2. JOB CREATION IN THE FORMAL PRIVATE SECTOR: HIGH CAPITAL-LABOUR INEQUALITIES, LOW TOTAL FACTOR PRODUCTIVITY AND SLUGGISH EMPLOYMENT DEMAND
### KEY FINDINGS

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A. Overview

The current COVID-19 pandemic is expected to reduce the dynamism of private-sector growth and employment creation in productive sectors that perform the most value-added GDP activities and, most importantly, in more labour-intensive sectors. These sectors include hotels and restaurants, retail, manufacturing, and business and administrative activities.\(^1\) The output loss in these sectors is expected to be high in many Arab economies, which will certainly reduce employment demand to record low levels. Chapter 1 already reflected on the loss in working hours for the first three quarters of 2020. While this study will show, at a later stage, ways for policymakers to reduce the impact of the COVID-19 pandemic on production in the short run, this chapter will set the stage for medium- and long-term polices. Out of the 2.8 million net new job market entrants each year, the majority find jobs in the informal and the public sector. This chapter will mainly focus on the policies needed to create additional jobs in productive sectors that could match the growth in labour supply. It will focus on the role of technology, capital-labour substitution, productivity, and employment elasticities at the business and industry levels.\(^2\) The analysis will showcase which sectors are more productive and innovative and employ the most in the non-oil Arab formal private sector.\(^3\)

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1 ILO, 2020b.

2 The most recent World Bank Enterprise Surveys were used for a selection of Arab States. These surveys include a wide array of private-sector development-related indicators, such as the business environment, private-sector infrastructure, sales and supply of output, competition, innovation, capacity, finance, business-Government relations, trade and, most importantly, labour demand, technology and innovation, and human capital.

3 We build our analysis in this chapter on the following five sectors: (1) manufacturing; (2) construction; (3) wholesale and retail; (4) hotels and restaurants; (5) transport and communications. To increase robustness, we restrict our country coverage to those that have an acceptable number of observations across all indicators we intend to monitor. We also drop outliers to avoid measurement biases and reduce their impact on our estimates. One thing worth mentioning is that previous private-sector surveys still provide valuable information. Since the dramatic changes of 2010, the region has faced economic stagnation, and is also expected to suffer from a contraction in its economic cycles in 2020 with subdued economic recovery in 2021. This stagnation can be explained by the limited status of structural transformation in non-oil economies such as Tunisia, Morocco, Egypt and Jordan, and sectoral degradation in Lebanon and conflict-affected countries, without forgetting the lack of diversification in natural resource-rich economies. This analogy validates why using older (2011-2016) surveys on private-sector development still provides valuable insights for future policy discourse, benefiting employment creation, productivity and inclusiveness on the one hand, while reducing inequality on the other.
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B. Inequality between capital and labour in production: the substitution effect

The income share for workers worldwide is decreasing and dropped from 53.7 per cent in 2004 to 51.4 per cent in 2017.\(^4\) The effects of this trend are still ambiguous since forces behind the declining wages are yet to be investigated and understood.\(^5\) It is commonly accepted that labour wages are the main source of household income. Thus, factors that lower employment demand and wage share in total income will more likely fuel income inequality, especially in the presence of a higher share of capital employment in production.\(^6\)

This hypothesis can be justified as follows: Capital ownership is concentrated among the most affluent, and an increasing share of capital in production could eventually raise incomes for those who are at the top percentile of the income distribution, widening the inequality gap between capital owners and wage earners.

In brief, wage share in income expresses the importance of different types of labour participation in output creation and measures the intensity of labour inputs in the production process. At the same time, it can be considered as a measure of productivity. Firms that generate higher levels of revenue with a constant level of labour costs in the short run signal higher efficiency in production. On the contrary, higher factor inputs relative to total revenue reflect the low level of know-how and lower efficiency driven by outdated technologies putting aside legislative and institutional settings. The question of interest is whether the share of factor inputs can be decreased. The answer is yes. Theoretically, a stochastic technology shock will increase productivity and reduce the rental cost of both capital and labour relative to output. However, this increase in productivity relative to factor cost might not diverge permanently as higher sales can lead to a higher demand for capital and labour in the long run, depending on the level of price rigidity of factor inputs and recent innovations in production.\(^7\)

The situation in the Arab world might be different. If the manufacturing sector is taken as a benchmark, efficiency in production is relatively low (the level of TFP compared to similar income groups will be discussed later); and subsidized energy prices, in Egypt, Tunisia, and GCC, for instance, favour capital-intensive production, depressing wage rents relative to capital rents and boosting inequality for the same reasons explained above. As mentioned earlier, the drivers behind lower wage shares are not all fully understood, but, in the Arab world, the technological gap and higher factor input substitution might explain the dominant role of capital in production compared to labour (figure 6). Since the capital share is significantly higher than the labour share in most Arab countries, any increase in employment might not be proportionate to the marginal increase in output.

Figure 6 shows that, in 2013, firms in the Arab States tend to spend a significantly higher share of their total revenue on capital rents compared to wages, as is the case in Egypt, Jordan, Lebanon, and Tunisia. Comparing wages as a share of total revenue in Arab countries with other countries with similar income levels, most Arab States have a lower share of wages in income for the same year even in countries with higher technology stock (proxied by the levels of TFP).\(^8\) If this bias towards higher capital intensity sustains, it will

\(^4\) ILO, 2019a.
\(^5\) ILO, 2014.
\(^6\) Wolff, E. N., 2010.
\(^7\) Mangin, S., 2014.
\(^8\) Data unavailability made it impossible to compare the capital share.
eventually push wages downwards, reducing job quality and eventually fuelling inequality between factor inputs even further.9

Our investigation of the wage and capital shares at the sectoral level revealed that the share of wages in manufacturing is even lower than a country’s aggregate averages associated with a higher share of capital. This applied to all Arab States and could explain the dilemma of higher labour productivity and low TFP in manufacturing. Countries with similar income levels in Asia and Latin American, for instance, experience the exact opposite, namely, an wage share in manufacturing above average, compared to other sectors. Consequently, it is not discouraged to transform production towards manufacturing in the Arab world; yet, transformation towards higher productive activities, such as manufacturing, should also consider firms with higher employability instead of higher productivity as a result of low employment growth relative to output growth. The only sector with a higher wage share are hotels and restaurants. Here, the wage share is higher than the capital share as this sector is known to be more labour-intensive than other sectors.

Even though many lessons have yet to be learned from the current COVID-19 pandemic, many scholars have agreed that, similar to other pandemics, the COVID-19 outbreak is expected to exacerbate factor inequality for the following reasons: first, capital owners could rely on their wealth and their access to financial intermediaries in order to survive the crisis and recover from it faster; second, the demand for low-skilled employment will drop significantly, while high-skilled employment will only be mildly impacted as it usually compliments technical advancement; and third, the pandemic might push for additional automation in production to minimize social interaction which, in turn, deploys more capital in production.

Figure 6. Cost of capital and wages as a proportion of total sales (percentage)

![Graph showing cost of capital and wages as a proportion of total sales (percentage)]

Source: ESCWA calculations based on the Enterprise Survey.

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9 The increase in wage shares in Arab countries with multiple surveys was due to their significant drop in sales and not due to additional hiring. This becomes evident when assessing business sales in Jordan, Lebanon and the State of Palestine.
Assuming that capital and labour complement one another in the Arab States, this implies that any increase in capital share will increase the capital-to-labour ratio, marginal productivity of labour and, eventually, wages that might overcompensate for the drop-in employment with a higher wages bill. However, if capital substitutes labour, capital-augmented technologies could increase capital intensity and negatively impact the wage share. The data in figures 7 and 8 justify this claim. Firms that spend on R&D and innovation tend to have a lower labour share and a higher capital share in their income. This shows that newer technologies used in production tend to slow down labour growth. The opposite could be claimed too, namely, that technology is labour-augmented, and hiring more capital complements labour in production. Later sections of this chapter will reveal that, at the country level, firms that innovate also experience higher employment growth. However, more innovations are also associated with a decreasing wage share. This leads to the following conclusions: first, technologies augment capital but not labour in production, and resources might shift from labour to capital; second, innovation induces employment growth, where this employment growth is associated with a decrease in wage shares relative to capital share, which will be dealt with later in this chapter. This shows that innovation widens the inequality gap between factor inputs.

The magnitude of factor inputs substitution is still missing from this analysis. It is known that there is no single theory determining the shift of factor shares. Hutchinson and Persyn highlighted that shifts in such factors are due to capital-augmented technological

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**Figure 7.** Cost of capital and wages as a proportion of total sales

![Graph](image1)

**Source:** ESCWA calculations based on the Enterprise Survey.

**Note:** The analysis is based on most recent survey waves which provide data on both capital and wages cost.

**Figure 8.** Cost of capital and wages as a proportion of total sales

![Graph](image2)

**Source:** ESCWA calculations based on the Enterprise Survey.

**Note:** The analysis is based on most recent survey waves which provide data on both capital and wages cost.

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10 A decline in interest rates or capital depreciation rates could play a role similar to that of technological progress in lowering the user cost of capital.
changes, the price of intermediate goods, production efficiency, and labour adjustment costs. They also argued that factors such as competitiveness and market power play a key role in the differences between capital and labour shares. However, as the Fourth Industrial Revolution is progressing, technology is becoming a key driver of capital-labour substitution; and the combination of additional automation in production and the new-normal work environment as a result of COVID-19 might result in additional substitutability.

D. Capital and wage share and other firm characteristics

The following analysis will examine additional firm characteristics and their relation to the share of wages and capital, starting with the wage and capital share taking the firm size as a benchmark. According to figure 9, in the Arab world, wage shares drop as firm size increases, with a somehow stable capital share. This relation between wage share and firm size is consistent over the years in countries having more than one data point. A similar pattern of decreasing wage share is also observed in all other countries with similar income brackets. It must be noted, however, that the drop in wage shares in upper-middle income in Arab countries is higher. To test sectoral results, the change in labour and capital share in the manufacturing sector was checked, assuming that this sector would mimic the Cobb-Douglas production function. Outcomes were similar to data in figure 9, namely, that the manufacturing sector experiences a decreasing share of wages as the size of the firm increases. This analysis is consistent for income brackets in Arab States and other countries.

Figure 9. Factor share by firm size: Arab States versus different income brackets

Source: ESCWA calculations based on the Enterprise Survey.
Note: The analysis is based on most recent survey waves providing data on both capital and wages cost

12 Ibid.
The results presented in figure 9 can be justified as follows: Better technologies and higher market shares are usually concentrated among larger firms, which makes them more profitable and productive than SMEs. As validation of this argument, an observation of the level of innovation (as a proxy for technology) in the Arab States revealed that, on average, large firms tend to innovate more than SMEs. It is surprising, however, that the impact on the wage share is always higher whereas the drop in the capital share for Arab countries is negligible.

In general, the wage share is lower and the capital share is higher in the Arab world compared to other regions, which might reflect an income redistribution phenomenon from labour to capital. Furthermore, plotting the ratio of median to average wage share reveals that most countries in the region have a ratio less than one, indicating a growing inequality among wage earners as well. This explanation can be used to showcase the favouritism in factor input allocation in the Arab world.

In conclusion, there is no doubt that technological advancements have increased people’s welfare and that no policies should be designed that deter the use of capital-augmented technologies. However, sound redistribution policies are needed to increase gains from the realized growth and innovation whenever technology becomes a necessity to complement

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**Box 2. Factor shares and sex**

The two figures below show the extent to which the wage share is impacted by sex of the firm’s owners and top management, hinting at the progressive role of women in the Arab private sector. There is global consensus that women are less privileged than men when it comes to employability, especially in the non-agricultural sectors. The analysis below reveals that firms with predominantly female ownership tend to spend more on employees’ wages and capital rents combined, compared to firms with predominantly male ownership. Wage and capital shares are even higher when firm ownership is completely female. The same applies when females are in top management. It should be mentioned that the below figures are not intended to show that females in the Arab world are less efficient in hiring resources. However, it could be the case that women generally head smaller firms compared to men. Looking at the percentage of firms owned by females, 80 per cent of female ownership in the Arab world hold sole proprietorships. Analysing employment growth among firms by sex ownership, firms owned by females have a higher employment growth compared to others.

**Source:** ESCWA calculations based on the Enterprise Survey.

**Note:** The analysis is based on most recent survey waves providing data on both capital and wages cost.

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human capital. Focusing on better-quality education and skills can augment human capital, avoid the substitution effect of capital in many sectors and aid the structural transformation processes by balancing labour employment to capital more proportionally and by limiting the overutilization of capital. Governments could direct technical changes in production towards policies that promote labour-augmenting technologies by providing incentives such as tax benefits and targeted subsidies, while minimizing any inefficiencies resulting from the reallocation of resources.

E. Total factor productivity

In connection with the previous analysis in this chapter, TFP will be measured in selected Arab countries in order to check the impact of factors other than capital, labour and intermediate goods on the production process. TFP calculation requires factoring out the impact of capital, labour and intermediate goods to identify the impact of all other factors on production. Since firms cannot determine their intrinsic value of TFP, it is usually referred to as the Solow residual. A simple Cobb-Douglas production function is applied to calculate TFP for the Arab States. Only manufacturing firms are used in order not to compromise the structure of the Cobb-Douglas production function.

TFP usually measures the level of efficiency in production. Economic theory reveals that a higher value of TFP is associated with both higher capital and labour productivities. TFP is also considered a key driver of firms’ growth and survival, which, as will be seen later in this chapter, is crucial for employment and output growth of SMEs. The graph below shows firm-level TFP among selected countries around the Arab region.

**Figure 10. Firms with TFP above the average of a country’s income group peers**

Source: ESCWA calculations based on the Enterprise Survey.

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13 Additional information regarding the calculation of TFP is available in the annex.
14 TFP is calculated for the manufacturing sector solely due to the lack of comparability between TFP among industries. Different industries have different shares of intermediate goods compared to others. Further, the factor input/output system deals well, theoretically, with incorporating intermediate material as a factor of production but not with services (see http://www.csls.ca/ipm/1/diewert-un-en.pdf).
15 Rijkers, B., and others, 2014.
For all estimated TFP, most firms have a TFP lower than the country’s average income group, with slightly more than 50 per cent of firms in Tunisia (2013) and Jordan (2019) having a TFP higher than their middle-income peers. In all other countries, TFP scores in more than 50 per cent of the firms are lower than is the case for average firms in countries with similar income brackets. In 2016, almost 65 per cent of Egyptian firms had TFP lower than low-middle-income country averages. Morocco has experienced the largest increase in the number of firms performing above Morocco’s peer income-bracket countries, but still more than 50 per cent of the firms perform below the country’s income bracket averages. Morocco’s outstanding performance is due to the recent structural transformation efforts to advance the manufacturing sector backed up by large European FDIs targeted towards manufacturing. Lebanon, however, regressed by almost 7 per cent due to its socioeconomic and political challenges.

Figure 11 shows the impact of technology diffusion through R&D expenditures on TFP. Firms that spend on R&D have, on average, a higher TFP and, eventually, income compared to those firms that do not. However, linking to the inequality analysis, R&D is also associated with lower wage share relative to capital share. At the same time, TFP enhances output but not wage share. Additionally, as will be discussed later in more detail, innovation is also associated with more employment (depending on the nature of the sector). These findings lead to the conclusion that TFP as a function of technology either depresses the wage share or creates a large increase in income that makes the wage share look trivial. This sends a strong message to policymakers that the Fourth Industrial Revolution and its newer innovations might be detrimental to wage equality among factor inputs. Innovations alone do not necessarily explain TFP growth, but many factors, such as imported technology, experience and spillover effects might also play a key role. For example, figure 12 presents the impact of technological diffusion using the correlation between TFP and years of operation. It reveals a positive association between the experience of firms (using years of operation as a proxy) and TFP in Arab countries.

**Figure 11. TFP and innovation**

<table>
<thead>
<tr>
<th>Innovate</th>
<th>Do not innovate</th>
</tr>
</thead>
</table>
| Mean of log-TFP | 0.143 | 0.15 

Source: ESCWA calculations based on the Enterprise Survey. 
Note: The analysis is based on most recent survey.

**Figure 12. TFP and years of operation**

Source: ESCWA calculations based on the Enterprise Survey. 
Note: The analysis is based on most recent survey.

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16 TFP and sales growth for Arab States are positively correlated.
It was pointed out in the previous section that TFP in the manufacturing sector is less for Arab countries than other countries with similar income levels; other countries also have a lower labour intensity, which explains the misleading claim of acceptable labour productivity levels in the Arab world. Linking these findings with structural transformation of productive sectors such as manufacturing, any strategy should consider that manufacturing in its current state might not optimally absorb the increasingly educated labour supply, notwithstanding its productivity. There is evident evidence that TFP promotes output and employment growth, which means that structural transformation towards more productive sectors can be expedited by investments in TFP determinants. This can happen through investing in quality education, R&D spending on new innovations and enhancing the governance structure for private-sector development and additional entrepreneurship.

F. Private-sector employment demand

Private-sector development not only boosts employability and productivity but also encourages entrepreneurial activities, increases economic participation in entrepreneurial activities and the production process and raises the chance for more social mobility. This section will highlight the capacity of the private sector to create jobs in Arab States. Employment growth among the surveyed formal private-sector firms and industries varied over their last three years of operation. In this section, employment growth was measured by comparing the growth of employment between a firm’s last fiscal year and three fiscal years before. However, aggregating firms to obtain country averages for employment should be approached with caution for the following reasons: first, most firms are in the manufacturing sector and not distributed among all sectors; second, Enterprise Surveys neither include microfirms nor measure companies with less than five employees, even though such firms account for a significant portion of employment in the Arab world; and third, Enterprise Surveys cover different years for different countries, which makes it harder to explain the same year variation in employment growth. The first constraint will be explained later in the chapter by providing a thorough analysis of employment growth at the sectoral level.

At present, certain countries do not enjoy strong employment growth. Figure 13 presents employment growth for one time period for most countries and two time periods for Egypt, Jordan, Lebanon, Morocco, and Yemen. Figure 13 reveals that countries in conflict, except Iraq, and those in transition, such as Egypt and Tunisia, experienced, on average, lower growth than other countries. What is surprising is the recent regression facing Jordan and Lebanon. These two countries experienced a drop in private-sector employment growth, with Jordan regressing from above 10 per cent (almost equivalent to 5 per cent annually) to below 7 per cent (almost equivalent to 3.5 per cent annually) and Lebanon from 7 per cent (almost equivalent to 3.5 per cent annually) to -2 per cent (almost equivalent to -1 per cent annually) between 2013 and 2019. Both countries are experiencing an economic downturn and are surrounded by conflict-affected countries. Lebanon is experiencing the worst economic crisis since the end of its civil war in 1991.

17 Provided this background, the employment growth below is for two years and not on a year-on-year basis.
18 One limitation to be aware of is that these surveys present only the surviving firms in the formal private sector, with no information on changes in the informal sector. The informal sector in the Arab region varies between 20 per cent and 70 per cent and has grown significantly in many countries due to the recent political instability and low economic growth.
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It is obvious that employment growth in the formal private sector depends on the political situation. For instance, low employment growth in the State of Palestine and Yemen is impacted by the ongoing conflict. The low employment growth in Tunisia between 2010 and 2013 reflects the impact of the uprising. The large negative employment growth in Egypt in 2013 was impacted by the political unrest between 2010 and 2012; and some signs of recovery were noticed starting 2014, as reflected by 2016 data. In all investigated countries, political unrest had a negative impact, yet at varying levels, depending on the intensity of the political shock. It can be concluded that improved socioeconomic and political conditions at the country level will enhance employment creation in the Arab world.

Employment demand in large firms is higher than in SMEs. An investigation into sectoral-level employment demand revealed the same pattern. This pattern is against Gibrat’s law, which claims that smaller firms grow faster than other firm types. There is no doubt that SMEs create more jobs, comprising a share of more than 90 per cent of total firms in the Arab world. However, these firms tend to exit the market faster and have a lower employment and output growth potential. Using establishment data, Rijkers and others\(^\text{19}\) provided clear evidence from Tunisia that job growth among surviving small firms was very poor, proving that, within the current economic structure and regulatory framework, small firms will not grow faster than large firms. Finally, if employment growth is taken for an average year-on-year basis for the whole region, the region’s weighted average rate is 2 per cent, small enterprises having the lowest annual growth of an average of 1 per cent.

The firm-level analysis reveals that less than 8 per cent of small firms grow into medium-sized ones, and less than 1 per cent of medium-sized firms become large, with older firms dominating the large-firm group. This happens for the following two reasons: first, the jump from small to medium-sized, meaning from fewer than 20 employees to more than 20 employees, is considered a short jump, compared to moving from medium-sized to large, meaning from fewer than 100 employees to more than 100 employees; and second, the number of small firms is significantly greater than the number of

\(^\text{19}\) Rijkers and others, 2014.
medium-sized and large firms, and many of these small firms are already at the borderline between being classified as small or medium in size. Introducing the anomaly that small firms share the biggest responsibility of private-sector stagnation confronts policy-makers with a challenging policy dilemma, namely, whether they should keep incentivizing small enterprises that do not grow in size, and most likely exit the market in the medium to long term, or whether they should support larger firms that grow faster, with a bigger market share, better technology and, most of the time, closer ties to political elites, especially in the Arab world.

The above figures reveal that firms grow the most at the start of their business operations, with medium-sized and large firms growing faster than small firms. It is interesting that the employment growth of small firms that are sustainable over the long-term declines eventually, while large and medium-sized firms that operate over the same period settle at slightly less than 10 per cent employment growth (or an annual growth of 5 per cent). The analysis further reveals that firm size also matters for the types of skills hired. Small firms hire the least number of skilled workers, which also flags the role of small enterprises in absorbing the large fraction of unemployed skilled youth. These descriptive statistics on firm size, employment and years of operation provide a clear signal on how firms might abandon skills as they age.

G. Sectoral growth

While there is consensus that private-sector development could create more jobs and improve structural transformation, there is limited knowledge on what types of firms create the most productive employment. As explained in this chapter, not all private-sector firms generate enough jobs, especially when talking about the myth of manufacturing as a key job absorber in the region. Different sectors have different impacts on employment creation in different countries, and job creation in some sectors is less sustainable than in others. For example, in the past,
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construction in Iraq and Lebanon appears to have experienced a higher growth in employment than other sectors (figure 17). However, employment in construction is widely known to be unsustainable, susceptible to economic fluctuation and less decent than other jobs.\textsuperscript{20} Lebanon, for instance, experienced a drastic drop in construction sector employment in 2019 relative to the drop in other sectors, which proves the necessity to strengthen more resilient sectors such as manufacturing and wholesale and retail.

Figure 17 also reveals high fluctuations in the tourism sector over time, with more jobs created in relatively stable countries pre-2019 and minimal or negative growth in transitional and conflict-affected States. However, hotel and restaurant business has recently regressed in all countries, except in Morocco. This sector will experience additional deterioration or at least stagnate in many countries in the Arab world due to the COVID-19 lockdown measures. The same conclusion can be drawn for the transport sector. Manufacturing and wholesale, however, seem less impacted by political turbulence and are expected to be less impacted by the pandemic relative to transport and tourism. Employment growth in manufacturing and wholesale across countries is more resistant to economic and political instability. According to the above graph, the manufacturing sector in countries with more than one data point experienced a less pronounced decline compared to other sectors, suggesting that manufacturing is more resilient to shocks compared to other sectors.

H. Labour productivity and employment elasticity

In general, labour productivity in Arab States is higher than in their income-per-capita peers. However, as presented earlier, this high level of productivity is due to the large share of capital relative to labour. It is worth noting that manufacturing is among the productive sectors in all Arab States especially in SMEs. However, as seen previously, employment growth in manufacturing was moderate compared to sectors less susceptible to political risks. According to

\textsuperscript{20} Assaad, R., C. Krafft and S. Yassin, 2018a.
table 2, hotels and restaurants in almost all countries have the lowest labour productivity and did not experience a high employment growth as this sector is known to be labour-intensive. Productivity levels were higher for other services in the formal private sector. For instance, the transport sector is the most productive in Lebanon, followed by Tunisia and Jordan. Productivity levels in wholesale and retail are also high, compared to manufacturing and hotel and restaurants in almost all countries, with Lebanon and Egypt scoring highest.

Construction has the highest productivity swings in almost all countries. Jordan experienced a high level of employment in construction accompanied with the highest productivity level. This analysis provides clear evidence that the construction sector creates the most jobs in stable countries. However, compared with other sectors, construction is more vulnerable to economic and political shocks, as shown in countries in transition, conflict-affected countries and Lebanon. These observations lead to the conclusion that conflict-affected countries in the Arab region could utilize the opportunity of additional employment in post-conflict reconstruction as a tool for reconciliation.

With respect to the employment-sales (output) elasticity, the Enterprise Survey revealed that output growth did not create employment in the private sector (table 3). Employment-output elasticity varies among sectors in different countries and employment in different sectors responds differently to changes in sales. These statistics raise several questions about job creation within sectors in the Arab region. Generally,
employment elasticity in the private sector is considered low because of rigid labour regulations, a poorly educated workforce, a weak business environment and, most importantly, the substitution of labour with capital especially in sectors where automation augments capital and not labour.

Unlike the rest of the world, employment elasticity significantly below the average income group for most Arab States, with Iraq experiencing a negative employment elasticity in all sectors. Only Morocco’s sales growth is generating more employment with elasticities in almost all sectors exceeding the average elasticities of lower-middle-income countries in the same sectors. Morocco’s elasticities increased in almost all sectors, except the transport sector, between 2013 and 2019.

I. Employment growth and innovation

R&D can transform knowledge into innovations that create new markets adding to economic growth and improving people’s well-being if benefits are distributed properly. Analysing R&D and innovations and their connection to employability at the firm level can provide a clearer view compared to the macro-level analysis, as it is harder at the aggregate level to distinguish between innovation-led employment and employment generated by industrial reforms. However, it is tricky at the policy level, to show how R&D and innovations in the private sector can lead to a net growth in employment, resettle skill use and absorb new entrants to the job market in a region with high fertility rates and a large working-age population.

Successful innovations that target production processes can come, at times, at the cost of employability, especially when the innovation is intended to save labour cost. According to the Enterprise Survey, these types of innovations are more prevalent among SMEs, which tend to reduce their costs to stay more competitive. Splitting innovations by sectors reveals that the fraction of firms experiencing process innovation was greater than those investing in product innovation, with the largest disparity in wholesale and retail and hotels and restaurants. What is even more interesting is that sectors with a higher fraction of firms spending on R&D have a higher fraction in both process and product innovation.

To have a detailed look at the impact of innovations on employment, figure 18 shows employment growth by type of innovation. Investment by hotels and restaurants in process innovation is associated with lower employment growth. Process innovation in the hotel and restaurant sector tends to enhance process efficiency in production and reduce labour cost relative to product innovation. This is logical in such a sector, especially since labour cost is considered among the highest compared to other operating costs. The same applies to the real-estate sector, where innovations are associated with lower employment growth compared to other sectors. These results are persistent even when comparing old and new innovations by sectors reveals that the fraction of firms experiencing process innovation was greater than those investing in product innovation, with the largest disparity in wholesale and retail and hotels and restaurants. What is even more interesting is that sectors with a higher fraction of firms spending on R&D have a higher fraction in both process and product innovation.

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waves for countries with more than one-year data points. In the wholesale and retail sector, employment growth is higher in general. Employment growth in manufacturing is higher among firms that innovate both in process and product, but employment growth is still positive whether firms are innovative or not. It is also interesting to see that innovation in manufacturing leads to the highest level of employment compared to other sectors. Innovations in the transport sector are pro-employment growth. Figure 18 reveals that no innovations in the transport sector might lead to losing a firm’s workforce over time. It is also worth noting that the level of R&D in the Arab world is one of the lowest compared to similar income bracket groups.

An analysis of the R&D level of the formal private sector in a selection of Arab countries reveals that Tunisia has the highest fraction of firms that invest in R&D, followed by Morocco and Lebanon, with Egypt at the lower end of the spectrum. It is worth mentioning that countries with a higher fraction of firms spending on R&D do not necessarily have higher employment growth. Assuming that R&D spending results in innovation, the purpose of this innovation will be implicit by nature and dependent on many factors. For example, and as mentioned earlier, the impact on employment will vary depending on whether any given innovation is targeted towards process enhancement, which is less likely to generate new jobs compared to innovations targeted towards the creation of a new product. In general, and as seen in figure 19, the results show that less than 30 per cent of the firms in Arab States invested in either process or product innovation compared to almost 38 per cent of firms in countries in the upper-middle and lower-middle-income bracket.

The above analysis reveals that the impact of innovation in Arab countries is sector-specific. In order to optimize employment growth, different sectoral policy directions are required if countries in the region intend to build an innovative private sector capable of creating jobs. The role of innovations in the Arab region could be substantial since the highest unemployment in Arab States is found among educated people and a significant fraction of human capital could be utilized in R&D activities to create new products, expand existing markets and hire new people. This is partially

Figure 18. Employment growth, by type of innovation

![Figure 18](image)

Source: ESCWA calculations based on the Enterprise Survey.  
Note: The analysis is based on most recent survey.

Figure 19. Fraction of innovating firms

![Figure 19](image)

Source: ESCWA calculations based on the Enterprise Survey.  
Note: The analysis is based on most recent survey.

24 We use the latest observation from the Enterprise Survey waves.
evident if gig economy\textsuperscript{25} is taken as an example how innovations based on personal initiatives around the region have created multiple job opportunities, especially for women. Aside from the gig economy, the scenario in the region is a different one. Any economic transformation in the Arab region must consider the impact of the Fourth Industrial Revolution on employment creation and the new work modality dictated by the COVID-19 pandemic. The mix between technology, industrial structure and associated Government policies can provide the basis for countries in the Arab world to better prepare for increased job creation in the formal private sector.

\section*{J. Biggest obstacles facing private-sector development}

This section assesses how the perception of certain major obstacles affects employment across selected sectors. Figure 20 depicts the biggest obstacles impairing firm performance as reported by the surveyed enterprises. Political instability, access to finance, tax rates, electricity, and corruption are at the top of the list. It is important to note that most of these surveys were conducted during the years of the Arab uprisings, namely, 2011-2019, characterized by intensified political turmoil and violent conflicts in the region. Most of the surveyed firms operate in countries that were affected either directly by political unrest or indirectly through regional conflict and spillover effects. Indeed, conflicts were not confined to national borders, but rather created a broad sweep of political instability and uncertainty. Political instability may substantially impair firm performance by fostering uncertainty, increasing certain risks and invoking risk-averse behaviour. Reduced investor and consumer confidence subsequently limit investment and consumption.\textsuperscript{26} Hence, it is understandable that political instability was the primary obstacle reported by firms surveyed during this time period.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure20.png}
\caption{Biggest obstacles reported by firms in Arab States (percentage)}
\end{figure}

\textbf{Source:} ESCWA calculations based on the Enterprise Survey.
\textbf{Note:} The analysis is based on most recent survey.

\textsuperscript{25} A gig economy is a free-market system in which temporary positions are common and organizations contract independent workers for short-term engagements.

\textsuperscript{26} See Bernanke, B. S., 1983; and Alesina, A. and R. Perotti, 1996.
K. Policy recommendations

This chapter clarifies a number of issues facing labour market demand for a selection of Arab countries. The above analysis leads to the following policy recommendations:

1. To introduce stimulus packages especially targeted at micro-enterprises and SMEs in order to secure liquidity for vulnerable firms. This could be done by supporting credit guarantees for short-term liquidity needs (bridge loans at zero interest rates). In addition to debt repayment deferrals, Governments should be aware that micro-enterprises and SMEs are also in need of cash flow to cover short-term expenses should deferral payment not be enough.

2. To update policies supporting SMEs to sustain and grow. At the same time, Governments should consider the general private-sector development atmosphere (including access to finance, taxes and competition with informal firms, among others), SME’s structure and the type of employment created by SMEs, especially if such firms are within the desired overall structural transformation framework. Moreover, the SME support ecosystem needs to be significantly strengthened beyond access to finance to include pooled R&D (in order to enhance TFP) and business innovations in order to serve the dual purpose of sustainability of SMEs (as a source of long-term growth and revenue) and job creation (as a source of long-term stability and a cornerstone of long-term SDG policies).

3. To offer additional incentives for private-sector innovation with a focus on more labour-augmented technologies in production. This will compliment employed capital and advance TFP. R&D spending should be scaled up to match global trends. This will increase knowledge production, innovate new products, expand existing markets, and create more jobs. Innovations also increase the productivity of capital and labour combined and enhance production competitiveness. At the same time, policymakers should come up with sound and fair income redistribution policies to reduce the gap between capital owners and income earners.

4. To lessen the rigidity in labour laws and regulations, have a more skilled workforce and ensure a stronger and more competitive business environment to increase employment elasticities. Thus, mass employment creation requires revising labour regulations to be more accommodative to workers with skills and reduce the cost of employment. Moreover, a vibrant and growing private sector supported by governmental policies can enhance employment elasticity.
To focus on better quality education, deep skilling and reskilling, especially among the mid-skills bracket. This can add human capital to technology and increase the share of labour income relative to the capital shares or, at least, reduce the gap between capital and labour shares. This will also balance employment opportunities more proportionally among different skill levels.

To develop sector-specific policies that tackle the impact of technology on employment creation, whereby no policies should be mainstreamed among all sectors. Since new innovations increase employment growth in the construction, manufacturing, transport, and wholesale and retail sectors, policies incentivizing innovation in such sectors should be advanced. However, policymakers should protect employment in the real-estate and the hotel and restaurants sectors in light of new innovations.

To ensure that, during the post-conflict reconstruction stage, especially in countries such as Iraq and Yemen, the construction sector plays a key role in employment creation and represents a fruitful entry point for reconciliation. This requires uninterrupted episodes of political stability. At the same time, advancing the economic and institutional governance structure will enhance the private-sector infrastructure including financial needs.