gender gap in the world: 12 percent of adult women are entrepreneurs compared with 31 percent of adult men.[35] MENA also has many legal restrictions on women's employment and entrepreneurship. The *Women, Business, and the Law* (WBL) 2016 report measures legal gender differences in the areas of accessing institutions, using property, getting a job, building credit, and going to court; it also measures legal incentives for women's work and legislation on violence against women. According to the report, MENA hosts 18 of the 30 economies around the world that have 10 or more legal differences favoring men over women.[36] All the eight MENA ES economies have more than 10 such legal differences.

The MENA ES data show real implications in terms of women's participation in ownership and top management. Women own on average less than 8 percent of firms in the MENA ES economies, significantly lower than 16 percent in upper-middle-income economies and 13 percent in lower-middle-income economies. Similarly, only about 5 percent of firms in the MENA ES economies have a woman top manager, compared with 19 percent in both lower-middle-income and upper-middle-income economies (figure 4.7).

There is substantial variation across MENA ES economies in the level of women's participation in ownership and top management (table A4.1, columns 2 and 3). Even Tunisia and Lebanon—where women's ownership is higher than in peer economies—lag behind in terms of women in top management. Looking across the MENA ES economies, Egypt, Jordan, the West Bank and Gaza, and the Republic of Yemen perform worse than any of the other economies.

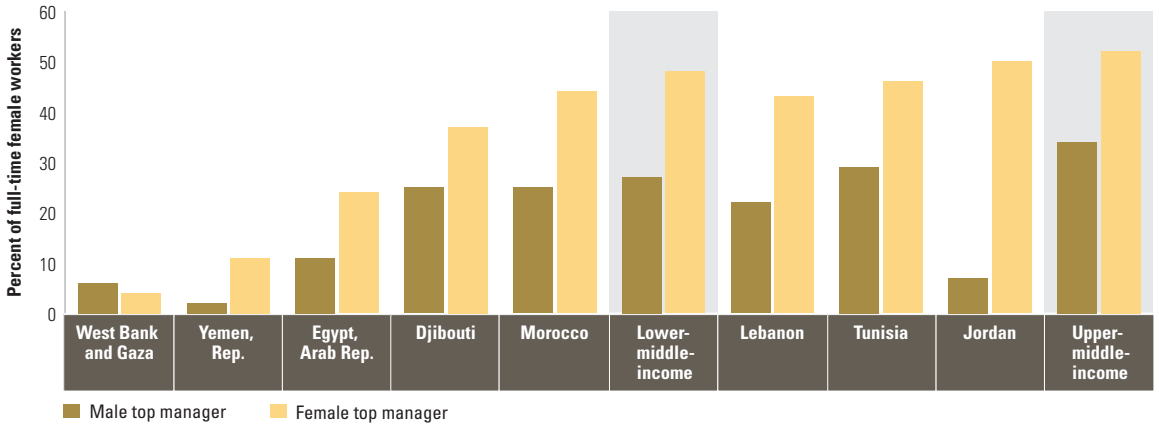
A significantly larger percentage of women is employed by firms with a woman top manager or by firms with one or more women owners (figure 4.8). This is consistent with previous literature indicating that women in top leadership positions can increase hiring of women, reduce sex segregation, and improve retention rates among women

FIGURE 4.7: Women's participation in top management positions is low



Source: Enterprise Surveys.

FIGURE 4.8: Firms managed by women have a higher proportion of women employees



Source: Enterprise Surveys.

staff.[37] Strikingly, women's participation in ownership is the only factor that helps to explain the probability of a firm having a woman as the top manager. In addition, in firms where the top manager has fewer years of experience, the same manager is more likely to be a woman (table A4.1, column 3).

Firm performance is not related to the gender of top managers, owners, or employees

A number of studies have shown that firms managed and owned by women tend to lag behind their male counterparts in terms of productivity, growth, and firm size.[38] This could be due to gender discrimination in obtaining finance or dealing with government, and prevailing laws that tend to favor men over women. MENA ES results provide no evidence of worse performance among firms managed or owned by women. Labor productivity and TFP levels, as well as growth rates of sales and employment, are not associated with the top manager's gender, the proportion of women employed, or the presence of at least one woman owner.[39] On the other hand, firms that have at least one woman owner are more likely to invest and innovate (columns 4 through 8 in table A4.1). Overall, performance does not help to explain the gender gap in entrepreneurship and management rates. The next question is therefore whether women experience a more hostile business environment compared with men, limiting the ability of women-owned and women-managed businesses to survive.

The business environment is not worse for women top managers and owners than for their male counterparts

Twenty-two objective measures and 17 subjective measures were used to detect potential differences in the business environment faced by firms with women top managers compared with firms with men top managers.[40] Only two indicators point to a worse business environment for women: the percentage of firms that spent on security; and security costs as a percentage of annual sales. In contrast, firms with women top managers enjoy a significantly better business environment according to indicators related to interactions with the government (meetings with or inspections by tax officials, time to obtain licenses). The picture does not change much when looking at firms with at least one woman among the owners compared with firms with all male owners.

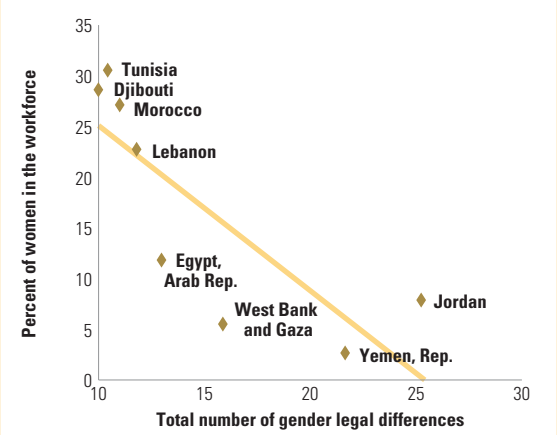
MENA ES data therefore contribute to the debate on the region's low participation of women in the labor market by ruling out the influence of firm performance or aspects of the business environment measured by the survey. The majority of such aspects are not affected by legal discrimination, as they refer to power outages, custom clearance waiting times, or bribes, for example. The results further corroborate the idea that the legal and social framework could instead play an important role in women's participation in the private sector.[41] Furthermore, legal obstacles to starting a business may be such that only women who can navigate this environment are ultimately able to run a

business, and those women encounter fewer difficulties in certain areas of the business environment.

The role of the legal framework for women's employment and entrepreneurship

The WBL report shows that across the world, a higher number of legal gender differences is associated with more negative social and economic outcomes for women, such as a lower proportion of girls enrolled in secondary school compared with boys, a lower employment rate for women, and a more pronounced wage gap between men and women.[42] The same report and other previous work using ES data show that more legal gender differences are also associated with a lower percentage of firms with a woman top manager and a lower percentage of women in a firm's workforce.[43] This is also true in the MENA ES economies, as figure 4.9 shows. These results, combined with the fact that the business environment—as measured by the survey indicators—does not seem to be a constraining factor for women's entrepreneurship, suggest that eliminating gender discrimination would lead to better integration of women in the economy and therefore contribute to the development of the private sector in the MENA ES economies.

FIGURE 4.9: More gender legal differences are associated with a lower percentage of women working in firms in the region



Source: Enterprise Surveys and Women, Business and the Law 2016.

THE FORMAL PRIVATE SECTOR'S CONTRIBUTION TO YOUTH EMPLOYMENT

Youth employment is greater in young, dynamic, and innovative firms

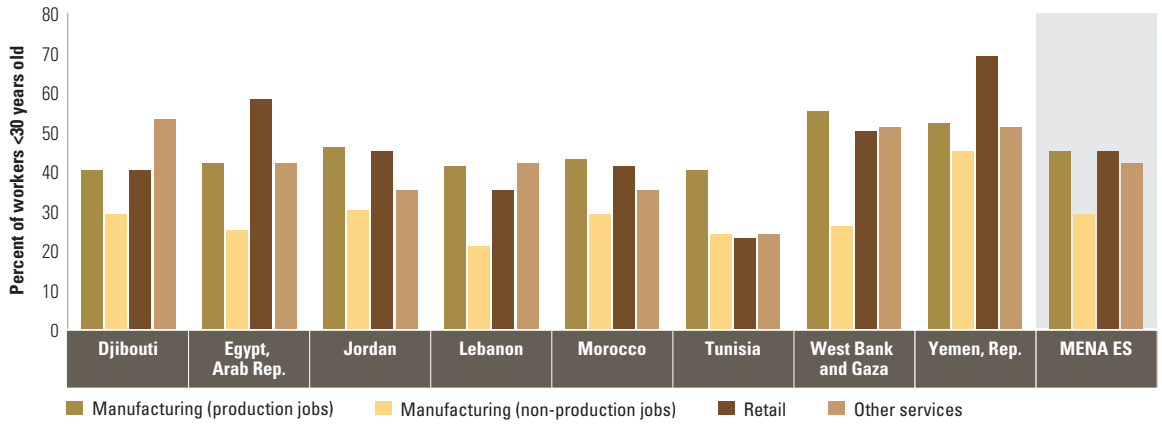
Youth employment is another major labor market challenge for the MENA region. On average across the MENA ES economies, labor force data show that young people between the ages of 15 and 29 represent 47 percent of the working-age population and 40 percent of the labor force.[44] Compared with a total unemployment rate of 13 percent in the region, unemployment among the young is more than double at 30 percent.[45]

Previous research shows that unemployment in the MENA region is mostly due to difficulties in entering the labor market, since the majority of the unemployed are first-time jobseekers.[46] Hence, policies aimed at improving labor market flexibility for new entrants, facilitating information on entry-level jobs, and improving the linkages between the private sector and education institutions could be key avenues for addressing the issue of youth unemployment in the region.

The average share of workers under 30 in the formal private sector is 43 percent across the MENA ES economies. While there is no evidence of a systematic difference in youth employment across sectors (table A4.2, column 1), figure 4.10 shows that within manufacturing firms, a much smaller percentage of young people is employed in non-production jobs (29 percent) compared with production jobs (45 percent). Since non-production jobs in manufacturing firms typically require higher skills than production jobs,[47] this evidence potentially points toward a problem of skills mismatch for qualified young workers in the MENA ES economies.

Further indication of the skills mismatch problem for young workers comes from firms' propensity to provide training to their workers and the severity of inadequate worker education as an obstacle. In the MENA ES economies, firms with larger shares of young workers are more likely to provide training to their workers (table A4.3, column 1). This points to a skills mismatch problem with young workers since the need for training may arise because workers do not have the necessary skills for their job.

FIGURE 4.10: Fewer young people are employed in non-production manufacturing jobs than in other manufacturing or services jobs



Source: Enterprise Surveys.

In fact, the higher the share of university-educated employees the higher the probability of providing training (tables A4.3 column 2). In addition, firms that use proportionately more young workers are significantly more likely to report skills shortages as a very severe constraint (table A4.4). Thus, a closer alignment of education curricula with the requirements of industries is likely to improve job prospects for the young in the region.

The MENA ES results also indicate that firms that are younger or larger tend to employ proportionately more workers under 30 (table A4.2, column 1). This result, combined with the evidence that younger firms in the MENA ES economies create more jobs documented below and in previous work,[48] suggests that encouraging firm entry would help boost youth employment in the formal private sector.

The survey results also indicate that firms with proportionately more young employees are significantly more likely to increase employment, to invest in fixed assets and to innovate (table A4.2, columns 2–4). Although these results cannot be interpreted as evidence of a causal relationship, they seem to indicate the presence of a "virtuous circle" of young and innovative firms hiring younger employees and creating more jobs.

EMPLOYMENT DYNAMICS

Understanding the dynamics of employment or net job additions—jobs created minus jobs terminated—can provide useful insights on policy measures aimed at increasing job creation in the MENA region. Dynamic analysis using MENA ES data needs to be interpreted with caution: the data provide information only on growth rates for surviving firms, not for firms that exit the market. They also exclude very recent entrants and micro firms, which may affect the observed short-run growth rate of employment and any conclusions about the impact of policy measures or economic shocks. Nonetheless, understanding growth among surviving firms remains a useful starting point for analyzing long-run employment growth, the size distribution of existing firms, and the impact of the entry and exit patterns on surviving firms.[49]

Young firms grow faster, but the average number of net jobs created is similar for young and old firms in the MENA ES economies

Consistent with the broader literature,[50] firm-level growth rates of employment in the MENA ES economies between 2009 and 2012 is much higher among relatively younger firms. For example, for a typical firm that has been operating for five years or fewer, employment grows on average by 9.4 percent per annum compared with only 1.7 percent for a typical firm older than five years.[51] The total number of new jobs does not vary much between

TABLE 4.2: Firm transitions across size categories between 2009 and 2012

Average for the full sample			
	Status in 2012		
Status in 2009	Small (5-19)	Medium (20-99)	Large (100+)
Small (5-19 employees)	93%	7%	0%
Medium (20-99 employees)	14%	82%	4%
Large (100+ employees)	0%	9%	91%

Source: Enterprise Surveys.

young and old firms. The average number of net jobs added between 2009 and 2012 by firms under five years old is not significantly different from the result for older firms (3.1 and 4.6 permanent employees respectively).

Few firms expand or downsize over time

An extensive literature in labor economics suggests that the growth of firms over time reflects an important process of learning and selection, with some firms exiting and others growing, thereby improving aggregate firm productivity. The data show that firm dynamics in the MENA ES economies are weak. Relatively few firms moved from one size category (small, medium, or large) to another between 2009 and 2012.

This finding is illustrated in table 4.2, which summarizes the percentage of firms that move from one size category to another. Of the firms that were small in 2009, 93 percent were still small in 2012. Only 7 percent grew beyond 19 employees in 2012. Similarly, 82 percent of medium-sized firms and 91 percent of large firms remained in the same size category. These findings are consistent with the idea that distorted competition and privileged access to the government by some firms—known to be widely prevalent in the region—have blunted the dynamic forces that force firms to learn and grow over time.[52] Although the employment transition matrix using ES data only considers surviving firms, the findings are in line with findings for Tunisia based on census data that also take account of firm exit (see box 4.1).

Medium-sized firms struggle to grow

Across the region, nearly 14 percent of firms that were medium-sized in 2009 became small in 2012, while only 4 percent became large (table 4.2).[53] In the Republic of Yemen, almost a third of firms that were medium-sized in 2009 became small in 2012, quite possibly due to the conflict. These findings stand in contrast with ES data on other lower-middle-income and upper-middle-income economies.[54] In lower-middle-income economies, only 6 percent of medium-sized firms became small after three years, while 4 percent became large. In upper-middle-income economies, 6 percent of medium-sized firms became small, while 7 percent became large.

This indicates that the period 2009–2012 may have been particularly difficult for medium-sized firms in the MENA ES region in the context of challenging economic and political circumstances. Despite this, labor productivity in 2009 seems to be positively associated with a higher probability of becoming a medium-sized or large firm in 2012 (table A4.5).[55] This suggests that productive firms were able to grow or maintain firm size despite political instability, which may have constrained greater growth.

Moreover, as stated in chapter 2, SMEs are at a disadvantage, since they are more negatively affected by the inefficiencies of the business environment. Measures to address these inefficiencies might also serve as drivers for more dynamic growth of such firms.

Between 2009 and 2012, growth was faster for more productive firms and slower for credit-constrained firms

In the MENA ES region, the employment growth rate between 2009 and 2012 is strongly associated with the labor productivity in 2009 (table A4.6), indicating that highly productive firms are able to generate new jobs at a faster rate than less productive firms, leading to the mostly positive employment growth rates presented in chapter 2.

Another important factor for firm performance and firm dynamics is access to finance. Using the definition of credit constraint introduced in chapter 3, the results in table A4.6 show that the growth rate of employment in firms in the MENA ES economies is significantly lower for firms that are credit-constrained compared with those that are not. The employment growth rate is also lower for firms that report that corruption is a major constraint on their operations. In addition to and in line with the economic literature discussing which firms create more jobs,[56] table

BOX 4.1: Comparing ES transition matrix data with census findings from Tunisia that include information on rates of firm exit

The ES data only consider firms that exist in 2012, and exclude firms that exited the market between 2009 and 2012. To help gauge the extent to which ES results may be biased by this fact, it is useful to compare the ES findings with recent findings for Tunisia that are based on census data and that also take account of firm exit.

Table B4.1.1 reproduces the employment transition matrix for Tunisian firms using census data over the period 2007-2011 and shows that the probability of exit is substantially larger for smaller firms: while only 6 percent of SMEs and large firms exited the market over this period, 9 percent of micro firms (2 to 9 employees) and 22 percent of one-person firms ceased to exist.[a]

TABLE B4.1.1: Employment transition matrix for Tunisian firms between 2007 and 2011 using census data

	Status in 2011				
Status in 2007	Exited	1-person	Micro (2-9)	SME (10-99)	Large (100+)
1-person	22%	76%	2%	0%	0%
Micro (2-9)	9%	21%	67%	3%	0%
SME (10-99)	6%	11%	16%	63%	4%
Large (100+)	6%	11%	3%	15%	65%

Source: Schiffbauer and others (2015).

To make it comparable to the employment transition matrix for MENA ES, table B4.1.2 reweights the Tunisian census data to omit firms that exited the market and one-person firms that are not captured in MENA ES data. The firm size categories and the time period are slightly different than the estimates reported in table 4.2 but this does not affect the results qualitatively.

TABLE B4.1.2: Reweighted employment transition matrix for Tunisian firms between 2007 and 2011 based on census data but excluding firm exit and 1-person firms

	Status in 2011		
Status in 2007	Micro (2-9)	SME (10-99)	Large (100+)
Micro (2-9)	96%	4%	0%
SME (10-99)	19%	76%	5%
Large (100+)	4%	18%	78 %

Source: Calculations based on Schiffbauer and others (2015).

The estimates are very much in line with the ES data for Tunisia reported in table B4.1.3. This lends support to the finding that medium-sized firms in MENA ES are more likely to become small than grow to large size, in contrast with other regions of the world, despite the lack of data on firm exit.

TABLE B4.1.3: Employment transition matrix for Tunisian firms between 2009 and 2012 using ES data

	Status in 2012		
Status in 2009	Small (5-19)	Medium (20-99)	Large (100+)
Small (5-19)	94%	7%	0%
Medium (20-99)	11%	85%	4%
Large (100+)	0%	9%	91%

Source: Enterprise Surveys.

a Schiffbauer and others (2015).

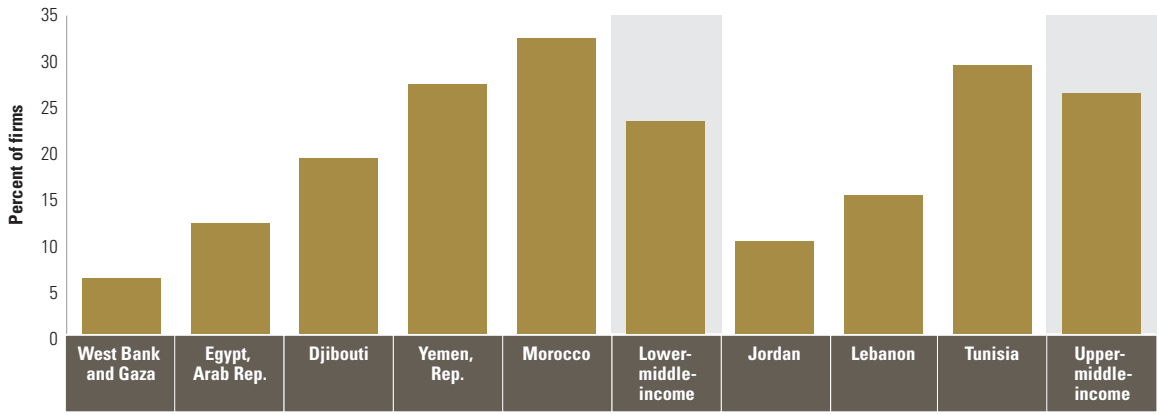
A4.6 shows that younger and smaller firms have higher employment growth rates than older and larger firms.

SKILLS, TRAINING, AND EMPLOYMENT

Despite massive improvement in enrollment rates in secondary and tertiary education, the quality of education in the MENA region remains poor, particularly in providing skills that are relevant for private sector employment.[57] A major problem in education systems seems to be a focus on competitive examinations as a screening mechanism mainly aimed at securing access to public sector employment. Technical and vocational education and training, which may be more suitable for private sector jobs, are associated with lower status. While there is a great mismatch between the aspirations of graduates and the supply of rewarding jobs, it has also been argued that the region's education systems fail to provide private sector employers with employees with the relevant skills.

Surprisingly, the share of firms in the formal private sector that consider an inadequately educated workforce as a major or very severe obstacle in the MENA ES economies is relatively low.[58] Only in Morocco, Tunisia, and the Republic of Yemen is this share above the average levels in lower-middle-income and upper-middle-income economies (figure 4.11). Skills as an obstacle to firm growth are likely to have a cyclical component. During the period under study, the MENA ES economies experienced growth rates barely above population growth, making skills a less

FIGURE 4.11: The proportion of firms reporting an inadequately educated workforce as a major or very severe constraint



SSource: Enterprise Surveys.

pressing issue. On the other hand, skill shortages may become more salient once these economies start to recover.

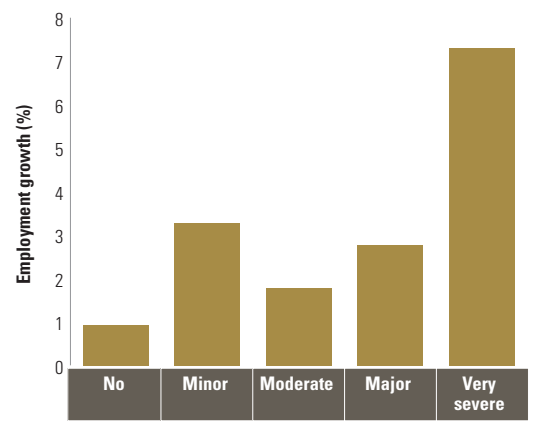
Skills-related constraints are seen as more severe by firms that have grown quickly

Figure 4.12A shows that firms that report an inadequately educated workforce as a very severe obstacle to their operations tend to have grown faster in the preceding three years.[59] In other words, skill shortages seem to be a particular concern for those firms that may have the highest growth potential. Firms that view an inadequately educated workforce as a very severe obstacle also tend to employ a higher share of university-educated employees (see figure 4.12B).[60]

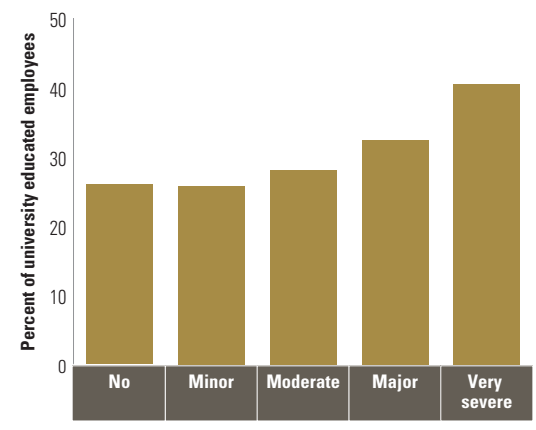
This could be interpreted in at least two different ways. First, it could be that the inadequacy of the workforce is

FIGURE 4.12 :Skill shortages are a particular concern for firms that grow rapidly and that rely more on university-educated employees

PANEL A: Employment growth and an inadequately educated workforce as an obstacle to the enterprise



PANEL B: The share of university-educated employees and inadequately educated workforce as an obstacle to the enterprise



Source: Enterprise Surveys.

a problem for firms requiring higher levels of skills, therefore indicating a scarcity of workers with tertiary-level skills. Second, firms may have to resort to hiring more tertiary graduates to address the lack of skills in workers with lower levels of education, reflecting a problem in the education system.

Training provision is low in MENA ES economies

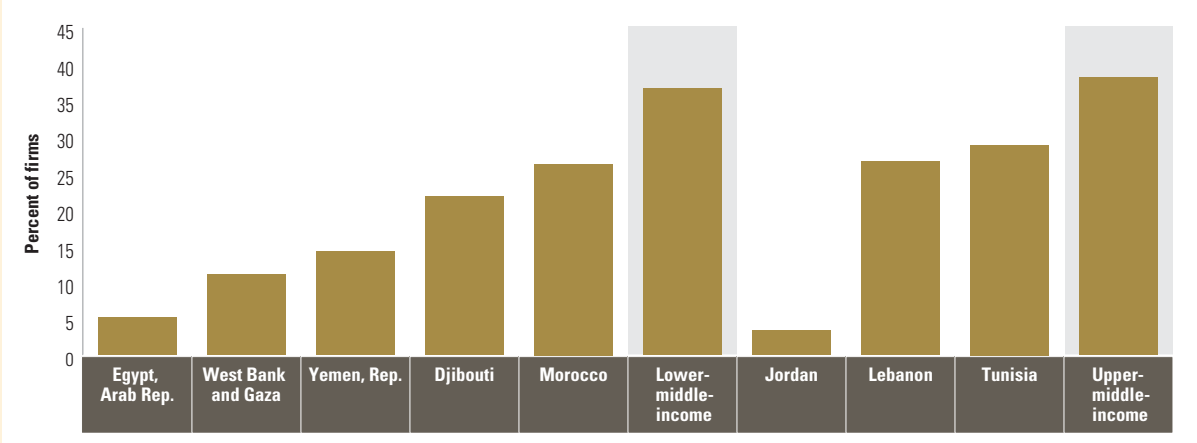
The education systems in the MENA ES economies have failed to provide the necessary skills required by the private sector. Training by the private sector could fill the gap left by the education system. Across the MENA ES economies, however, the intensity of training provided by firms is low. A higher proportion of firms provide training in Morocco, Tunisia, Lebanon, and Djibouti (ranging from 22 to 29 percent), but none of these economies exceeds the average shares of firms providing training in lower-middle-income and upper-middle-income economies at around 38 percent (figure 4.13). This is consistent with previous findings that although training plays a prominent role in active labor market programs in the region, it tends to be class-based rather than on-the-job, and supply-driven rather than coordinated with the private sector, thus diverging from international best practices.[61]

THE WAGE BILL PER WORKER IN THE FORMAL PRIVATE SECTOR

In addition to the number of jobs, the quality of jobs—in terms of wage rates—is also important, particularly for the MENA ES region where the private sector has failed to provide high-paying jobs to attract talent. Many in the region, especially young people, prefer to remain unemployed while seeking high-paying jobs in the public sector rather than taking up low-paying jobs offered by the private sector.[62] This creates greater pressure on the government to provide more public sector jobs, adds to unemployment, and dries up the flow of talent to the private sector.

One narrative that has emerged in the MENA region as a whole is that inflexible wages, including formal and de facto wage floors, may limit employment mobility and exacerbate skill mismatches. One report finds that a "measurable share" of firms in Jordan and Egypt pay their workers less than the mandated minimum wage.[63] The same report notes that minimum wage rules and collective wage agreements at the sector level—which establish a negotiated wage minimum often linked to education level and seniority—are often shirked.[64] As these rules are often tied to education level, private sector employers "do not absorb an ever growing graduate population at the wages foreseen for graduates".[65]

FIGURE 4.13: Percent of firms offering formal training



Source: Enterprise Surveys.

A lens to evaluate these trends is provided by the total wage bill per worker. This is given by the total remuneration cost including wages, taxes, and social security payments divided by the number of employees at the firm level. To account for local cost adjustments, it is defined in terms of U.S. dollars adjusted for purchase power parity (PPP). While remuneration may reflect higher wages, it also includes taxes and social security contributions, which can vary substantially between firms and across economies.

More productive firms have higher wage bills per worker

Ideally, competitive forces should drive wages higher for more productive workers; but labor market imperfections suggest that ties between wages and worker productivity are not always watertight. In the MENA ES economies, more productive firms—on a sales per employee basis[66]—do have significantly larger wage bills per worker, in line with previous research (table A4.7), and this holds in both lower-middle-income and upper-middle-income economies (table A4.8).[67]

This dynamic may indicate that more productive firms in the MENA ES region also dedicate more of that revenue per worker toward total remuneration (and this relationship is higher in lower-middle-income economies, table A4.8). While this may be considered as a sign of sound labor markets on the surface, it is important to take account of the limited size of the formal private sector and consequently the possible scarcity of those fairly remunerated or high-productivity private sector jobs. Consequently, it is likely that many new entrants to the job market seek and are trained for public sector jobs—and not jobs in the private sector—due in part to a relative scarcity of fairly remunerated private sector jobs.[68]

Relative to revenue, larger firms spend less on remuneration

A well-established finding in the literature is that large firms tend to pay their employees more.[69] This so-called "wage-size effect" has been linked to management quality, the capacity of larger firms to attract and recruit better employees, and issues of scale for larger firms that make it harder to monitor and evaluate employees.[70] This relationship can have important policy implications. If large firms do pay higher wages, then encouraging a business environment that allows firms to scale up their operations will lead to higher living standards for workers as well as a more equitable distribution of income between owners of capital and labor.

However, the MENA ES economies seem to defy this trend. Larger firms in the MENA ES economies do not dedicate a greater share of their revenues toward their wage bill; in fact, all else equal, larger firms tend to spend significantly *less* (table A4.7). This is consistent with the findings from chapter 2, which showed that larger firms are actually less labor-intensive (measured by the wage bill cost) relative to smaller ones.

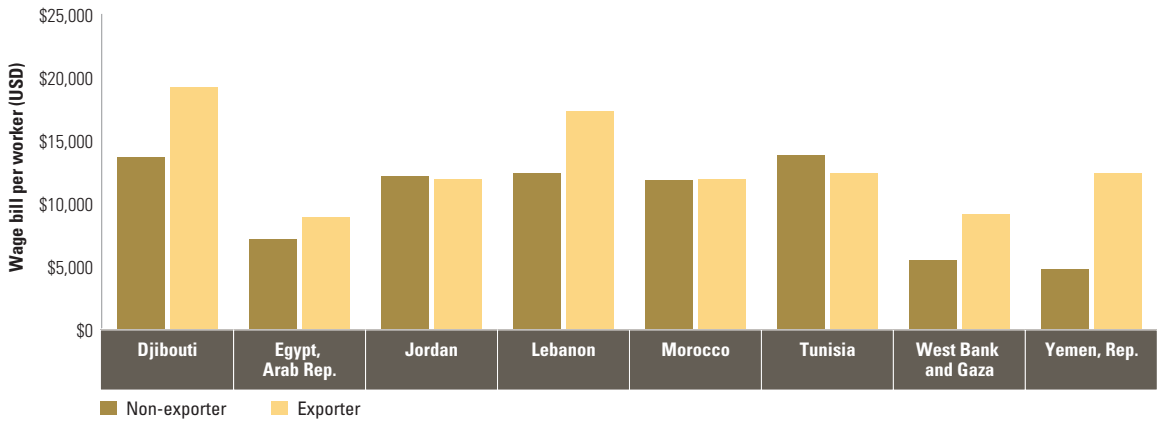
One possible explanation is that larger firms tend to transfer a larger share of returns to remunerate capital rather than labor. Small firms may also adopt fewer labor-saving technologies, and so are more reliant on labor relative to their revenues, resulting in their higher average wage bill. Similarly, large firms may be able to leverage their market position or privileged status to drive down wages or other remuneration costs, including labor-related taxes. They may also be in a position to pay less given their comparably low labor demand (relative to other inputs) in an environment of high unemployment.

Higher wage bills are associated with university education in upper-middle-income MENA ES economies

A higher share of employees with tertiary education is also related directly to higher wage bills per worker in the upper-middle-income MENA ES economies: Tunisia, Lebanon, and Jordan (table A4.8). While this may be an indication of firms' ability to recruit and pay skilled workers, it is also likely to be a consequence of education-tied wage levels in these economies and possibly driven by public sector policy. In contrast, the percentage of employees with a university degree is not tied to the average wage bill in lower-middle-income MENA ES economies, which is a possible indication of distortions in the labor market, low quality higher education, or skills mismatch.

Similarly, exporting firms that provide a large share of total jobs have a much higher wage bill per worker than non-exporting firms (figure 4.14). Lastly, the median wage bill per worker for firms more than 5 years old is higher than

FIGURE 4.14: The wage bill per worker is higher for exporting firms in most MENA ES economies than for non-exporting firms



Source: Enterprise Surveys.

in young firms in all the MENA ES economies with the exception of Morocco. On average across all the MENA ES economies, it equals US$10,888 for old firms and a much lower US$8,832 for the young firms.

POLICY CONCLUSIONS

Recent political upheaval as well as pressure on public budgets will limit public sector employment as a source of jobs in the MENA ES region. This means that the formal private sector will need to play an increasingly important role in providing critically needed jobs.

Large firms provide the majority of jobs in the formal private sector employment, compared with formal SMEs. They are also more productive, though their activities are skewed toward inefficiently high capital intensity, with associated lower remuneration of labor. At the same time, SMEs in the region typically fail to grow. Given that distorting incentives may favor capital at the cost of labor and that the SMEs seem to be more penalized by the business environment, carefully assessing current policies, removing privileges, and more generally supporting competition may have implications for inclusive growth.

Fast-growing firms are also those that have higher productivity, possibly indicating a partial reallocation of jobs toward more productive firms. Fostering such firms can encourage the development of the private sector as a whole. While fast-growing firms are more likely to invest in the formal training of employees, they are also more likely to complain about the adequacy of workforce education levels. Skill shortages are striking in the context of the high share of university educated young people in the region. There seems to be evidence of a mismatch between the skills learned in the formal education process and those required by the business community, indicating the need for more effective training.

Policies should not constrain firm growth or discourage new firm entry. In some MENA ES economies, burdensome regulations for start-up businesses may prevent new and dynamic firms from entering the market. Well-heeled firms can take advantage of a lack of competitive forces to extract rents and reduce overall efficiency. Other forces that hamper competition (such as privileged access to markets, licensing and contracts) would have similar effects.

While lowering the barriers to entry for new (possibly more efficient and competitive firms) is one avenue for employment growth, ensuring that future job creation is inclusive of women and young people is another. Inclusive growth is important not just for economic or egalitarian reasons, but also for ensuring greater political stability and for coping with cross-border migration and the refugee crisis currently affecting the region.

The MENA ES economies are characterized by lower rates of women's employment, management, and private

sector ownership compared with the rest of the world. The benefits of job growth will be limited if women are prevented from being employees or employers, either through restrictions on jobs they can do or on their access to real assets. Similarly, women's employment is higher in labor-intensive sectors and among exporting firms. An expansion of labor-intensive and exporting sectors may help to provide more jobs for women, but more opportunities are also needed in capital-intensive sectors to reduce sector segregation and women's greater vulnerability to external shocks to the economy.

Likewise, young jobseekers and newly employed workers in the region must be in a position to be well integrated into the private sector. Young, fast-growing, and innovative firms tend to employ a greater share of young workers. Ensuring the entry and growth of such firms will likely have knock-on effects on youth employment. A re-orientation of education and training systems toward learning skills that are relevant for private sector employment, with greater status given to vocational training, will be likely to facilitate growth of high quality employment in the region. Similarly, creating conditions that allow larger firms to provide greater remuneration to employees—or allowing better-remunerated small firms to add jobs—will attract talented workers into the private sector.

Endnotes

1 See, for example, ILO (2013), World Bank (2013a), ILO-KILM Database, via World Bank (2013a), World Bank (2011).

2 World Bank (2004).

3 World Bank (2011).

4 Schiffbauer and others (2015).

5 See, for example, World Bank (2011, 2013a).

6 ILO (2014).

7 See, for example, World Bank (2013a).

8 See, for example, World Bank (2013a) and Devarajan and others (2014).

9 World Bank (2013a).

10 See, for example, Devarajan and others (2014).

11 Ayyagari and others (2014) and Aga and others (2015)).

12 Schiffbauer and others (2015) and Rijkers and others (2014) note, for example, that outside of micro firms, which are not included in the MENA ES data, large firms are the second largest source of private sector employment.

13 Distributions for MENA ES and comparators are based on the coverage of the ES and therefore they exclude the micro sector—less than 5 employees—and the informal or unregistered sector.

14 Hsieh and Klenow (2012).

15 See for example, Pages and others (2009) and Haltiwanger and others (2014).

16 See Rijkers and others (2014) or Diwan and others (2015).

17 Schiffbauer and others (2015).

18 The methodology of the ES can introduce a downward bias to the contribution of young firms as samples are drawn from sampling frames that typically are several years old. In the MENA ES project, however, most sampling frames were current and whenever older frames were used—the oldest dating to 2012—the frame was updated with current listings of firms operating in the economy.

19 One caveat of these results is that firms are randomly drawn from a sample frame that often necessarily omits the youngest start-ups, having an upward age bias.

20 Figures are based on *Doing Business 2013*.

21 Micro firms are defined as those registered firms with less than 5 employees and informal firms are unregistered firms.

22 Schiffbauer and others (2015), World Bank (2014).

23 Chapter 5 discusses various issues related to exporting firms in more detail.

24 The UNDP's Gender Inequality Index includes measures of reproductive health, empowerment and labor market participation. A low value indicates low inequality between women and men. The scores for the different regions in 2014 were: 0.317 for ECA, 0.331 for EAP, 0.416 for LAC, 0.539 for SAR, 0.546 for MENA, and 0.578 for AFR (UNDP 2014).

25 World Bank (2013b).

26 See World Bank (2013b), Verme (2014).

27 To compare ES micro data to aggregate indicators from other sources, such as labor force statistics, the average percentage of women employed in the formal private sector as a whole was calculated as the weighted sum of all female employees across all firms, divided by the total number of employees in all firms. In all other instances in this section, the percentage of women in the workforce refers to the firm-level average. Labor force data from ILOSTAT: 2013 for West Bank and Gaza; 2012 for Morocco, Tunisia; 2010 for Egypt; 2007 for Lebanon; 2004 for Jordan; 1999 for the Republic of Yemen. Data are not available for Djibouti.

28 The methodology is also very different between the ES data and labor force data. The latter are typically based on surveys of the population.

29 The World Bank (2013b) report indicated that in many MENA economies, unemployment rates among women aged 15–24 were around 50 percent compared with 10 percent to 20 percent for men of the same ages. At the same time, the report highlights that women in MENA economies tend to consider employment in the public sector preferable to a job in the private sector (p. 20).

30 See Joekes (1995), Bardasi and others (2011), Amin and Islam (2014).

31 Manufacturing sectors are classified as follows, based on Xu (2003). High labor intensity: wearing apparel, leather, furniture; moderate labor intensity: wood products, publishing, printing; low labor intensity: food, tobacco, textiles, paper and paper products, rubber and plastics, machinery and equipment, electrical machinery and apparatus, motor vehicles, transport equipment, other manufacturing; very low labor intensity: coke, refined petroleum products and nuclear fuel, chemicals and chemical products, basic metals, fabricated metal products, other non-metallic mineral products.

32 For example, Amin and Islam (2015, 2016) show provision of paternity leave and presence of laws prohibiting discrimination against women in hiring practices as defined by World Bank's Women, Business and Law (WBL) data boost women's employment prospects.

33 See Amin and others (2015) and papers cited therein.

34 That is, firms that export more than 10 percent of their sales compared with firms that export less than 10 percent or do not export at all.

35 Result from an OECD (2014) report using data from the Global Entrepreneurship Monitor (GEM).

36 World Bank (2015).

37 See Carrington and Troske (1995) and (1998); Huffman and others (2010); Giuliano and others (2006); Kurtulus and Tomaskovic-Devey (2012).

38 See, for example, Brush (1992) and Sabarwal and Terrell (2008).

39 Estimates of total factor productivity are available for manufacturers only. Chapter 2 provides details on how these estimates are obtained.

40 The 22 objective measures cover areas including the quality of power supply, water shortages, waiting time to obtain various licenses and permits, customs delays (in exporting and importing goods), bribes paid or asked for in dealing with government officials, inspections and meetings with tax officials, time spent by senior management of the firm in dealing with business regulations (time tax), crime and security losses (incidence and cost). The 17 subjective measures include the firm's perception on the amount of bribes paid to public officials by other firms like itself to get things done, and whether or not the following is a major obstacle for the firm's operations—electricity, transport, telecommunications, labor laws, lack of skilled workers, corruption, courts, access to finance, tax rates, tax administration, customs and trade regulations, competition from informal sector firms, access to land, crime and security, obtaining licenses and permits, and regulatory policy uncertainty.

41 World Bank (2013b).

42 World Bank (2015).

43 Amin and Islam (2015).

44 Labor force data from ILOSTAT: 2013 for West Bank & Gaza; 2012 for Morocco, Tunisia; 2010 for Egypt; 2007 for Lebanon; 2004 for Jordan; 1999 for the Republic of Yemen (no data available for Djibouti). Population data: authors' calculation from UN Population Division *World Population Prospects: The 2012 Revision* (no data available for West Bank and Gaza).

45 Data from World Development Indicators (2013). Youth category refers to labor force participants between 15 and 24 years old.

46 Kabbani and Kothari (2005).

47 Berndt, Morrison and Rosenblum (1992), Davis and Haltiwanger (1991).

48 Schiffbauer and others (2015).

49 See, for example, the large literature on the size distribution of surviving firms and its economic implications following the seminal work of Gibrat (1931).

50 See, for example, Haltiwanger and others (2013) and Ayyagari and others (2011, 2014).

51 This results holds after accounting for firm characteristics.

52 See Rijkers and others (2014) and Schiffbauer and others (2015).

53 The finding that medium-sized firms were more likely to reduce their size and become small firms (than increase size and become large firms) between 2009 and 2012 also holds in a regression that controls for firm characteristics—including age, economy, sector and locality.

54 The time period for the transition matrices for the MENA ES economies and other ES economies are different. Hence, some caution is needed in comparing these.

55 The results in Table A4.5 are qualitatively similar when total factor productivity in 2012 is used in the analysis instead of labor productivity in 2009. In other words, firms that were medium-sized in 2009 and are less productive are more likely to become small in 2012, while medium-sized firms that have higher total factor productivity are more likely to maintain or expand their size.

56 See, for example, Schiffbauer and others (2015, pp.25-26) and the references therein.

57 World Bank (2013a).

58 Firms in MENA have to report the severity of the obstacle on a scale ranging from 0 to 4 where "no obstacle" is coded as 0 and "very severe obstacle" as 4.

59 The positive relationship between employment growth and reporting inadequately educated workforce as an obstacle holds when using the scale 0-4 as presented in figure 4.13A and when controlling for firm characteristics and economy fixed effects.

60 The relationships in figure 4.12 hold after accounting for firm and economy characteristics.

61 World Bank (2013a).

62 See, for example, Devarajan and others (2014) and World Bank (2013a).

63 World Bank (2013a).

64 *Ibid.* Musette and Mohamed-Meziani (2011).

65 World Bank (2013a).

66 Estimations are only provided for labor productivity as total wage bill cost is the main factor input for TFPR.

67 See, for example, Haltiwanger and others (1999), Haltiwanger and others (2007) and Dunne and others (2004).

68 World Bank (2013a).

69 These findings are expansive and build on the seminal work of Brown and Medoff (1989), using data from the U.S.

70 For a detailed discussion see Idson and Oi (1999).

APPENDIX A4

TABLE A4.1: Percentage of women workers, probability of a firm having a woman owner or top manager, and key performance indicators

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent variable	Female full-time workers (%)	Female participation in ownership (Y/N)	Female top manager (Y/N)	Labor productivity (log)	Real annual sales growth (%)	Annual employment growth (%)	Purchase of fixed assets in last FY (Y/N)	Innovator (Y/N)
Size (log)	0.80	0.07*	-0.08	-0.03	1.90***	3.02***	0.32***	0.19***
	(0.605)	(0.038)	(0.052)	(0.040)	(0.560)	(0.398)	(0.040)	(0.040)
Age (log)	-0.91	0.10*	0.07	0.01	-1.85*	-4.02***	-0.17***	0.00
	(0.803)	(0.059)	(0.079)	(0.061)	(1.103)	(0.857)	(0.056)	(0.056)
High labor intensity manufacturing (Y/N)	8.40***	0.06	0.03	-0.76***	-4.06	-3.34	-0.55**	0.11
	(2.624)	(0.163)	(0.179)	(0.193)	(2.937)	(2.266)	(0.213)	(0.151)
Moderate labor intensity manufacturing (Y/N)	1.27	-0.09	0.20	-0.68***	1.24	0.49	0.01	0.30
	(3.289)	(0.239)	(0.416)	(0.227)	(2.898)	(2.282)	(0.240)	(0.259)
Very low labor intensity manufacturing (Y/N)	-7.01***	-0.14	-0.19	-0.02	-0.75	1.07	-0.18	0.06
	(2.083)	(0.151)	(0.266)	(0.166)	(3.025)	(1.480)	(0.164)	(0.147)
Retail (Y/N)	5.00**	0.00	-0.03	0.16	-4.54*	0.06	-0.12	-0.27*
	(2.313)	(0.136)	(0.193)	(0.163)	(2.401)	(1.509)	(0.143)	(0.147)
Other services (Y/N)	1.34	0.01	-0.19	-0.26*	-3.66	0.50	-0.16	-0.17
	(1.949)	(0.113)	(0.164)	(0.157)	(3.113)	(1.127)	(0.144)	(0.114)
Exporter (Y/N)	3.84**	0.09	-0.03	0.18*	0.39	-1.07	-0.09	0.15
	(1.492)	(0.117)	(0.173)	(0.103)	(1.569)	(1.200)	(0.115)	(0.118)
Capital/main business city (Y/N)	4.32***	0.08	0.29*	0.43***	-1.01	1.20	0.16	-0.21**
	(1.619)	(0.098)	(0.163)	(0.132)	(2.164)	(1.040)	(0.125)	(0.101)
Manager experience (years)	-0.05	0.00	-0.03***	0.00	-0.17**	-0.12**	0.00	0.00
	(0.053)	(0.004)	(0.008)	(0.005)	(0.080)	(0.045)	(0.004)	(0.005)
Djibouti (Y/N)	10.54***	0.17	0.22	0.07	12.81***	6.84***	0.77***	0.91***
	(2.808)	(0.153)	(0.202)	(0.184)	(4.008)	(1.555)	(0.170)	(0.157)
Jordan (Y/N)	-4.69**	-0.03	-0.93***	0.14	7.30***	6.13***	0.34*	0.25
	(1.875)	(0.161)	(0.285)	(0.147)	(1.688)	(1.432)	(0.189)	(0.169)
Lebanon (Y/N)	11.06***	0.77***	-0.79***	0.90***	9.02***	5.58***	1.08***	0.82***
	(2.238)	(0.146)	(0.276)	(0.154)	(2.928)	(1.554)	(0.160)	(0.155)
Morocco (Y/N)	14.09***	0.45***	-0.38*	0.49***	10.25***	6.69***	0.87***	0.65***
	(1.907)	(0.118)	(0.201)	(0.163)	(2.074)	(1.177)	(0.143)	(0.139)
Tunisia (Y/N)	17.72***	0.96***	-0.22	0.81***	1.19	2.82**	0.99***	0.50***
	(2.056)	(0.123)	(0.212)	(0.123)	(2.194)	(1.273)	(0.146)	(0.132)
West Bank And Gaza (Y/N)	-3.22	-0.04	-0.88**	-0.09	14.25***	10.47***	0.90***	0.40***
	(2.177)	(0.184)	(0.412)	(0.139)	(2.866)	(1.703)	(0.158)	(0.154)
Yemen, Rep. (Y/N)	-4.75**	-0.46**	-0.47	-0.86***	-0.52	-1.02	0.89***	1.09***
	(2.183)	(0.191)	(0.316)	(0.288)	(7.148)	(1.786)	(0.289)	(0.124)
Female participation in ownership (Y/N)	0.03**		0.01***	0.00	0.00	-0.02	0.00**	0.00**
	(0.015)		(0.002)	(0.001)	(0.015)	(0.011)	(0.001)	(0.001)
Female top manager (Y/N)	0.14***			-0.00*	0.01	-0.01	0.00	0.00
	(0.036)			(0.002)	(0.025)	(0.017)	(0.002)	(0.002)
Female full time workers (%)				0.00	0.04	0.00	0.00	0.00
				(0.003)	(0.034)	(0.018)	(0.002)	(0.002)
Constant	7.28**	-1.54***	-1.41***	10.88***	-2.24	3.02	-1.60***	-1.39***
	(2.834)	(0.197)	(0.244)	(0.186)	(3.739)	(2.141)	(0.190)	(0.180)
Observations	5,077	5,625	5,624	4,553	3,697	4,476	5,048	5,034

Source: Enterprise Surveys.

Note: Standard errors in parentheses. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively. Innovator means the firm has introduced a new or significantly improved product, service, or process. Manufacturing sectors are classified as follows, based on Xu (2003): High labor intensity: wearing apparel, leather, furniture; moderate labor intensity: wood products, publishing, printing; low labor intensity: food, tobacco, textiles, paper and paper products, rubber and plastics, machinery and equipment, electrical machinery and apparatus, motor vehicles, transport equipment, other manufacturing; very low labor intensity: coke, refined petroleum products and nuclear fuel, chemicals and chemical products, basic metals, fabricated metal products, other non-metallic mineral products. All regressions control for a dummy variable indicating whether at least 10 percent of the firm is owned by foreign agents and economy fixed effects. Ordinary least squares regression coefficients reported for columns 1, 4, 5, 6; probit regression coefficients reported for columns 2, 3, 7 and 8.

TABLE A4.2: Percentage of workers under 30 and key performance indicators

Dependent variable	(1) Percentage of workers under 30	(2) Annual employment growth (%)	(3) Purchase of fixed assets in last FY (Y/N)	(4) Innovator (Y/N)
Size (log)	3.39***	2.84***	0.33***	0.18***
	(0.819)	(0.455)	(0.045)	(0.048)
Age (log)	-8.52***	-2.84***	-0.18***	0.01
	(1.231)	(0.896)	(0.063)	(0.067)
High labor intensity manufacturing (Y/N)	-0.56	-3.10	-0.50**	0.12
	(2.989)	(2.276)	(0.228)	(0.167)
Moderate labor intensity manufacturing (Y/N)	-1.87	2.95	0.08	0.21
	(3.234)	(2.788)	(0.278)	(0.331)
Very low labor intensity manufacturing (Y/N)	-0.22	1.83	0.10	0.32*
	(3.641)	(1.597)	(0.199)	(0.194)
Retail (Y/N)	-1.44	0.73	-0.03	-0.34**
	(2.937)	(1.613)	(0.159)	(0.163)
Other services (Y/N)	-3.27	1.42	-0.04	-0.16
	(2.652)	(1.193)	(0.155)	(0.135)
Percentage of under 30		0.06***	0.01***	0.01**
		(0.02)	(0.002)	(0.002)
Constant	52.81***	-2.16	-1.92***	-1.55***
	(4.147)	(2.532)	(0.246)	(0.239)
Observations	4,149	3,689	4,135	4,115

Source: Enterprise Surveys.
Note: Standard errors in parentheses. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively. Innovator means the firm has introduced a new or significantly improved product, service, or process. Manufacturing sectors are classified as follows, based on Xu (2003): High labor intensity: wearing apparel, leather, furniture; moderate labor intensity: wood products, publishing, printing; low labor intensity: food, tobacco, textiles, paper and paper products, rubber and plastics, machinery and equipment, electrical machinery and apparatus, motor vehicles, transport equipment, other manufacturing; very low labor intensity: coke, refined petroleum products and nuclear fuel, chemicals and chemical products, basic metals, fabricated metal products, other non-metallic mineral products. All regressions control for dummy variables indicating if there is at least one woman among the owners, if the top manager of the firm is a woman, if at least 10 percent of the firm is owned by foreign agents, if at least 10 percent of annual sales of the firm are made abroad, and they control for the years of experience the top manager of the firm has working in the industry, and economy fixed effects. Ordinary least squares regression coefficients reported for columns 1 and 2; probit regression coefficients reported for columns 3 and 4.

TABLE A4.3: Probability of offering training

Dependent variable	Formal training (Y/N) (1)	(2)
Proportion of workers younger than 30	0.66***	0.61**
	(0.235)	(0.241)
Share of university educated employees		0.79***
		(0.215)
Constant	-2.21***	-2.30***
	(0.264)	(0.272)
Number of observations	4,461	4,331

Source: Enterprise Surveys.
Note: Simple probit estimations using survey-weighted observations (using Stata's svy prefix). Standard errors in parentheses. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively. Variables omitted from the table: Foreign ownership, exports, young firms, firm size, manager university education, manager experience, sector, locality, and economy fixed effects.

TABLE A4.4: Probability of reporting skill shortages as a constraint

Dependent variable	Inadequately educated workforce a very severe constraint (Y/N)
Proportion of workers younger than 30	0.67**
	(0.292)
Constant	-2.84***
	(0.383)
Number of observations	4,386

Source: Enterprise Surveys.
Note: Simple OLS estimations using survey-weighted observations (using Stata's svy prefix). Standard errors in parentheses. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively. Variables omitted from the table: Foreign ownership, exports, young firms, firm size, manager university education, manager experience, sector, locality, and economy fixed effects.

TABLE A4.5: More productive firms are more likely to expand in size

Dependent variable	(1) Small firm in 2012 (Y/N)	(2) Medium firm in 2012 (Y/N)	(3) Large firm in 2012 (Y/N)
Log of labor productivity (PPP) in 2009	-0.16***	0.09**	0.19***
	(0.041)	(0.035)	(0.049)
Small (5-19 employees) in 2009 (Y/N)	2.64***	-2.40***	-1.66***
	(0.119)	(0.105)	(0.238)
Large (+100 employees) in 2009 (Y/N)	-3.07***	-2.29***	3.13***
	(0.364)	(0.137)	(0.156)
Young firms (0-10 years) (Y/N)	-0.08	0.09	-0.08
	(0.119)	(0.11)	(0.162)
Constant	0.87*	-0.37	-3.49***
	(0.477)	(0.413)	(0.586)
Number of observations	4,365	4,365	4,365

Source: Enterprise Surveys.
Note: PPP—purchasing power parity. The regressions include controls for economy, sector and locality fixed effects. Standard errors in parentheses. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively. Probit regression coefficients are reported.

TABLE A4.6: The rate of growth of employment is lower for firms that have lower initial labor productivity level and for credit-constrained firms

	Annual employment growth (%)
Credit-constrained (partially and fully) (Y/N)	-4.06***
	(1.399)
Log of labor productivity (PPP) winsorized, 3 FY ago	1.26***
	(0.382)
Corruption: major constraint (Y/N)	-1.99**
	(0.997)
Small firms (based on size 3 FY ago) (Y/N)	6.81***
	(1.419)
Large firms (based on size 3 FY ago) (Y/N)	1.71
	(1.273)
Young firms (0-10 years) (Y/N)	3.52***
	(1.309)
Constant	-18.19***
	(5.075)
Sample size	3,911
R-squared	0.171

Source: Enterprise Surveys.
Note: OLS regressions. Standard errors in parentheses. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively. The regressions include controls for economy, 2-digit sector and locality fixed effects.

TABLE A4.7: The wage-size effect in the MENA ES region

Dependent variable	Log (Average wage bill, PPP-adjusted) (1)	(2)
Size (log)	-0.06**	-0.09***
	(0.031)	(0.033)
Age (log)		0.07**
		(0.035)
Labor productivity (2012 USD)		0.39***
		(0.033)
Manager has university education (Y/N)		-0.03
		(0.074)
Percentage of workers with university degree		0.14
		(0.133)
Formal training (Y/N)		0.13
		(0.080)
Constant	9.74***	5.41***
	(0.232)	(0.440)
Observations	5,348	4,668
R-squared	0.166	0.376

Source: Enterprise Surveys.
Note: OLS regressions. Standard errors in parentheses. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively. Economy and 2-digit sector fixed effects not shown.

TABLE A4.8: The wage-size effect in the MENA ES region

Dependent variable: Log (Average wage bill, PPP-adjusted)	Lower-middle-income		Upper-middle-income	
	(1)	(2)	(3)	(4)
Size (log)	-0.10**	-0.12***	-0.03	-0.06
	(0.047)	(0.046)	(0.034)	(0.042)
Age (log)		0.08		0.06
		(0.051)		(0.036)
Labor productivity (2012 USD)		0.43***		0.29***
		(0.042)		(0.048)
Manager has university education (Y/N)		-0.06		0.04
		(0.114)		(0.080)
Percentage of workers with university degree		0.00		0.38**
		(0.171)		(0.167)
Formal training (Y/N)		0.17		0.09
		(0.112)		(0.110)
Constant	9.85***	5.07***	9.57***	6.25***
	(0.271)	(0.574)	(0.228)	(0.520)
Observations	3,782	3,207	1,566	1,461
R-squared	0.152	0.387	0.039	0.198

Source: Enterprise Surveys.
Note: OLS regressions. Standard errors in parentheses. ***, ** and * denote statistical significance at the 1, 5 and 10 percent levels respectively. Economy and 2-digit sector fixed effects not shown.

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