BOX 2.5.1 Labor productivity in South Asia: Trends and drivers

In contrast to other emerging market and developing (EMDE) regions, labor productivity growth in South Asia (SAR) has slowed only mildly since the global financial crisis. In 2013-18, SAR productivity growth remained the second fastest (after East Asia and Pacific) among EMDE regions, at 5.3 percent a year. Rapid growth has helped reduce the region's wide productivity gap with the advanced-economy average. But the level of productivity in SAR remains the lowest among EMDE regions, in part reflecting widespread informal economic activity and struggling manufacturing sectors. Low human capital, poor business environments, inefficient resource allocation, and limited exposure to foreign firms and foreign investment weigh on productivity. Opening up SAR economies by enhancing foreign direct investment inflows and participation in global and regional value chains could support technology and information transfer to the region. Promoting access to finance and improving infrastructure could unlock growth bottlenecks for firms and lift productivity in the region.

Introduction

In contrast to other emerging market and developing (EMDE) regions, productivity growth in South Asia (SAR) slowed only mildly after the global financial crisis from pre-crisis rates, to 5.3 percent a year during 2013-18 (Figure 2.5.1.1.A). This followed a steady rise from anemic rates in the mid-1980s when heavily state-directed economic policy strategies dampened investment and innovation. As a result, the region's convergence towards advanced-economy productivity levels was the second-fastest over 2013-18 (after East Asia and the Pacific). Despite this, the region had the lowest average productivity level of any EMDE region, at 5 percent of the advanced-economy average in the post-crisis period (Figure 2.5.1.1.B).

Against this backdrop, this box will discuss the following questions about the evolution of productivity growth in the SAR region:

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

This box defines productivity as labor productivity, measured as real GDP per worker at constant (2010) local currency prices. Cross-country comparisons of labor productivity levels use average 2010 market exchange rates. Data for labor productivity at the national level, as well as for the three main production sectors (agriculture, manufacturing and mining, and services) are available for all EMDEs in SAR: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. However, the analysis in some cases uses only limited samples because of limited data availability: India and Sri Lanka for growth accounting decompositions, and India, Pakistan, and Sri Lanka for sectoral analysis using nine-sector data.

Evolution of regional productivity

Robust productivity growth. Productivity growth in SAR remained robust, at 5.3 percent a year, in 2013-18, only narrowly below the pre-crisis average of 6.4 percent in 2003-08 (Figure 2.5.1.1.C). In the post-crisis period, a slight moderation in India's productivity growth, and larger declines in the smaller economies of Afghanistan, Bhutan and Sri Lanka, were partially offset by pickups in Bangladesh and Pakistan (Figure 2.5.1.1.D). The region's resilience reflected three main elements: (1) SAR's limited exposure to external headwinds, (2) continued rapid urbanization, and (3) an improving business environment that supported productivity gains from the continuing shift away from agriculture toward more productive services sectors (World Bank 2016a; APO 2018). As a result, in the post-crisis period, the share of economies with productivity growth below long-run and pre-crisis averages weas lower than in other EMDEs (Figure 2.5.1.1.E).

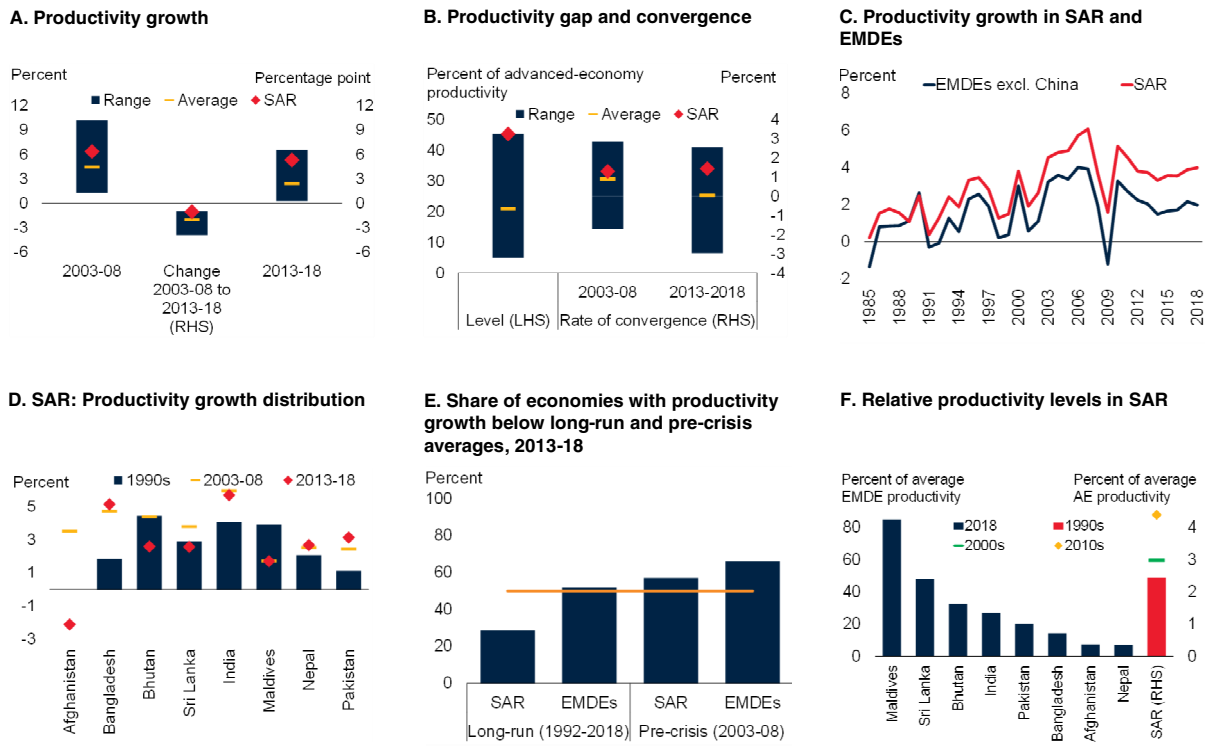
- In **India**, disruptions to economic activity due to cash shortages in 2016 and transitional costs related to the introduction of the new Goods and Services Tax (GST) system in 2017 contributed to a slowing of productivity growth to 5.6 percent a year during 2013 -18, from the 2003-08 average of 7.1 percent a year. Nevertheless, India's post-crisis productivity growth remained in the highest decile among EMDEs. It was supported by investments in the energy and transport sectors, improvements in the ease of doing business, and ongoing structural reforms.
- In **Pakistan**, annual productivity growth picked up from a pre-crisis average of 2.4 percent to 3.1 percent during 2013-18, slightly below the EMDE average of 3.4 percent. During the post-crisis period, productivity growth benefited from strong foreign

Note: This section was prepared by Temel Taskin, building upon analysis in Chapter 3. Research assistance was provided by Jankeesh Sandhu and Shijie Shi.

BOX 2.5.1 Labor productivity in South Asia: Trends and drivers (*continued*)

FIGURE 2.5.1.1 Evolution of productivity growth in SAR

On average labor productivity expanded by 5.3 percent a year over the last ten years, significantly higher than the EMDE average. The catch-up to advanced economies starts from a low base, as productivity levels in SAR are just one-quarter of levels in the average EMDE. The increasing trend in productivity growth was broad-based in larger economies of the region. However, there is significant dispersion in the level of productivity across the region.



Source: Haver Analytics; Penn World Tables; World Bank.
Note: SAR = South Asia region. EMDE = emerging and developing economy. AE = advanced economy. Productivity refers to labor productivity unless otherwise indicated. Sample includes 127 EMDEs and 7 SAR economies unless otherwise indicated.
A.B. Range indicates interquartile range of country-level productivity distribution. Rate of convergence calculated as the difference in productivity growth rates with the average advanced economy divided by the log difference in productivity levels with the average advanced economy.
C.E.F. Aggregate growth rates calculated using U.S. dollar GDP weights at 2010 prices and exchange rates.
D. The year brackets refer to the average growth within the corresponding periods.
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direct investment (FDI) inflows and infrastructure projects which supported private sector activity.

- In **Bangladesh**, post-crisis productivity growth benefited from improved macroeconomic and political stability which supported both public and private fixed investment. As a result, productivity growth in Bangladesh was robust during 2013-18 at 5.1 percent, slightly above the pre-crisis average of 4.7 percent and in the top decile of EMDEs.

- Productivity growth in the rest of the region either stalled or declined in the post-crisis episode in line with the global trend (Chapter 3). The factors behind the slowdown included natural disasters, macroeconomic and political instability, and weaker growth of global trade and manufacturing activity.

SAR's robust productivity growth through the 2000s is in stark contrast to its weakness during the 1980s and 1990s, even though in those decades also it was mostly stronger than in other EMDEs. In the 1980s, India's state-directed economy generated minimal productivity growth as heavy regulation and widespread corruption (the "license raj") stifled manufacturing, investment, and technology adoption. In the wake of India's 1991 balance of payments

BOX 2.5.1 Labor productivity in South Asia: Trends and drivers (*continued*)

crisis, major reforms reduced restrictions on product and factor markets and allowed more trade, catalyzing a surge in productivity growth (Rodrik and Subramanian 2004; Virmani and Hashim 2011). In Pakistan, productivity growth was limited by macroeconomic instability (Lopez-Calix et al. 2012; Amjad and Awais 2016).

Low productivity levels. Despite its strong growth over the past three decades, labor productivity in SAR in 2013-18 was still only 5 percent of the advanced economy average, the lowest among EMDE regions and significantly below the EMDE average, which was around 20 percent of the advanced-economy average. In contrast to other EMDE regions, however, the pace of convergence has picked up since the global financial crisis. At the recent rate of convergence, about half of economies in South Asia would halve their productivity gap with advanced economies over the next 40 years.

Within-region dispersion in productivity levels. Productivity differences across countries are very large in SAR. Afghanistan and Nepal have the lowest productivity levels, at around 7 percent of the EMDE average, partly reflecting political instability, including prolonged armed conflict in Afghanistan, and natural disasters. Bhutan, Maldives, and Sri Lanka have higher productivity levels, in the range of 32-85 percent of the EMDE average, reflecting the benefit of relatively large service sectors, in particular tourism activity. Productivity levels in the three largest economies of SAR—India, Bangladesh, and Pakistan—are lower, ranging between 14 and 27 percent of the EMDE average, reflecting their relatively large informal sectors, low urbanization rates, and weak financial development (Figure 2.5.1.1.F).

Slowing contribution from capital deepening. Labor productivity growth can be decomposed into contributions from increases in other factors of production (human and physical capital) and advances in the effectiveness of their use (total factor productivity, TFP). Estimates for this decomposition are available for India and Sri Lanka. In these economies, a slowdown in investment growth accounted for all of the post-crisis slowdown in productivity growth, and thus for more than the average contribution of investment to productivity slowdowns in all EMDEs. The contributions to labor productivity growth of total factor productivity growth and human capital growth remained the same as in the pre-crisis period (Figure 2.5.1.2.A). The weakening of investment growth in part reflected the economic disruptions in India around the currency exchange of 2016 and the introduction of the GST in 2017. Slower growth of global trade in recent years has weighed further on investment as well as exports. The slowdown of investment growth was from high pre-crisis rates that were fueled partly by large foreign direct investment inflows after financial liberalization reforms in the 1990s (Fujimori and Sato 2015; Park 2010).

Sources of regional productivity growth

The slight moderation in SAR's post-crisis productivity growth was accounted for mainly by India, and mainly by weaker growth in the industrial sector, as in other EMDEs. The median productivity level of the industrial sector in SAR is just slightly more than one half of the EMDE median (Figure 2.5.1.2.B). Poor manufacturing productivity in part reflects limited integration into international trade networks and global value chains, which has constrained the region's interaction with more productive foreign firms and reduced opportunities to benefit from technology transfer from other countries (Figure 2.5.1.2.C). This said, post-crisis productivity growth in this sector remained higher than the EMDE average reflecting improvements in the business environment as well as ongoing public investment in transportation and energy infrastructure.

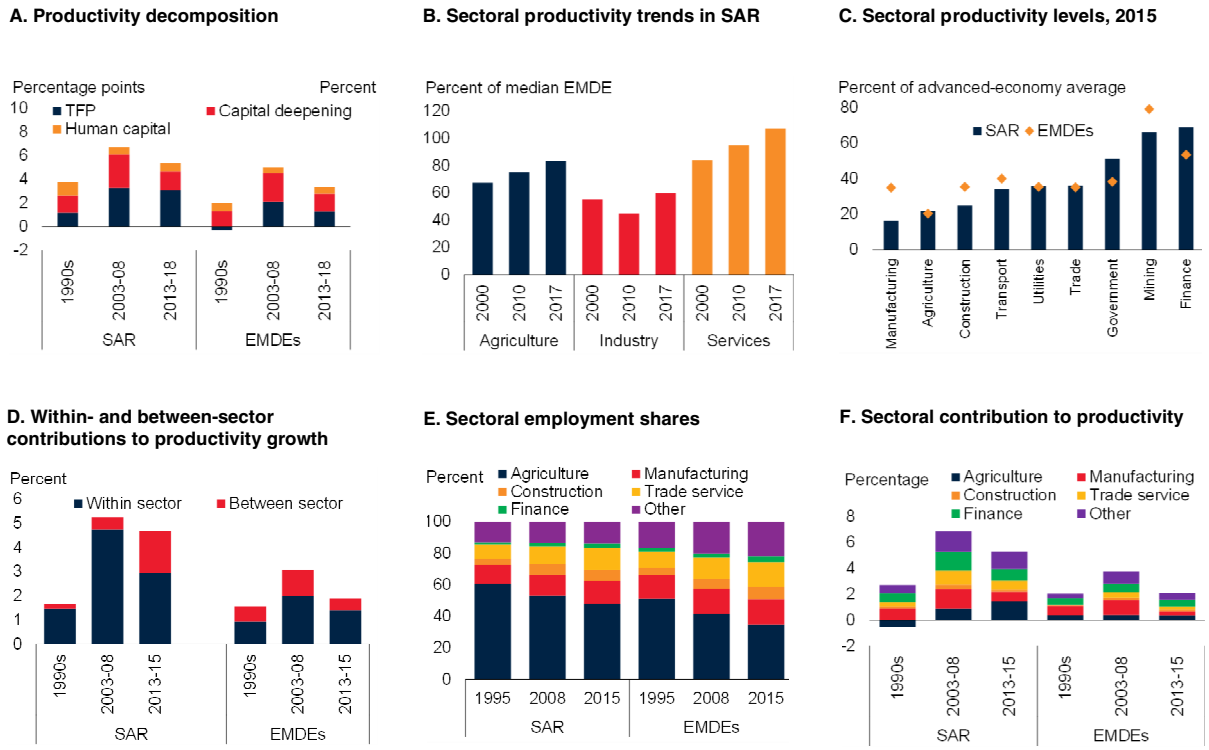
Growing productivity gains from between-sector reallocation. Factor reallocation from low- productivity to high-productivity sectors and firms has historically not been an important source of productivity gains in SAR (World Bank 2017e; Mallick 2017; Doughtery et al. 2009; Goretti, Kihara, and Salgado 2019). However, since the global financial crisis, between-sector reallocation accounted for more than one-third of productivity growth in 2013-15, up from one-tenth in 2003-08. Meanwhile, within-sector productivity growth slowed sharply, by more than one-third from pre-crisis rates (Figure 2.5.1.2.D).

Most of the post-crisis productivity gains from sectoral reallocation reflected a shift from agriculture, which accounted for about 10 percent of SAR GDP in 2015 but almost half of employment, into services, which accounted for about half of GDP but roughly one-third of employment (Figure 2.5.1.2.E). Agriculture, the region's lowest-productivity sector (with average productivity 22 percent of the advanced-economy average), has roughly one-tenth the productivity of financial services (68 percent of the advanced-economy average) which is the region's most productive sector. In the post-crisis episode, the contribution of services sectors to economy-wide productivity in SAR has declined while that of agriculture has increased, as in other EMDEs (Figure 2.5.1.2.F).

BOX 2.5.1 Labor productivity in South Asia: Trends and drivers (*continued*)

FIGURE 2.5.1.2 Sectoral productivity and employment in SAR

The gains in productivity of the region are mostly accounted for by improvements in TFP growth and capital deepening. Productivity levels in industry and services sectors are much higher relative to the agriculture sector, and have grown significantly over the past three decades. Progress in within-sector productivity growth has played a much larger role in South Asia relative to other EMDEs. The share of employment in trade and financial services increased over time as workers have shifted away from low-productivity agricultural production to these sectors.



Sources: APO productivity database; Expanded African Sector; Groningen Growth Development Center database; ILOSTAT; OECD STAN; United Nations; World KLEMS.

Note: SAR = South Asia region, EMDE = emerging and developing economy. Productivity refers to labor productivity unless otherwise indicated.

A. SAR sample includes India and Sri Lanka. EMDE sample includes 92 countries.

B. The year brackets refer to the average growth within the corresponding periods. SAR sample includes Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. EMDE sample includes 127 EMDEs.

C.-F. EMDE sample includes 46 countries. SAR sample includes 3 countries: India, Pakistan, Sri Lanka.

D. Growth within sector shows the contribution of initial real value added-weighted productivity growth rate of each sector, holding employment shares fixed, and 'between sector' effect shows the contribution arising from changes in sectoral employment shares. Median of the county-specific contributions.

E.-F. "Other" includes transport services and government services. "Manufacturing" includes mining and utilities; "Finance" includes business services.

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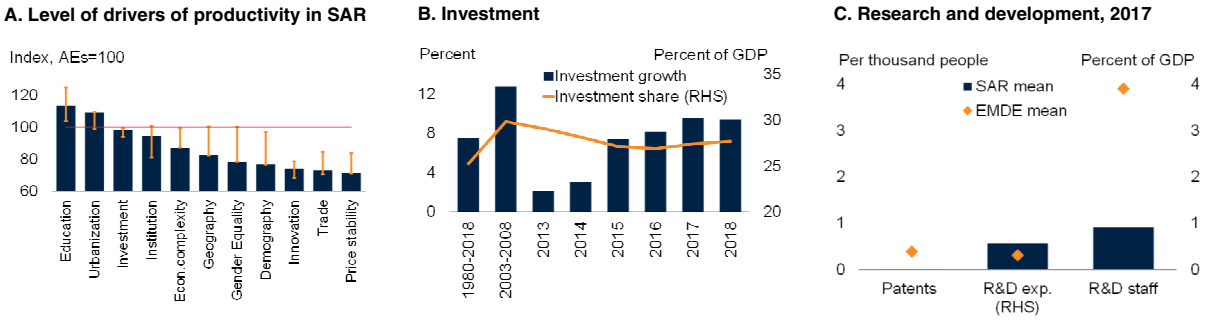
Other drivers of productivity. In SAR, the contributions of most of the long-run drivers of productivity to productivity growth have remained low compared to other EMDEs and advanced economies despite substantial progress since the early 1990s in a range of these variables (Figure 2.5.1.3.A). Measures of gender equality and trade openness are below other EMDE regions, as demonstrated by very low female participation rates and weak integration with global value chains. In the post-crisis period, the pace of improvement in several of the long-run determinants of productivity slowed, including average years of schooling, labor force participation, investment, urbanization and economic complexity. Nonetheless, improvements in these drivers did continue. Despite a slowdown in the post-crisis episode, investment continued to contribute to productivity growth more than in other EMDEs and advanced economies (Figure 2.5.1.3.B). By contrast, limited global integration, weakness in control of

BOX 2.5.1 Labor productivity in South Asia: Trends and drivers (*continued*)

FIGURE 2.5.1.3 Drivers of productivity growth in SAR

Many of the drivers remain at the low end of the EMDE regional range suggesting scope for further improvements. While investment consistently supports economic activity, research and development lag significantly behind other regions.



Source: Haver Analytics; United Nations; World Bank.
Note: EMDE = emerging and developing economy. AE = advanced economy. SAR = South Asia region.
A. Unweighted average levels of drivers normalized as average of AEs as 100 and standard deviation is 10. Blue bars represent average within SAR economies in 2018. Orange lines represent range of the average drivers for six regions in 2018. Variables corresponding to the concepts are as follows: Education = years of education, Urbanization = share of population living in urban area, Investment = share of investment to GDP, Institution = WGI Government Effectiveness Index, Econ. Complexity = Economic complexity index, Geography=share of land area which are not in tropical region, Gender equality=female average years of education minus male average years, Demography = share of population under 14, Innovation = Log patent per capita, Trade = (Export+Import)/GDP, Price stability = (-1)*log inflation rate. Numbers of countries are 7 for SAR. See Annex 3.3 for details.
B. Investment growth: growth in gross fixed capital formation; investment share: change in gross fixed capital formation as a share of GDP.
C. R&D exp: research and development expenditures. Aggregates are calculated using constant 2010 U.S. dollar GDP weights.
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corruption, low research and development activity, and pervasive informality continued to weigh on SAR's productivity growth (Figure 2.5.1.3.C).

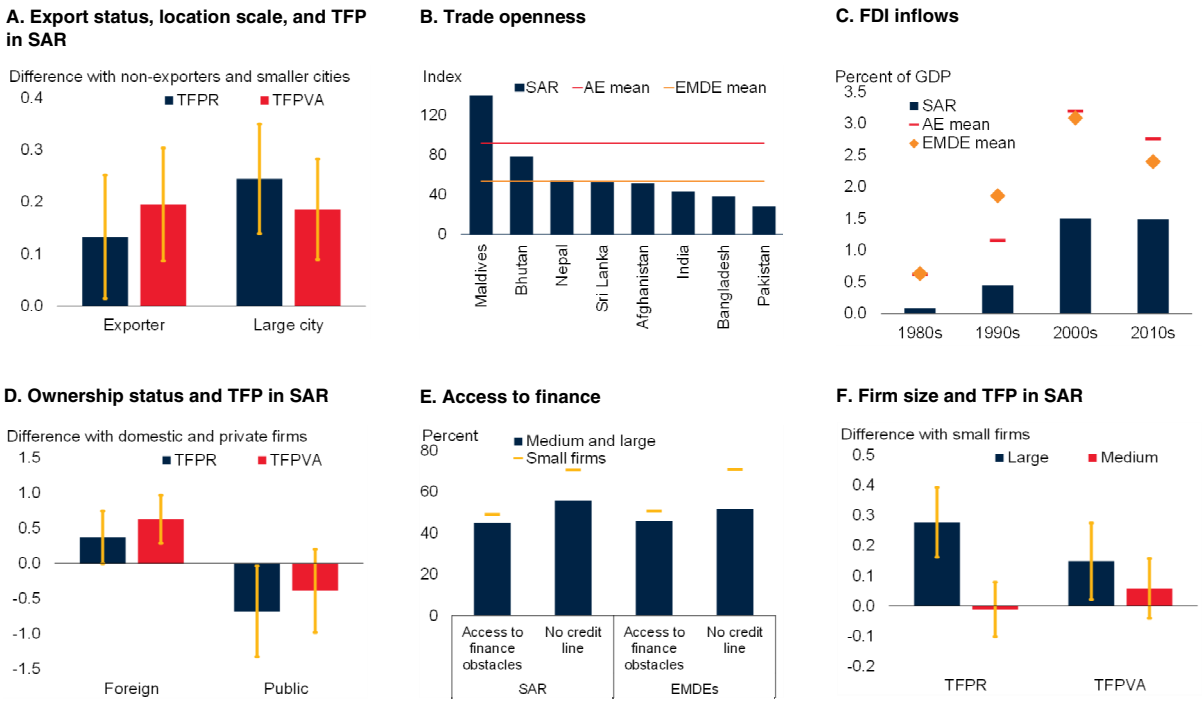
- ***Limited global integration.*** Export-oriented firms have been more productive than non-exporters in SAR (Figure 2.5.1.4.A). However, SAR's largest economies are less open to trade than the average EMDE or advanced economy (Figure 2.5.1.4.B). Similarly, while FDI inflows have grown, they remain below the EMDE average (Figure 2.5.1.4.C). SAR's limited contacts with more productive foreign firms reduce the potential for technology and information transfer (Figure 2.5.1.4.D; Maiti 2019; Fujimori and Sato 2015; Topalova and Khandelwal 2011).
- ***Lack of supporting infrastructure.*** Many firms cite infrastructure gaps as important obstacles to their business activities. Firms that cited infrastructure obstacles were found to be less productive in Pakistan and Bangladesh (Grainger and Zhang 2017; Fernandes 2008). The environment has also been less supportive in terms of access to finance (Figure 2.5.1.4.E), with state-owned banks dominating banking system assets (e.g. roughly 70 percent in India) and their balance sheets encumbered by elevated nonperforming loan ratios (usually around 10 percent).
- ***Firm characteristics.*** Heavy regulatory restrictions have deterred firm growth and prevented firms from becoming more productive, including through productivity-improving investment (Cirera and Cusolito 2019; Kanwar and Sperlich 2019). Complicated tax systems, labor regulations, and licensing requirements have been factors containing the productivity of smaller firms (Figure 2.5.1.4.F). Such factors have encouraged widespread informality, with the informal sector accounting for roughly one-third of GDP and self-employment accounting for 70 percent of total employment in SAR (World Bank 2019f). The potential for productivity gains in SAR from resource reallocation from less productive to more productive firms has been estimated to be large (Lall, Shalizi and Deichmann 2003).[1]

[1] For example, equalizing the efficiency of capital and labor allocation across firms to the level of United States could have increased TFP in India as much as 50 percent in the 1990s (Hsieh and Klenow 2009). Similarly, a one-standard deviation decrease in the misallocation of land and buildings in India was estimated to have improved labor productivity by 25 percent between 1989 and 2010 (Duranton et al. 2015). Direct and indirect contribution of services to the total value added of manufacturing sector varies between 33 percent and 50 percent as of 2017 in South Asia (Mercer-Blackman and Ablaza 2018).

BOX 2.5.1 Labor productivity in South Asia: Trends and drivers (*continued*)

FIGURE 2.5.1.4 Policy options in SAR

Low trade openness remains a major constraint for productivity growth in SAR. Continued urbanization in the region can bring agglomeration benefits and enhance productivity if it is accompanied with doing-business reforms given that firms in larger cities tend to be more productive. Low FDI inflows to SAR, compared to other EMDEs, hold back positive spillovers from productive foreign firms. Given their low productivity, state banks weigh on financial sector productivity. Small firms face more severe obstacles to access to finance and their TFP is lower than large firms in South Asia.



Source: World Bank.

Note: Firm-level TFP is computed using a Cobb-Douglas production function, assuming elasticities of output with respect to inputs are the same across countries in a given income group. See Chapter 3 Appendix 3.3 for a detailed description of calculation and sample coverage. SAR = South Asia region. EMDE = emerging and developing economy. AE = advanced economy.

A.D.E.F. Calculations are based on World Bank Enterprise Surveys. TFPR = Log Total Factor Productivity based on Revenues. TFPVA = Log Total Factor Productivity based on Value Added. The bars represent estimated coefficients of dummy variables for "exporter", "located in a city with population larger than 1 million", "foreign owner", and "public enterprise" in a regression where dependent variable is log TFP and independent variables are the aforementioned dummy variable (large, exporter, etc.), country dummy variables, and year dummy variables. Survey weights are used in all calculations. Sample includes 15,248 firms in 109 EMDEs, including 20 LICs, for the period 2007-17.

B. Trade openness index is described as the ratio of imports and exports to GDP. Aggregates are calculated using constant 2010 U.S. dollar GDP weights. Sample includes 155 EMDEs and 35 AEs.

C. FDI = Foreign direct investment. Aggregates are calculated using constant 2010 U.S. dollar GDP weights. Sample includes 155 EMDEs and 35 AEs.

E. The vertical axis shows the percentage of responses which indicate "access to finance" as a moderate/major/very severe obstacle.

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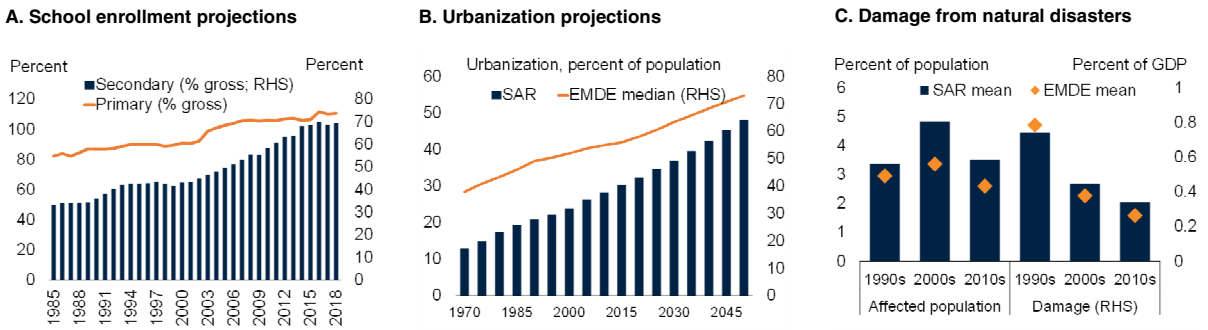
- ***Weak human capital.*** SAR has lagged most EMDE regions in educational enrolment and attainment, as well as in mortality indicators. In addition, poor operations and human resource management quality has reduced the productivity of firms (Bloom et al. 2012).
- ***Gender gaps.*** South Asia's female labor force participation rate is far below comparable economies, and progress in this area is mixed across the region (Goretti, Kihara, and Salgado 2019). Gender gaps in workforce participation, education, and financial inclusion restrain the region's long-term growth potential (Khera 2018).

Robust productivity outlook. Looking ahead, the fact that many of the drivers of productivity have remained at the low end of the EMDE range indicates scope for substantial

BOX 2.5.1 Labor productivity in South Asia: Trends and drivers (*continued*)

FIGURE 2.5.1.5 Productivity prospects in SAR

Rising working-age population shares, educational attainment and life expectancy will improve human capital. Increasing urbanization, accompanied by sectoral reallocation, could support productivity in the region. On the other hand, the region is highly vulnerable to natural disasters, environmental deterioration and climate change risks.



Source: Centre for Research on the Epidemiology of Disasters; United Nations; World Bank.
Note: SAR = South Asia Region. EMDE = Emerging and Developing Economy.
A.-C. Aggregates are calculated using constant 2010 U.S. dollar GDP weights.
A. Last observation is 2018.
B. SAR sample includes 8 South Asian countries. EMDE sample includes 159 countries. Last projection year is 2050.
C. Simple average of aggregate regional damages per year.
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improvements. Increasing rates of school enrolment would lift human capital and improve productivity (Figure 2.5.1.5.A). Low urbanization rates compared to other EMDEs limit the benefits from agglomeration in SAR in the near term, but longer-term trends may be expected to raise the contribution of urbanization to productivity growth (Figure 2.5.1.5.B). Recent reforms, such as the new GST system in India and the Inland Revenue Act in Sri Lanka are expected to broaden the tax base and make resources available for human capital and infrastructure investments (World Bank 2018m). Business climates have improved significantly in recent years, as shown for example by shortening approval times for trademarks and patents, lowering restrictions on foreign direct investment, and accelerating investment in energy and transport infrastructure (World Bank 2017f). On the other hand, the region is highly vulnerable to natural disasters, and environmental deterioration and climate change risks weigh on the productivity growth outlook (Figure 2.5.1.5.C). An improved productivity outlook will require the resolution of financial sector issues to unlock credit for investment along with further improvements in the ease of doing business.

The working-age share of the population is expected to increase in SAR until 2045, providing a larger and more prolonged demographic dividend than in most other regions. Against the backdrop of improving human capital, and continued urbanization, this increase in the labor force is expected to contribute to productivity growth in the years ahead (Annex 3.3).

Policy options

Many drivers of productivity are still much lower in SAR than in advanced economies and other EMDE regions, indicating significant room for policy reforms that reduce obstacles to faster productivity growth. Such policies need to be directed at improving the quality as well as quantity of human and physical capital, increasing firm productivity, encouraging efficient sectoral reallocation, and creating business-friendly environments.

Improving factors of production

Support physical capital accumulation, especially infrastructure investment. The post-crisis slowdown in SAR productivity growth mostly reflected weaker capital accumulation. Many firms cite infrastructure gaps as important obstacles to their business activities (Figure 2.5.1.6.A). Moreover, firms facing infrastructure obstacles have been found to be less productive than others in Pakistan and Bangladesh (Grainger and Zhang 2017; Fernandes 2008). Improved infrastructure in the energy

BOX 2.5.1 Labor productivity in South Asia: Trends and drivers (*continued*)

and transportation sectors, as well as technology-oriented capital accumulation, can promote productivity growth and boost international competitiveness (Calderón, Moral-Benito, and Serven 2015).

Strengthen investment in human capital. While the region has benefited from raising life expectancy, reducing mortality, and expanding access to education over the past three decades, there is still significant room for further human capital development (Figure 2.5.1.6.B). With the increasing working-age share of the population in the region, delivering strong output growth and improvements in human capital will be key to progress in productivity growth (Goretti, Kihara, and Salgado 2019). A better educated and healthier workforce can have better and more stable jobs and be more productive (World Bank 2018a). Policies to expand school attendance and support nutrition programs for early childhood development can boost educational outcomes in SAR (Beteille 2019; Torlese and Raju 2018; World Bank 2018n).

Tackle gender gaps. Addressing constraints on economic opportunities for women can provide significant gains in long-term growth (Khera 2018). Key policies such as increasing access to childcare, improving financial inclusion, and ensuring public safety and sanitation can promote gender equality and boost productivity in SAR (Sharafudheen 2017; World Bank 2016g).

Enhancing firm productivity

Increase the region's integration into the global economy. SAR's participation in international trade remains substantially less than that of other regions (Gould, Tan, and Emamgholi 2013). While both imports and exports in SAR, relative to GDP, are lower than in comparable economies, the gap in exports—both within and outside the region—is much larger than that in imports (World Bank 2019v). The empirical evidence on positive productivity spillovers from international trade and FDI inflows indicates that measures to foster FDI and participation in global and regional value chains can lift productivity in SAR. SAR may benefit from shifting FDI flows in the context of recent shifts in global manufacturing activity.

Bangladesh's apparel sector benefited substantially from tailored policies during the 1990s and 2000s, which lifted barriers to international trade and investment and enhanced participation in global value chains. The interaction with foreign firms lifted productivity of local suppliers through the demand for inputs with higher standards and quality. Similarly, Bangladesh's duty-free access to the European Union (EU) from 2001 boosted knitwear exports to the EU between 2000 and 2004, enhanced the productivity of producers, and helped them expand to other export markets (World Bank 2019d).

Improve corporate management practices. Lack of information and training on best management practices seems to limit progress in productivity at the firm level. Governments can help improve the quality of management in the region by organizing training programs and workshops to disseminate information on best management practices. In India, for example, productivity in firms that provided management training increased by 17 percent in the first year of the intervention (Bloom et al. 2013). The low number of patents granted and the limited number of staff engaged in research and development in South Asian firms have also been in part attributed to limited management capacity (Cirera and Maloney 2017). Policies that ensure property rights and create technology hubs can increase firm participation in product innovation and expand their business in foreign markets (Cirera and Maloney 2017).

Address informality. Self-employment accounts for around 70 percent of employment in SAR (Figure 2.5.1.6.C). The level of output informality (DGE and MIMIC) and some obstacles related to business operations are comparable to other EMDEs (Figure 2.5.1.6.D). This sector is associated with lower productivity and weaker access to finance, a barrier to productive investment and a constraint on firms. Encouraging participation in global value chains and enhancing a business-friendly regulatory and tax environment can promote resource reallocation from less productive informal activities to more productive formal ones in SAR (Artuc et al. 2019; Amin, Ohnsorge, and Okou 2019).

With sizable rural populations employed informally in agriculture and large shares of self-employment in the workforce, productivity in the region could benefit significantly from improvements in the productivity of the informal sector. Policies to promote such improvements could include efforts to by improve labor force skills and enhance the functioning of agricultural markets (Goretti, Kihara, and Salgado 2019).

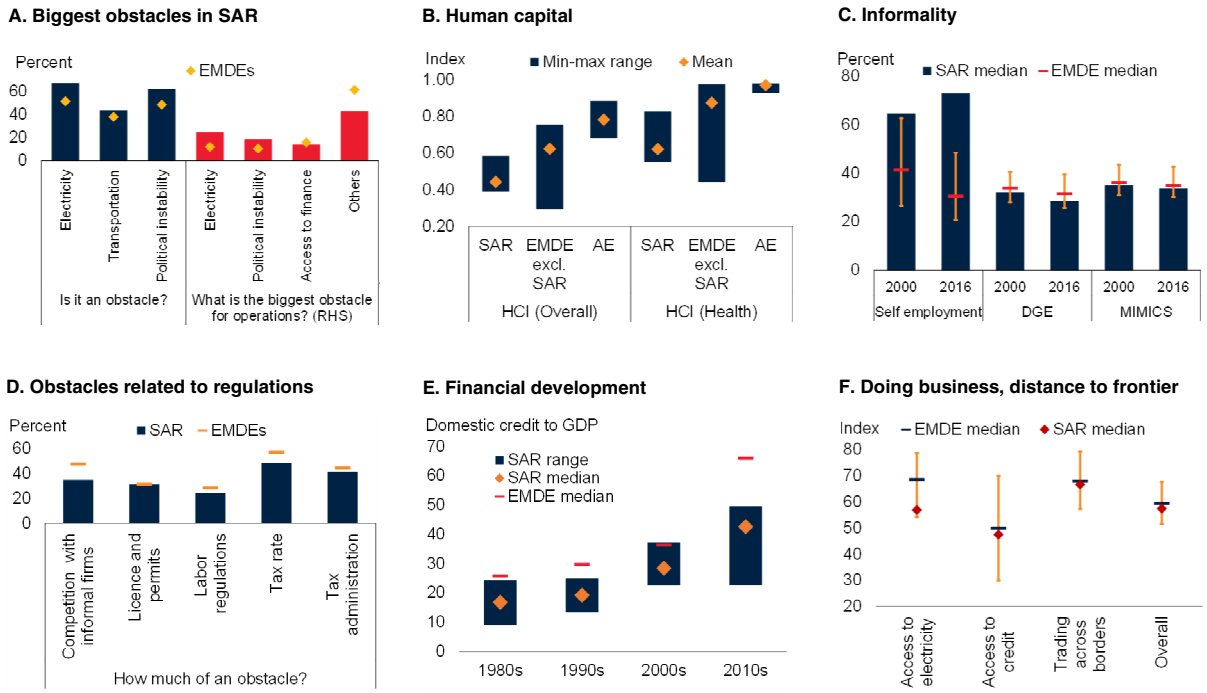
Promoting efficient sectoral reallocation of resources

Promote productivity-enhancing sectoral reallocation and improvements in within-sector allocation of resources.

BOX 2.5.1 Labor productivity in South Asia: Trends and drivers (*continued*)

FIGURE 2.5.1.6 Constraints to productivity growth in SAR

Many firms experience obstacles in their operations due to infrastructure gaps and political instability. The region is behind other EMDEs in terms of some doing business indicators, as well as human capital development, limiting opportunities to improve productivity. Financial development is also weaker compared to other EMDEs, which is reflected in low credit to GDP ratios. Many of these obstacles to doing business contribute to the high levels of informality in the region.



Source: Elgin et al. (2012); United Nations; World Bank.
Note: SAR = South Asia region. EMDE = emerging and developing economy. AE = advanced economy.
A. Calculations are based on World Bank Enterprise Surveys. Survey weights are used in calculations. Left section represents the responses to "How much of an obstacle?" question in World Bank Enterprise Survey. The vertical axis shows the percentage of responses which indicate moderate/major/very severe obstacle. Right section represents the responses to "What is the biggest obstacle affecting the operations of this establishment?" question. Vertical axis shows the percentage of responses. Others include: Access to land, business licensing and permits, corruption, courts, crime/theft/disorder, customs and trade regulations, inadequately educated workforce, labor regulations, practices of competitors in the informal sector, tax administration, tax rates.
B. HCI = Human Capital Index. Range reflects the minimum and maximum of the distribution across countries. Higher values of the index reflect better human capital development. See World Bank (2018a) for details of the methodology. Aggregates are calculated using U.S. dollar GDP weights at 2010 prices and exchange rates.
C. DGE = dynamic general equilibrium model. MIMIC = multiple indicators multiple causes model. Both DGE and MIMIC estimates measure the informal output in percent of official GDP.
D. Calculations are based on World Bank Enterprise Surveys and represents the responses to "How much of an obstacle?" question. The vertical axis shows the percentage of responses which indicate moderate/major/very severe obstacle.
F. SAR sample includes 8 South Asian countries. EMDE sample includes 159 countries. The orange whiskers indicate interquartile range of EMDEs.
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SAR has received a welcome boost to productivity from intersectoral reallocation of resources since the global financial crisis. A policy challenge will be to maintain this momentum. The productivity gains from sectoral reallocation from agriculture to more productive sectors can be increased if accompanied by improved local services and urban planning (Ellis and Roberts 2016; World Bank 2019s). Such policies should be complemented by measures to increase the productivity of the agriculture sector (Cusolito and Maloney 2018).

The contribution of within-sector productivity growth has weakened substantially since the global financial crisis. This calls for a renewed effort to promote the reallocation of capital and labor to more productive firms within sectors. By one estimate, such interfirm reallocation could unlock 40-60 percent productivity gains in India (Hsieh and Klenow 2009). Productivity-enhancing interfirm reallocation could be encouraged by policies to foster competition and by reducing regulatory burdens that discourage firm growth (Duranton et al. 2016).

BOX 2.5.1 Labor productivity in South Asia: Trends and drivers (*continued*)

Encourage intersectoral linkages. Intersectoral linkages play an important role in improving productivity through value chains in South Asia. For instance, progress in information and communication technologies provides positive productivity spillovers to broader services sectors (Krishna et al. 2016). Reducing barriers to trade and encouraging intersectoral and regional linkages can lift productivity through technology spillovers. For example, in India, Bangladesh, and Sri Lanka the creation of special economic zones has helped expand exports and product diversification (Aggarwal, Hoppe, and Walkenhorst 2019).

Creating a growth-friendly environment

Unlock access to finance. Infrastructure spending in recent years has eased supply-side bottlenecks in SAR. However, poor access to finance remains a hindrance for the region, particularly given the weaknesses on corporate and financial sector balance sheets. Weak access to finance constrains small and medium-sized firms—especially women-owned businesses—and holds back firm-level productivity gains in India (Figure 2.5.1.6.E; World Bank 2013a; Schiantarelli and Srivastava 1997).

Improve the ease of doing business. Despite improvements in recent years, SAR is still among the least business-friendly EMDE regions, reflected in distance-to-frontier scores in doing business statistics (2.5.1.6.F). India's economic reforms during the early 1990s enhanced openness and eased regulatory burdens in the services sector, and these were followed by a significant expansion in domestic and foreign investment. In India also, the entry of foreign service providers was associated with more competitive business services, which supported productivity gains in the manufacturing sector (Arnold et al. 2016).

Ensure macroeconomic and political stability. Economic and financial crises have proven to hold back productivity in the region, as observed after the global financial crisis and in economic downturns in India and Pakistan in the 1990s. Political instability seems to be a more severe obstacle to the operations of South Asian firms than in other EMDE regions (World Bank 2013b, 2013c). Strengthening economic policy institutions, improving monetary and fiscal policy frameworks, and enhancing financial regulation and supervision can help to provide a stable macroeconomic framework for firms, reduce uncertainty, and boost productivity.