

BOX 2.4.1 Labor productivity in the Middle East and North Africa: Trends and drivers

Labor productivity growth in the Middle East and North Africa (MENA) has been the weakest among emerging market and developing economy (EMDE) regions, both pre-crisis and post-crisis. It averaged 0.3 percent between 2013-18, although with wide heterogeneity. Weak productivity growth had widened the productivity gap between advanced economies and MENA EMDEs. Large public sectors, underdeveloped private sectors, and lack of economic diversification hold back productivity growth, although recent reform initiatives in many countries in the region are promising.

Introduction

Labor productivity growth in the Middle East and North Africa (MENA) has been the weakest among emerging market and developing economy (EMDE) regions, averaging 0.3 percent during 2013-18 (Figure 2.4.1.1). There is wide heterogeneity across the region in productivity growth, but on average, the productivity gap between MENA EMDEs and advanced economies has widened. In energy exporters, labor productivity growth has been severely constrained by weak investment, while in energy importers, it has stagnated below the EMDE average rate. Moreover, the continuing importance of commodity exports in many economies means that they have not experienced the diversification or expansion of other sectors that helped drive high productivity growth in regions like East Asia and the Pacific.

Against this backdrop, this box addresses the following questions for the MENA region:

- How has productivity growth evolved?
- What factors have been associated with productivity growth?
- What policy options are available to boost productivity growth?

Unless otherwise noted, discussion of productivity in this box refers to labor productivity, measured as output per worker. The primary sample under which regional labor productivity trends are discussed is based on 14 MENA economies: Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, and the United Arab Emirates.

Evolution of regional productivity

Low labor productivity growth. From already weak pre-crisis rates (1.3 percent during 2003-08), labor productivity growth in MENA decelerated further, to

about 0.3 percent during 2013-18. This slowdown affected about half of EMDEs in the region, especially energy exporters (Figure 2.4.1.2). Weak post-crisis productivity growth in the region continues a long-standing trend that featured productivity growth below the EMDE average for the past two decades.

Within-region heterogeneity. Productivity trends in the MENA region differ considerably by country. Among energy exporters, productivity growth averaged about 0 percent in 2013-18 amid a 50 percent oil price collapse from its mid-2014 peak. The oil price collapse also did not greatly benefit energy importers in the region – productivity growth remained flat at about 1.5 percent during both 2003-08 and 2013-18, well below the EMDE average.

Wide dispersion in labor productivity levels. At nearly half of advanced-economy productivity, MENA has the highest productivity level of any EMDE region. However, productivity levels in MENA differ widely within region, with substantially higher levels in the Gulf Cooperation Council (GCC) economies than in energy importers. This disparity reflects the variation in natural resource endowments between lower-middle-income energy importers such as Egypt, Morocco, and Tunisia, and high-income energy exporters such as Saudi Arabia and United Arab Emirates. MENA's convergence towards advanced economy productivity levels has decelerated further from the 2003-08 to 2013-18 periods due to weak productivity growth.

Sources of labor productivity growth. In the two decades prior to the oil price collapse of 2014-16, labor productivity growth in the region was primarily supported by capital deepening, driven by capital investment by energy exporters (IMF 2012, 2015; Malik and Masood 2018). In an alternative labor productivity decomposition that also incorporates natural resources (Brandt, Schreyer and Zipperer 2017), natural resource activity appears to drive MENA productivity growth significantly. Its average contribution to productivity growth shrank from about 1.2 percentage points during 2003-08 to 0.2 percentage point during 2013-14, the last year for which natural resources data are available (Figure 2.4.1.2).

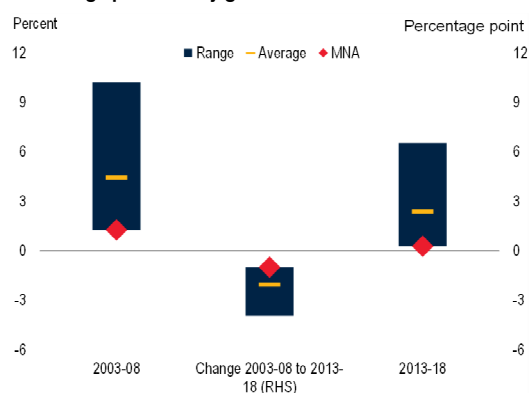
Note: This box was prepared by Lei Sandy Ye, building upon analysis in Chapter 3. Research assistance was provided by Vanessa Arellano Banoni and Shijie Shi.

BOX 2.4.1 Labor productivity in the Middle East and North Africa: Trends and drivers (continued)

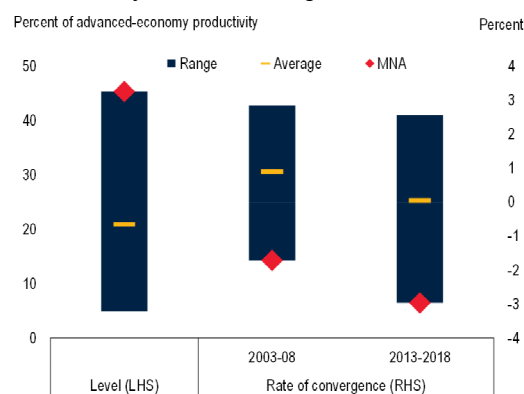
FIGURE 2.4.1.1 Productivity in MENA in regional comparison

Labor productivity growth in the Middle East and North Africa (MENA) has been the weakest among emerging market and developing economy (EMDE) regions, both pre-crisis and post-crisis. It averaged 0.3 percent between 2013-18. Despite high average productivity level relative to other EMDE regions, weak productivity growth has recently widened its productivity gap with advanced economies.

A. Average productivity growth



B. Productivity levels and convergence



Source: Penn World Table; The Conference Board; World Bank.

Note: Productivity is defined as labor productivity (real GDP per person employed). Sample includes 35 advanced economies and 127 EMDEs: 16 in East Asia and the Pacific (EAP), 21 in Eastern Europe and Central Asia (ECA), 25 in Latin America and the Caribbean (LAC), 14 in Middle East and North Africa (MENA), 7 in South Asia (SAR), and 44 in Sub-Saharan Africa (SSA). The 14 MENA economies in the sample are Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, and the United Arab Emirates.

A. Aggregate growth rates in 2010 U.S. dollars at 2010 prices and exchange rates.

B. Rate of convergence is calculated as the difference in productivity growth rates over the log difference in productivity levels between MENA and advanced economies (AE). Blue bars and orange dashes show the range and average of the six EMDE regional aggregates. "Level" of productivity refers to the GDP weighted average of regional productivity as a share of the average advanced economy during 2013-2018.

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The commodity sector is capital-intensive. As a result, oil prices and capital expenditures are closely linked in the MENA region (IMF 2018b; Albino-War et al. 2014). Foreign direct investment is also highly undiversified and heavily concentrated in the commodity sector (World Bank 2003). After the global financial crisis, investment growth in the region slowed sharply. Among energy exporters, this slower growth has been attributed to tight financial constraints associated with lower oil prices. Among energy importers, the legacies of the Arab Spring movements led many economies to increase investment on defense at the expense of infrastructure and other productivity-enhancing projects and initiatives (Baffes et al. 2015; Ianchovichina 2017).

Pre-crisis capital deepening was partly offset by contractionary total factor productivity (TFP) growth, the weakness of which has been widely documented for the region over the past three decades.¹ The inverse relationship between capital accumulation and TFP growth suggests inefficient investment, and may be attributed to two factors. First, predominantly public investment combined with the large economic role of state-owned enterprises crowds out private investment and job creation. Second, fiscal policy tends to be procyclical—just like public investment—as countries often pursue expansionary fiscal policy during oil price booms (Abdih et al. 2010). During periods of high capital investment and oil price booms, technology-enhancing-oriented reform momentum tends to be weaker, weighing on TFP growth. Negative TFP growth in MENA before the global financial crisis stands in sharp contrast to the robust pre-crisis TFP growth in the broader group of EMDEs. TFP growth started to pick up as oil prices bottomed out in 2016, although it remained low at 1 percent on average during 2016-18.²

Heterogeneity in sources of labor productivity growth.

While labor productivity growth in the MENA region as a whole has long been anemic and continues to be weak, there has been wide divergence within the region in its

¹Weak or negative TFP growth is found to be a prevalent feature in the MENA region during the past three decades. For regional and country-specific studies that highlight TFP growth in MENA, see Baier, Dwyer, and Tamura (2006); Bisat, El-Erjan, and T. Helbling (1997); Callen et al. (2014); IMF (2012); Keller and Nabli (2002); Malik and Masood (2018); World Bank (2017d); and Yousef (2004).

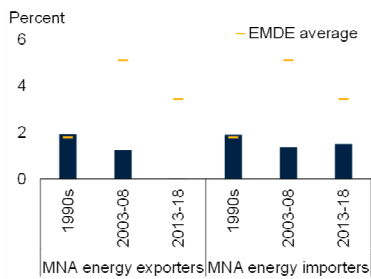
²TFP growth can also be affected by non-technology factors, such as capital and labor utilization. Hence, TFP growth estimates may over- or understate the true change in the influence of technology on productivity (Dieppe, Kindberg-Hanlon, and Kiliç Çelik, forthcoming).

BOX 2.4.1 Labor productivity in the Middle East and North Africa: Trends and drivers (continued)

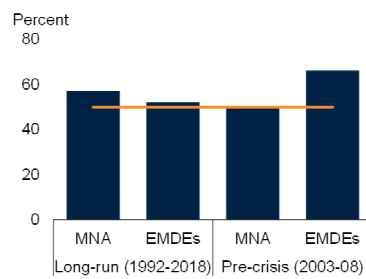
FIGURE 2.4.1.2 Evolution of labor productivity growth in MENA

The post-crisis productivity growth slowdown was concentrated in energy exporters and affected about half of the region's economies. During 2013-18, average productivity growth was around zero percent in energy exporters and about 1.5 percent (still below the EMDE average) in energy importers. Productivity growth has been largely driven by declining capital stock amid weak TFP growth, especially in energy exporters. Productivity levels in energy exporters are much higher than in energy importers. The contribution of natural resources to productivity growth fell significantly from the 2003-08 to 2013-18 periods.

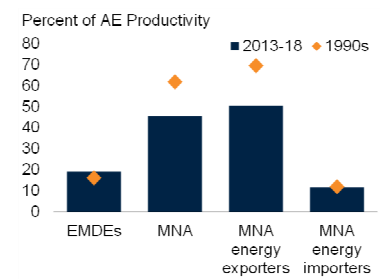
A. Productivity growth in MENA



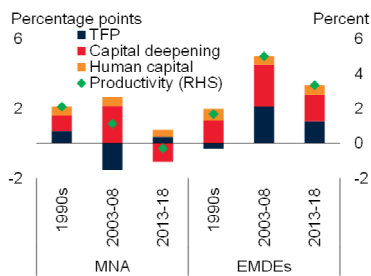
B. Share of economies with productivity growth below long-run and pre-crisis averages



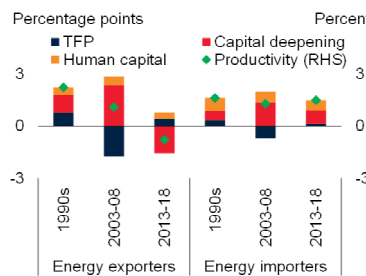
C. Productivity relative to advanced economies



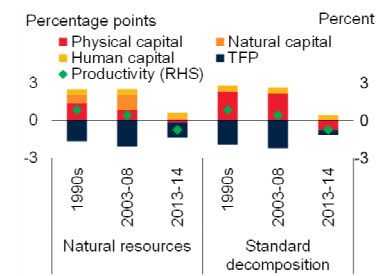
D. Contributions to regional productivity growth



E. Contributions to productivity growth



F. Role of natural resources



Source: Barro and Lee (2015); Haver Analytics; International Monetary Fund; Penn World Tables; United Nations (Human Development Reports), Wittgenstein Centre for Demography and Global Human Capital; World Bank.

Note: Productivity is defined as labor productivity (real GDP per person employed). Aggregate growth rates calculated using GDP weights at 2010 prices and market exchange rates.

A-C. The sample includes 14 MENA economies: Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, and the United Arab Emirates. Includes 127 EMDEs.

A. Dashed lines indicate the average long-term labor productivity growth (1981-2018).

B. Share of countries for which productivity growth average over 2013-18 is lower compared to a long-run (1992-2018) and pre-crisis (2003-08) average.

D.E. MENA Sample in decomposition is the same as in A but excludes Algeria and UAE due to data availability. Includes 92 EMDEs in D.

F. The sample includes 10 MENA economies with available data on natural resources capital: Bahrain, Egypt, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, and Tunisia.

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driving forces. For energy exporters, productivity growth decelerated markedly from 2003-08 to the post-crisis period of 2013-18 due to sharply declining investment activity. For energy importers, productivity growth improved modestly from a weak base, largely due to the recovery from negative average TFP growth rates during 2003-08 to slightly above zero percent during 2013-18.

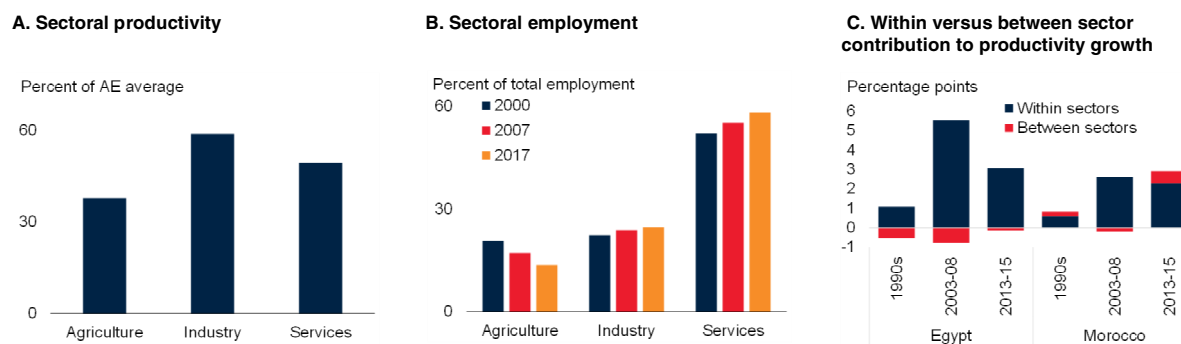
Sources of regional labor productivity growth

High barriers to factor reallocation. Factor reallocation toward more productive activity has played only a limited role in driving productivity growth in MENA. This muted influence has reflected high barriers to entry and distortions such as the lack of competitive markets (Arezki

BOX 2.4.1 Labor productivity in the Middle East and North Africa: Trends and drivers (continued)

FIGURE 2.4.1.3 Factors supporting productivity growth in MENA

Productivity levels relative to advanced economies are the highest in MENA for the capital-intensive industrial sector, while employment is concentrated in the services sector. Evidence for Egypt and Morocco suggests that productivity growth in North Africa has been limited to within-sector productivity gains.



Source: Groningen Growth Development Center Database; Haver Analytics; International Labour Organization; Penn World Tables; World Bank.

Note: Productivity is defined as labor productivity (real GDP or value-added per person employed).

A.B. Medians across economies in each sector. Includes 12 MENA economies. Panel A based on 2017 data. AE average denotes weighted average across advanced economies.

C. The within-sector productivity contribution shows the initial real value added-weighted productivity growth; the between-sector contribution measures the productivity growth from a cross-sectoral shift of employment. Based on nine-sector decomposition.

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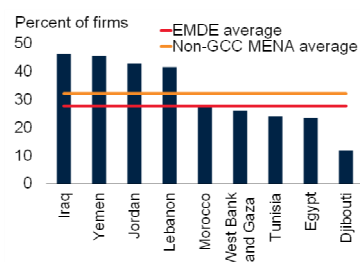
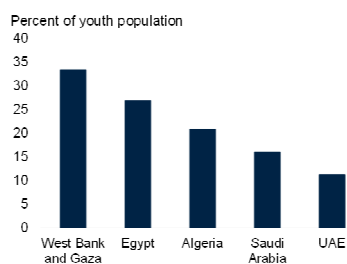
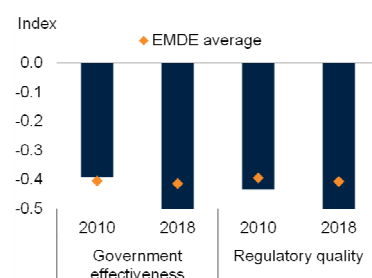
et al. 2019a). Small exporting firms are hesitant to scale up their operations and benefit little from global value chain integration (World Bank 2016f). For the North Africa region, evidence from Egypt and Morocco suggests that within-sector productivity gains were the main source of productivity growth for their economies (Figure 2.4.1.3). In Saudi Arabia, employment appears to have moved towards sectors with relatively low productivity in the past (Fayad and Rasmussen 2012). These trends imply distortions in the economy exist that prevent more efficient reallocation of resources across sectors. High capital intensity of the commodity sector accounted for high average productivity levels in MENA, and scope for productivity improvement in the private sector remains large. Moreover, the majority of employment is concentrated in the services sector, reflecting an exceptionally high proportion of the workforce (about one-fifth) employed in the public sector (Tamirisa and Duenwald 2018).

Other drivers of labor productivity growth. Weak productivity in the MENA region has been associated with underdevelopment of the private sector, overreliance on the public sector, and lack of economic diversification (Devarajan and Mottaghi 2015).

- *Large public sector.* On average, about one-fifth of the region's workforce is employed in the public sector, and public-private sector wage gaps are among the highest in the world (Purfield et al. 2018; Tamirisa and Duenwald 2018). The education system is targeted towards government employment, with few high-quality private sector jobs (World Bank 2018). These dynamics hold back the adoption of technology from abroad (Mitra et al. 2016; Raggl 2015; Samargandi 2018). In the Gulf Cooperation Council, weak productivity growth has been associated with low mobility of high-skilled foreign workers (Callen et al. 2014).
- *Restrictive business climate.* Poor governance quality, large informal sectors, and cumbersome tax policy and administration hampered the reallocation of resources from low-productivity to higher-productivity firms (Nabli 2007; World Bank 2016f). Non-GCC economies in MENA rank especially low in the World Bank's Worldwide Governance Indicators, such as regulatory quality and government effectiveness. Private firms often face challenges in access to finance; yet, providing access to formal finance is associated with labor productivity growth being 2 percentage points higher in MENA firms (Blancher et al. 2019).

BOX 2.4.1 Labor productivity in the Middle East and North Africa: Trends and drivers (continued)**FIGURE 2.4.1.4 Policy challenges**

Multipronged and sustainable reforms that improve governance and boost private sector development are crucial in MENA. Reforms could lift the potential of its young population and relieve constraints to firm productivity, such as access to finance.

A. Access to finance as an obstacle to productivity**B. Youth unemployed or not in education****C. Governance: Non-GCC economies**

Source: World Bank.

A. Percent of firms citing access to finance as a major obstacle to firm operations. Based on World Bank's Enterprise Surveys. Latest available survey year for each economy denoted. Non-GCC MENA denotes average of all economies shown in the figure.

B. Share of youth not in education, employment, or training, as a percent of youth population. UAE stands for United Arab Emirates. Latest available data since 2015.

C. Includes 10 non-GCC economies. Unweighted averages. Based on 2018 data (or latest available year). Index, based on Worldwide Governance Indicators, ranges from -2.5 to 2.5. A lower index denotes worse rating.

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- *Anemic private sector.* Firm productivity in MENA has been restricted by low firm turnover and creation. Only six limited liability companies were created annually for every 10,000 working-age people in MENA during 2009-12—considerably less than in other EMDEs (Schiffbauer et al. 2015).
- *Lack of diversification.* Trade openness and export diversification in MENA remain low among EMDE regions. This lack of diversification is partly the result of exchange rate misalignments associated with high reliance on extractive industries or low technological content of exports (Benhassine et al. 2009). In the large EMDEs of the region, low export diversification has been found to hinder productivity growth.³ Research and development, as measured by the number of patent applications per capita, has been above the EMDE average. However, it remains well below advanced-economy averages and has held back productivity growth and diversification (Samargandi 2018, Rahmati and Pilehvari 2017).

Recent reforms. A number of large economies in the region have adopted reform plans in the past five years that

³ See IMF (2013, 2015); Morsey, Levy, and Sanchez (2014); Samargandi (2018).

may have begun to support productivity growth. In the GCC, a series of plans include measures to improve productivity and diversify away from the energy sector. Efforts to boost small and medium-sized enterprise (SME) growth and encourage private-sector development include the establishment of an SME agency in Saudi Arabia and SME delicensing in the United Arab Emirates. Among energy importers, measures to improve the business and private sector climate have been enacted in Egypt, Morocco, and Tunisia (World Bank 2019r). Initial market responses to these developments suggest that efficiency gains have been generated. For instance, Saudi Arabia was included in the MSCI Emerging Markets Index recently, and many GCC economies established policies to relax foreign investment restrictions (e.g., UAE's relaxation of restriction in 13 sectors in 2019). These changes have been associated with foreign investment inflows, which in EMDEs often catalyze productivity-enhancing private investment (Henry 2007). These policies have also made it easier to raise international capital, which has already helped finance fiscal and balance-of-payments needs in MENA (IMF 2019d). Egypt's macroeconomic reforms since 2016 include the liberalization of the exchange rate, business climate reforms, and energy subsidy reforms. These reforms have been positively perceived by investors and may have raised the country's export and investment prospects (Youssef et al. 2019).

BOX 2.4.1 Labor productivity in the Middle East and North Africa: Trends and drivers (*continued*)

Prospects for labor productivity growth. Recent broad-based reform commitments across the region are promising for labor productivity growth. However, many reforms are subject to high risk of delays in implementation, especially in non-GCC economies where political fragmentation and budget irresolution have frequently held back multiyear reform plans. In some non-GCC economies, recent protests related to social tensions and political developments underscore the fragility associated with reform progress. Armed conflicts in economies like Yemen continue to challenge the peace that these economies need in order to work toward higher productivity.

Policy options

Concerted and multipronged efforts are required to reliably raise productivity growth. Policies need to be directed at raising the quality of human capital and boosting private sector investment, increasing firm productivity, removing obstacles to sectoral reallocation, and creating business-friendly environments. Within these broad themes, specific policies need to be tailored to a country's specific circumstances.⁴

The effectiveness of reform in practice is contingent on the health of each economy and the timing of political events (Alesina, et al. 2019). Under some circumstances, a targeted approach that leverages synergies may be warranted. Deep institutional reforms to raise market contestability, for example, may also bring a variety of collateral benefits like higher technological progress (Arezki et al. 2019a). Similarly, well-designed deployment of FinTech could help garner broad-based support for institutional reforms (World Bank 2019r).

Improving factors of production

Boosting private investment. While capital deepening has been a main driver of productivity growth in MENA, it has been primarily supported by large public spending (for example, in the commodity sector in the GCC; IMF 2018b). This suggests large scope to boost private investment. A wide range of reforms is needed to encourage private investment, including expanding access to finance, improving business climates and governance, reducing the wage premium of government employment, and leveling the playing field with state-controlled enterprises (Arezki, et al. 2019a).

⁴Higher labor productivity gains in the region could in turn help reduce external imbalances in the region (Arezki et al. 2019b).

Raise human capital. The contribution of human capital to labor productivity growth has been modest in the past two decades, amounting to only about half a percentage point. The region's human capital challenge is to improve educational access for youth and women, improve the connection between educational attainment and private sector jobs, and to shift its bias in educational training away from the public sector (World Bank 2018l). These measures would help the productivity potential of its large youth population. More educational programs to improve the skills match between workers and employers can enhance the quality of jobs in MENA (Gatti et al. 2013).

Boost firm productivity

Disincentives for innovation and factor reallocation between firms discourages labor productivity in MENA.

Improve access to finance. Access to finance is a large obstacle for firms in MENA, particularly for non-GCC economies, as lack of financing hinders their ability to invest and innovate (Figure 2.4.1.4). Better access to credit, supported by broader credit bureau coverage and stronger insolvency resolution regimes, appears to yield sizable benefits to productivity growth in MENA (Ghassibe, Appendino, and Mahmoudi 2019). New insolvency resolution laws adopted in Djibouti, Egypt, Saudi Arabia, and Jordan are promising for facilitating debt resolution between creditors and debtors. New minority investor protection regulation in Egypt helps improve corporate governance and investor confidence by requiring shareholder approval in issuing new shares.

Address informality. Informality, although low by average EMDE standards, presents a challenge to businesses in non-GCC economies. Competition from the informal sector is a major obstacle for formal sector businesses in several large economies (Morocco, Tunisia), and a higher share of informal workers in SMEs is associated with lower wages and more limited export potential (Elbadawi and Loayza 2008). Aligning tax systems to international best practices (e.g., harmonized electronic filing systems in Morocco) and reducing regulatory hurdles for firms can help attract informal firms to more productive formal activity while raising revenue collection.

Encouraging efficient resource reallocation

Reallocation towards more productive private sector activities has made limited contributions to productivity growth in MENA. In energy exporters, policies to encourage diversification of exports and output can

BOX 2.4.1 Labor productivity in the Middle East and North Africa: Trends and drivers (continued)

generate new opportunities for labor to move into more productive private sector opportunities. In energy importers, such as Egypt and Morocco, expanding exporters' global market reach and improving the quality of exports could help improve productivity (World Bank 2016f).

Diversification through trade. Reforms in investment, trade, and tariff policies will help MENA economies move up the export value chain and encourage greater product variety, which currently lags behind international benchmarks. Regional integration efforts (e.g., Compact with Africa) could provide an avenue to promote diversification and raise productivity.

Diversification from commodity dependence. For energy exporters, including the GCC, stronger fiscal management could help promote diversification by broadening the revenue base (Diop and Marotta 2012; World Bank 2019q). For energy importers, options for diversification may include investment in renewable energies via public-private partnerships (e.g., Egypt; Vagliasindi 2013), or initiatives to boost the private services sector (e.g., tourism initiatives in oil importers). Efforts to expand the reach of firms to the global market can also help boost productivity growth (World Bank 2016f).

Creating a growth friendly environment

Improve business climates. Business climate reforms, such as the reduction of regulatory hurdles to start businesses or the removal of particularly distortionary taxes, can help boost private investment and productivity. They can also provide firms easier access to critical inputs, such as improved electricity supply. They can support productivity through better allocation of resources (e.g., more efficient

taxation systems) and stronger entrepreneurship activities (e.g., lower cost to start a business). In MENA, reforms that move an economy one unit higher in the Global Competitiveness Index have been estimated to raise productivity growth significantly (Mitra et al. 2016). Many MENA economies have adopted broad-based business climate reforms recently, including improved electricity connection in Bahrain, enhanced electronic tax filing in Jordan, and easier property registration in Kuwait.

Improve governance. Governance quality in MENA, especially non-GCC economies, lags behind other EMDEs and has exhibited little improvement over the past decade (Figure 2.4.1.4). Weak governance has discouraged private sector activity and investment (Nabli 2007). Governance reforms, such as streamlining public service delivery and strengthening legal frameworks in areas like procurement laws can increase productivity growth by encouraging more efficient allocation of resources. They can also increase investment prospects through improved investor confidence. Reforms for state-owned enterprises in telecom industries can also enhance productivity via higher efficiency (Arezki et al. 2019b).

Improve gender equality. Women comprise only about one-fifth of the labor force in MENA. Bridging the gender gap in a number of areas, including workforce development and access to digital and financial services, is especially relevant for MENA. Closing these gaps can raise productivity growth through more vibrant entrepreneurship and private sector participation. Legislation to reduce economic discrimination against women in Tunisia is an example of recent reform in this area.