

BOX 2.1.1 Labor productivity in East Asia and Pacific: Trends and drivers

East Asia and Pacific (EAP) remains the region with the fastest productivity growth, averaging 6.3 percent a year in 2013-18, notwithstanding the second-steepest post-crisis slowdown among emerging market and developing economy (EMDE) regions. Nevertheless, productivity levels remain below the EMDE average in most EAP economies. While factor reallocation toward more productive sectors, high investment, and trade integration with product upgrading have promoted above-average productivity growth, most of these drivers are expected to become less favorable in the future. A comprehensive set of reforms to liberalize services sectors, improve corporate management, level the playing field for private firms, enhance human capital, facilitate urban development, and foster innovation is needed to reverse the recent productivity growth slowdown.

Introduction

Growth of labor productivity, defined as output (GDP) per worker, averaged 6.3 percent a year in the East Asia and Pacific (EAP) region in 2013-18 (Figure 2.1.1.1).¹ While this pace remained the fastest among emerging market and developing economy (EMDE) regions, it was almost 3 percentage points below EAP's pre-crisis (2003-08) average after the second-steepest post-crisis decline in labor productivity growth among EMDE regions. The post-crisis slowdown in productivity growth has been broad-based, affecting 60 percent of EMDEs in EAP.

At 12 percent of the advanced-economy average in 2013-18, average productivity in EAP remains below the EMDE average.² Labor productivity *levels* in EAP are more homogeneous than in other EMDE regions. Similarly, productivity *growth* is more homogeneous across EAP than across other EMDE regions, possibly reflecting particularly close regional integration, including through regional supply chains.

This box builds on a considerable literature that examines productivity growth in EAP. Earlier studies have documented the recent productivity growth slowdown in EAP using country-level and firm-level data.³ Others have identified education, innovation, market efficiency, institutions, and physical infrastructure as the main drivers of productivity improvements in EAP (Kim and Loayza 2019). Another set of studies has empirically documented

how product and labor market reforms have increased output and productivity.⁴

Against this backdrop and drawing on these studies, this box compares productivity developments in EAP with other EMDE regions. In particular, it discusses the following questions:

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

This box considers labor productivity, defined as real GDP per worker (at 2010 prices and market exchange rates). The data are available for sixteen countries: Cambodia, China, Fiji, Indonesia, Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, Papua New Guinea, the Philippines, Samoa, the Solomon Islands, Thailand, Tonga, Vanuatu, and Vietnam.

Evolution of regional productivity

Rapid productivity growth. Labor productivity growth in EAP averaged 6.4 percent a year between the early 1980s and 2018—the highest growth rate of all EMDE regions, mainly reflecting rapid growth in China. EAP labor productivity growth rose from 4.3 percent a year in the 1980s to 6.3 percent a year in the 1990s, and peaked at 8.9 percent a year in 2003-08 (Figure 2.1.1.2). Since the global financial crisis, EAP productivity growth has slowed to 6.3 percent a year on average during 2013-18. This post-crisis slowdown is also accounted for largely by China, in particular its policy-guided move towards more sustainable growth after a period of exceptionally rapid expansion of fixed investment and exports; in the region's

Note: This section was prepared by Ekaterine Vashakmadze, building upon analysis in Chapter 3. Research assistance was provided by Juncheng Zhou and Shijie Shi.

¹ Unless otherwise specified, productivity is defined as labor productivity, that is, output per worker.

² EAP averages are heavily influenced by China, which accounts for 80 percent of EAP output in 2013-18. That said, even the median productivity level in EAP is below that of the median EMDE region.

³ For studies using country-level data, see APO (2018); IMF (2006), (2017); World Bank (2018a), and World Bank (2019a). For studies using firm-level data, see Di Mauro et al. (2018); de Nicola, Kehayova, and Nguyen (2018); OECD (2016); and World Bank and DRCSC (2019).

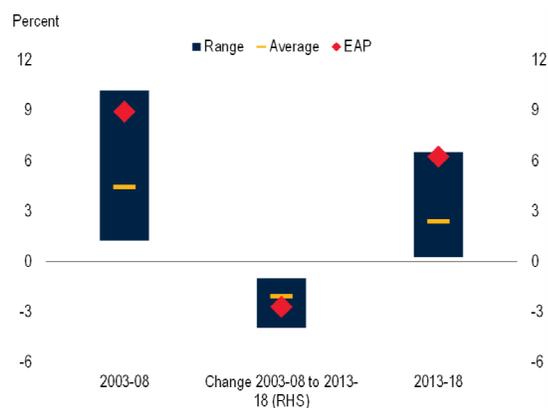
⁴ See Adler et al. (2017); Bouis, Duval and Eugster (2016); Chen (2002); Nicoletti and Scarpetta (2005); Timmer and Szirmai (2000).

BOX 2.1.1 Labor productivity in East Asia and Pacific: Trends and drivers (continued)

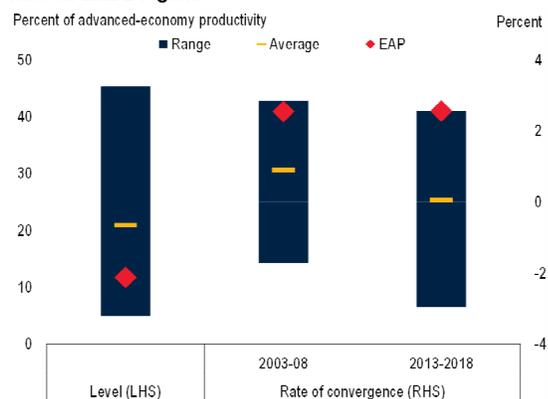
FIGURE 2.1.1.1 Productivity in EAP compared with other country groups

EAP has remained the region with the fastest productivity growth, at 6.3 percent a year in 2013-18, notwithstanding the second-steepest post-crisis slowdown among EMDE regions. Nevertheless, productivity levels remain below the EMDE average in most EAP economies.

A. Average annual growth in EMDE regions



B. Productivity levels in 2013-18 and annual convergence rates in EMDE regions



Source: Penn World Table; The Conference Board; World Bank (World Development Indicators).

Note: Unless otherwise specified, productivity refers to labor productivity, defined as output per worker. Sample comprises 35 advanced economies and 127 EMDEs, of which 16 are in East Asia and the Pacific (EAP), 21 are in Eastern Europe and Central Asia (ECA), 25 are in Latin America and the Caribbean (LAC), 14 are in Middle East and North Africa (MNA), 7 are in South Asia (SAR), and 44 are in Sub-Saharan Africa (SSA).

A. Blue bars denote range across GDP-weighted averages for 6 EMDE regions. Yellow lines denote simple average of the 6 EMDE regional averages. Red dots denote simple average of 16 EMDEs in EAP.

B. Rate of convergence calculated as the difference in productivity growth rates with the average advanced economy (AE) divided by the log difference in productivity levels with the average advanced economy. Regional rate of convergence is the GDP-weighted average of EMDE members of each region. "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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other major economies, productivity growth has been broadly stable. Around two-thirds of EAP economies in 2013-18 were still experiencing labor productivity growth above their long-run average.

Within-region heterogeneity. While productivity growth exceeded the EMDE average during 2013-18 in most EAP economies (the exceptions being some Pacific Islands), there was some cross-country heterogeneity. Productivity growth was particularly fast in China, followed by several large Association of Southeast Asian Nations (ASEAN) economies, including Vietnam. These countries were among the ten percent of EMDE economies with the fastest productivity growth in the period. They benefited from improvements in human capital, and trade openness, technology transfer and adaptation, high investment rates, and an industrial base that was rapidly becoming more sophisticated (Andrews et al. 2015). Productivity growth was slowest among EAP economies in some Pacific Islands, including Solomon Islands, partly reflecting political tensions.

Low productivity levels. Notwithstanding rapid productivity growth, average productivity levels in EAP (12 percent of the advanced-economy average in 2013-18), including China, remained below the EMDE average (which is close to 20 percent of the advanced-economy average; APO 2018; Di Mauro et al. 2018). Malaysia, the EAP economy with the highest productivity level (25 percent of the advanced-economy average), has benefited from several decades of sustained high growth rates reflecting its diversified production and export base and sound macroeconomic policies (Munoz et al. 2016).

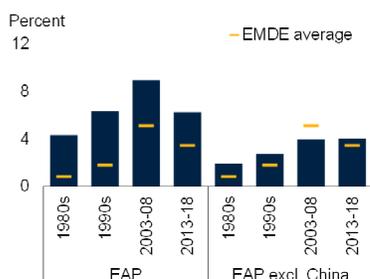
Labor productivity convergence. Whereas convergence of productivity toward advanced-economy levels in most other EMDE regions has slowed since the financial crisis, it has remained robust in EAP reflecting macroeconomic stability, strong fundamentals, still high investment rates, and diversified and competitive production bases in the region's major economies (Chapter 3). Assuming recent productivity growth can be sustained, at least 50 percent of economies in the region are on course to halve their productivity gap relative to advanced-economy averages over the next 40 years. History shows how successful productivity convergence by such economies as Singapore and the Republic of Korea, which were reclassified as advanced economies in the 1990s, required high and sustained productivity growth differentials relative to established advanced economies over several decades (Chapter 3).

BOX 2.1.1 Labor productivity in East Asia and Pacific: Trends and drivers (continued)

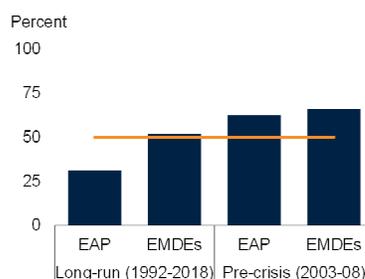
FIGURE 2.1.1.2 Evolution of productivity in EAP

To a larger extent than in the average EMDE, the post-crisis slowdown in EAP’s productivity growth has reflected slowing total factor productivity growth, especially in China. In EAP, slowing TFP growth accounted for two-thirds of the post-crisis slowdown in labor productivity growth, compared to about half in the average EMDE. Notwithstanding rapid productivity growth, average productivity levels in EAP—12 percent of the advanced-economy average—remain below the EMDE average.

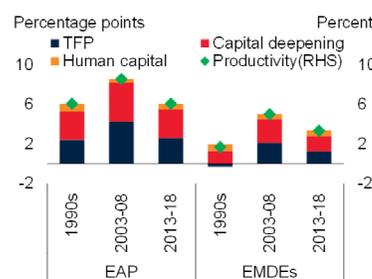
A. Annual productivity growth in EAP



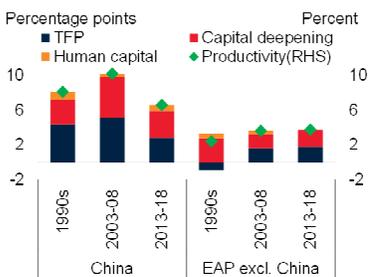
B. Share of economies with productivity growth in 2013-18 below long-run and pre-crisis averages



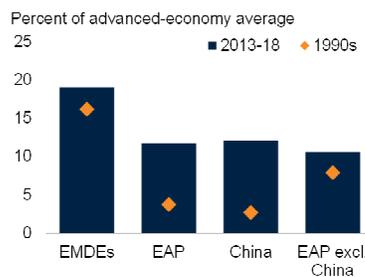
C. Contributions to annual productivity growth



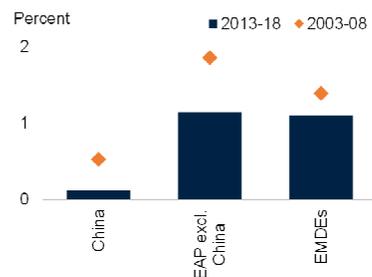
D. Contributions to annual productivity growth



E. Productivity levels relative to advanced-economy average



F. Annual labor force growth



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

Note: Unless otherwise specified, productivity refers to labor productivity, defined as output per worker in 2010 U.S. dollars at market exchange rates.

A. Average growth rates calculated using 2010 U.S. dollars at market exchange rates.

B. Share of economies for which productivity growth average over 2013-18 is lower compared to a long-run (1992-2018) and pre-crisis (2003-08) average. Yellow line denotes 50-percent line.

C.D. Aggregate growth rates calculated using GDP weights at 2010 prices and market exchange rates. Samples comprise 92 EMDEs and 16 EAP economies.

E. Aggregate growth rates calculated using GDP weights at 2010 prices and market exchange rates. Samples comprise 35 advanced economies, 127 EMDEs and 16 EAP economies.

F. Derived using data from International Labour Organization, ILOSTAT database and World Bank population estimates. Labor force data retrieved in September 2019.

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Sources of productivity growth. Productivity growth can be decomposed into its sources: factor accumulation (human or physical capital) and increases in the efficiency of factor use (total factor productivity, or TFP). In EAP, slowing TFP growth accounted for two-thirds of the post-crisis slowdown in labor productivity growth, compared to about half in the average EMDE. This followed a decade of surging TFP growth in EAP, as China’s World Trade Organization accession in 2001 was followed by rapid trade integration, large foreign direct investment (FDI) inflows into the region, and rapid technological adaptation

(Mason and Shetty 2019; Tuan, Ng, and Zhao 2009; Xu, Xinpeng and Sheng 2012). These reforms were accompanied by improvements in macroeconomic policies, strengthening institutions, and higher investment in infrastructure and human capital in several countries (China, Indonesia, Malaysia, the Philippines, Vietnam). The post-crisis slowdown in the region’s TFP growth partly reflects a moderation in the pace of global integration (Ruta, Constantinescu, and Mattoo 2017). Weaker investment accounted for another one-third of the slowdown in labor productivity growth in EAP, as

BOX 2.1.1 Labor productivity in East Asia and Pacific: Trends and drivers (continued)

investment booms before the global financial crisis and in its immediate wake subsided, especially in response to policy guided moderation in China (Kose and Ohnsorge 2019).

Heterogeneity in productivity growth. EAP's high average productivity growth masks some divergence between China and the rest of EAP. Whereas TFP growth and capital deepening slowed in China between 2003-08 and 2013-18 amid a policy-guided investment slowdown, they accelerated in the rest of EAP and especially in some ASEAN countries (the Philippines and Vietnam) reflecting significant FDI inflows and high rates of investment spending. The decline in China's TFP growth has been attributed not only to the slowdown in investment growth, with its associated embodied technical progress, but also to fading gains from global trade integration and institutional reforms.⁵

Sources of productivity growth

Productivity growth through sectoral reallocation. Strong pre-crisis productivity growth in EAP was supported by policies that encouraged resource reallocation from low- to high-productivity sectors, as well as within-sector upgrades (IMF 2006). Following the crisis, however, and as in other EMDE regions, gains from factor reallocation toward more productive sectors slowed sharply, as the pace of urbanization slowed (in most cases well before reaching Organisation for Economic Co-operation and Development—average levels) and overcapacity in China weighed on the efficiency of investment. During 2013-15, sectoral reallocation is estimated to have accounted for under one-fifth of EAP productivity growth, less than half of its share during 2003-08 (two-fifths; Figure 2.1.1.3).

In East Asia, structural transformation, in the form of the movement of people and capital from agriculture to manufacturing and services, has been a key driver of productivity growth as countries have risen from low- to middle-income status. Once countries have reached middle-income levels, within-sector productivity gains have become a more important driver of productivity growth and cross-sectoral shifts less important (de Nicola, Kehayova and Nguyen, 2018; Mason and Shetty, 2019). However, there has been considerable heterogeneity across the region in this respect: thus in recent years sectoral reallocation has stalled in Thailand, proceeded slowly in Malaysia, and continued apace in Indonesia, Vietnam, and

the Philippines (World Bank 2018c). In Vietnam, intersectoral reallocation has continued to account for approximately half of labor productivity growth, with no sign of deceleration (World Bank and MPIV 2016).

Productivity growth in the manufacturing sector has been a major driving force behind overall productivity growth in most EAP countries (APO 2018; Figure 2.1.1.3). Since 2000s, the contribution of services to productivity growth has increased, albeit from a low base, as innovations in this sector took hold.⁶ For example, e-commerce has accelerated sharply in China, with e-commerce firms having 30 percent higher productivity, as well as being more export-oriented than other firms (IMF 2019). Recent advances in information and communication technology have bolstered productivity growth in wholesale and retail trade, hotels, and restaurants; transport, storage, and communications; and finance, real estate, and business activities. It is likely that the growth in value-added generated by intangible services is underestimated to the extent they are incorporated in the production of manufactured goods (ADB 2019).

In contrast to most other EMDE regions, within-sector productivity growth accelerated in many EAP economies in the post-crisis period. China was an exception: there, within-sector productivity growth slowed amid increased overcapacity, declining firm dynamism, and increasing financial constraints, including as a result of rising leverage (IMF 2018a). This is notwithstanding considerable in-house research and development, and technology transfers both domestically and from abroad (Hu, Jefferson, and Jinchang 2005).

Drivers of productivity. Fundamental drivers of productivity have improved more rapidly in EAP than in the average EMDE (Figure 2.1.1.3). In general, productivity in economies with favorable initial conditions have grown by up to 0.8 percentage point per year faster than other economies (Chapter 3), which partly explains faster productivity growth in countries with strong human capital, including China, Malaysia, and Vietnam. Compared to many other EMDEs, productivity growth in EAP economies have benefited from high investment (IMF 2006; World Bank 2019b). Other factors contributing to relatively high productivity growth in the EAP region include trade integration, including through global supply chains; foreign investment, which supported rapid technology adoption from abroad; and progress

⁵ See World Bank and DRCSC (2014); World Bank (2019a); Baldwin (2013), and Subramanian and Kessler (2013).

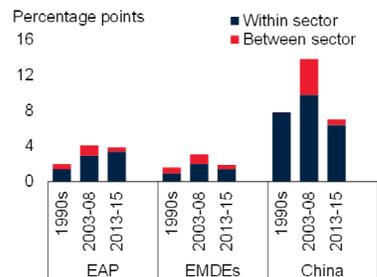
⁶ See APO (2018); ADB (2019); Cirera and Maloney (2017); and Kinda (2019).

BOX 2.1.1 Labor productivity in East Asia and Pacific: Trends and drivers (continued)

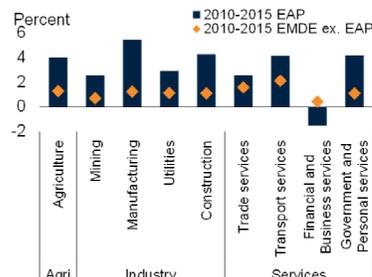
FIGURE 2.1.1.3 Factors underlying productivity growth in EAP

Factor reallocation toward more productive sectors, high investment, trade integration with product upgrading, and rapid innovation have all contributed to above-EMDE-average productivity growth in EAP. Productivity growth in the manufacturing sector has been a major driving force behind overall productivity growth in most EAP countries. Fundamental drivers of productivity have improved more rapidly in EAP than in the average EMDE.

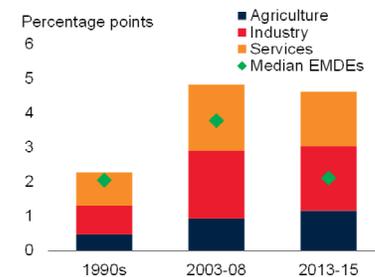
A. Contributions to annual productivity growth



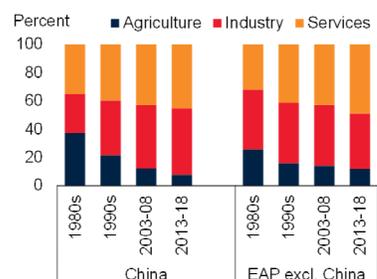
B. Annual sectoral productivity growth



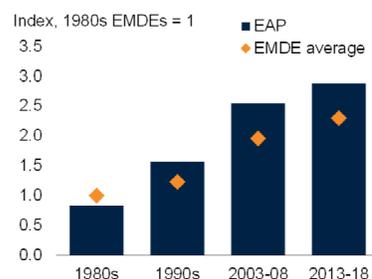
C. Contributions to annual productivity growth



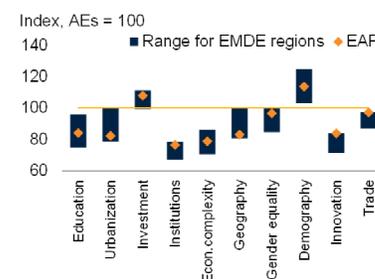
D. Composition of sectoral value-added



E. Drivers index



F. Level of drivers across regions, 2017



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

A.B. Productivity refers to labor productivity, defined as output per worker. Medians of county-specific contributions. Sample comprises 9 EAP economies and 46 EMDEs.

A. Within-sector contribution shows the contribution to overall productivity growth of initial real value added-weighted sectoral productivity growth; between-sector contribution shows the contribution of intersectoral changes in employment shares.

C. Median of the country groups. Sample comprises 9 EAP economies.

D. Values are calculated using 2010 U.S. dollars at 2010 market exchange rates.

E. For each country, index is a weighted average—weighted by the normalized coefficients shown in Annex 3.5—of the normalized value of each driver of productivity. Drivers include the ICRG rule of law index, patents per capita, share of non-tropical area, investment in percent of GDP, ratio of female average years of education to male average years, share of population in urban area, Economic Complexity Index, years of schooling, and share of working-age population, and inflation. See Annex 3.5 for details. Regional and EMDE indexes are GDP-weighted averages. Samples comprise 7 economies in EAP.

F. Unweighted average levels of drivers, normalized as average of AEs as 100 and standard deviation of EMDEs as 10. Orange diamond represents average within EAP economies in 2017. Blue bar represents range of the average drivers for six regions in 2017. Variables corresponding to the concepts are follows: Education = years of education, Urbanization = share of population living in urban area, Investment = share of investment to GDP, Institution = Government Effectiveness, Econ. Complexity = Economic complexity index+, Geography = share of land area which are outside of tropical region, Gender Equality = Share of the year of schooling for female to male, Demography=share of population under 14, Innovation=Log patent per capita, Trade = Export + Import/GDP.

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toward more complex products with higher value-added (World Bank 2019d).⁷ Macroeconomic stability has

encouraged investment, while trade and investment openness and above-EMDE-average research and development have supported innovation (Kim and Loayza 2019).

⁷EAP is characterized by an above-average share of larger and exporting firms (Chapter 3). In EAP, 35 percent of firms are large (compared with 25 percent in the average EMDE) and 16 percent of firms are exporters (compared with 12 percent in the average EMDE). More productive firms tend to self-select into exporting firms which have higher productivity, as they are exposed to frontier knowledge and best

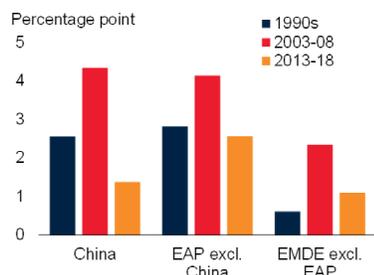
managerial practices that help them make better decisions regarding investment, input selection, and production process (Hallward-Driemeier, Iarossi, and Sokoloff 2002).

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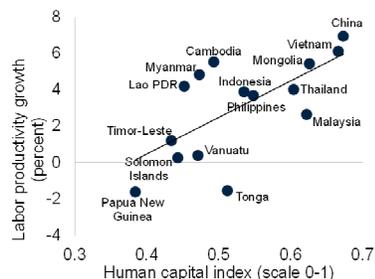
FIGURE 2.1.1.4 Prospects for productivity growth in EAP

Being less able to rely on export growth than in the past, EAP countries need to unleash domestic sources of productivity growth. Priority areas include reforms to enhance human capital, address informality, foster innovation, and facilitate urban development. In addition, achieving long-term sustainable development calls for debt overhangs to be addressed and excessive leverage to be avoided.

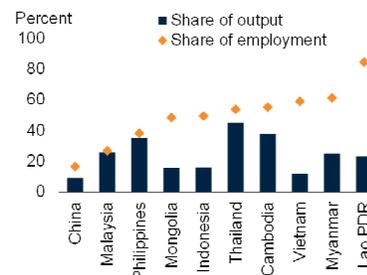
A. Contribution of export growth to annual GDP growth



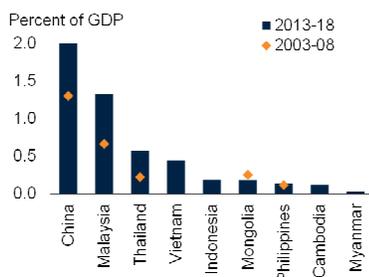
B. Human capital index and annual productivity growth



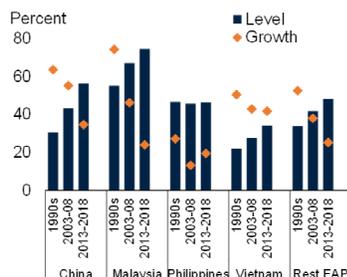
C. Informal economies



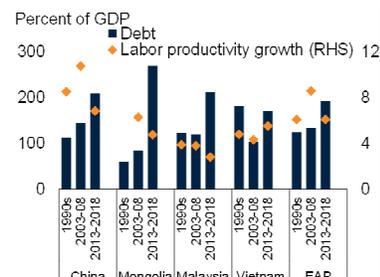
D. Research and development expenditure



E. Urbanization



F. Debt and labor productivity



Source: Elgin et al. (forthcoming); Haver Analytics; World Bank (World Development Indicators).

A,B,F. Productivity refers to labor productivity, defined as output per worker.

A. Growth of volume of exports of goods and non-factor services.

B. The HCI calculates the contributions of health and education to worker productivity. The final index score ranges from zero to one and measures the productivity as a future worker of a child born today relative to the benchmark of a child with full health care and complete education. HCI data are for 2017. Labor productivity growth data are for 2018.

C. Blue bars show the share of informal output in total output based on the Dynamic General Equilibrium (DGE) model. The diamonds show the share of informal employment in total employment.

D. Data are not available for all featured economies.

E. Urbanization levels denote share of urban population in total population.

F. Total debt comprises bank credit to households, non-financial corporations, and general government debt (broad definition).

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That said, the factors supporting post-crisis productivity growth have differed somewhat across EAP economies. Growth of the drivers most strongly associated with productivity growth, including labor force growth and investment, has slowed in EAP since 2008. Investment growth in many EAP economies has slowed, led by a policy-led moderation of investment rates to reduce credit expansion. In addition, earlier favorable demographic trends in China, Thailand, and Vietnam have waned as populations have started to age. Other factors that had

previously helped to spur EAP productivity growth have also deteriorated since the crisis. For example, the trend toward broadening production to a more diverse range of products at more upstream stages of the value chain slowed partly because of a stagnation in global value chains after 2008 (World Bank 2019b).

Prospects for productivity growth. Productivity gaps are still substantial between advanced economies and EAP countries, suggesting potential for further significant

BOX 2.1.1 Labor productivity in East Asia and Pacific: Trends and drivers (*continued*)

productivity gains. However, although EAP productivity growth remains solid relative to long-run historical rates, it is likely to soften further over the near future, as trends in a number of fundamental drivers of productivity become less favorable. Thus, trade and investment growth are expected to continue to ease in an environment of weakening global demand, heightened global policy uncertainty, and a continued policy-guided slowdown in investment growth in China (Figure 2.1.1.4). Slowing global trade growth may also lower incentives to innovate or upgrade products and processes (World Bank 2019b). Structural declines in working-age populations in major economies will also weaken growth momentum (World Bank 2016b, 2018a).

Policy implications

A comprehensive set of policy efforts can help countries in the region improve their investment and productivity growth and speed up their income convergence with the advanced economies. These policies fall into four broad categories: improving factors of production, including through human capital development; encouraging productivity at the firm level, including by leveling the playing field for private relative to state-owned firms and improving corporate governance; removing obstacles to between-sector reallocation, including through continued urban development; and fostering a productivity-friendly business environment. Specific policies within these four broad categories depend on country specific circumstances (World Bank 2018b; Kim and Loayza 2017; Munoz et al. 2016).

Improving factors of production

Slowing capital deepening has contributed to the post-crisis productivity growth slowdown in several EAP countries, while outside China the contribution of human capital gains to productivity growth has stalled. To boost productivity growth, policies are needed to improve public investment, lift private investment, and improve human capital.

Improve public investment. A wide range of policy efforts are needed to improve the investment outlook, especially in countries with particularly large investment needs (Cambodia, Indonesia, Lao PDR, Myanmar; World Bank 2018a). Access to adequate infrastructure in EAP remains fragmented, particularly in water and sanitation and transport, and in several lower-middle-income economies (World Bank 2018a). In these countries, strengthening the efficiency of public investment management and fiscal

transparency could boost productive public investment (World Bank 2018b).

Remove obstacles to private investment. Private investment could be spurred by higher FDI inflows that could offer knowledge and technology transfers, deeper regional trade integration and better institutional environments (World Bank 2018b, 2019b). In China, private investment could be lifted by improved market access, increased competition, policies that provide a more level playing field relative to state-owned enterprises (SOEs), greater financial discipline, stronger intellectual property rights, lower barriers to entry, and a gradual opening of China's financial system to international investors (World Bank 2018a, 2018d; World Bank and DRCS 2019). Other major economies in the region, including Indonesia, Malaysia, Thailand, and Vietnam, could boost private investment by increasing private sector participation in major infrastructure projects and by changing their funding policies to provide more opportunities for international and domestic private investors.

Increase human capital. Children born in the EAP region today will, at age 18, be only 53 percent as productive as they could be if they benefited from best practices in education and health (World Bank 2019b). Several EAP economies have below-average educational attainment (Cambodia, Lao PDR). In general, reforms that augment human capital, through initiatives to strengthen the quality and flexibility of education systems and improve education outcomes, are critical to achieving and sustaining high productivity growth.

Boosting firm productivity

While within-sector productivity growth has been resilient in EAP, especially outside China, there is room for generating additional productivity gains. Factor misallocation, although it has declined, remains sizable (World Bank 2019b). In the current weak external environment that allows limited productivity gains through knowledge and technology spillovers from trade, this is likely to be a critical source of productivity gains for the region. Policy measures can include levelling the playing field for private and state-owned firms, improving firm capabilities, streamlining regulations to encourage informal enterprises to grow into more productive firms in the formal economy, and fostering innovation.

Reduce market distortions and level the playing field for private firms. A gradual transfer from public to private

BOX 2.1.1 Labor productivity in East Asia and Pacific: Trends and drivers (*continued*)

firm ownership in many cases, and greater involvement of international firms, as well as reforms to lower entry costs and encourage fair competition, including in trade and innovation, can help level the playing field for private firms and state-owned enterprises. Curbing preferential lending agreements with state-owned enterprises and easing the access of private firms to long-term funding can improve the allocative efficiency of capital and raise productivity. Greater product market competition would spur innovation (Cusolito and Maloney 2018).

Encourage innovation. Effective policies to promote innovation begin with strengthening managerial and organizational practices (Cirera and Maloney 2017). In addition, strengthening the effectiveness of research and development (R&D) spending and measures to raise productivity in the services sectors are key (World Bank 2016c). Fiscal incentives for R&D are already in place in some EAP countries (China, Malaysia), but in many other cases R&D spending is small relative to GDP (Figure 2.1.1.4). Strengthening intellectual property rights regimes while avoiding undue limitations on competition could also encourage R&D, as could competition for research grants. These reforms could be complemented by efforts that facilitate moving up the value chain through innovation, especially in R&D-intensive sectors, and enabling new business processes, including through digitization, and higher energy efficiency.

Address informality. The share of informal output in the EAP region is below the EMDE average while the share of informal employment is above average (World Bank 2019f). Within the region, informality is higher in lower-income countries. However, even higher-income economies in EAP have urban informality (China, Malaysia, Thailand). To address challenges associated with informality higher-income countries can prioritize urban planning along with the provision of essential social protection to informal workers. Lower-income countries can focus on policies that encourage investment and reduce costs of regulatory compliance.

Encouraging sectoral reallocation

Productivity gains from sectoral reallocation have slowed in EAP. Policy measures to accelerate the process of reallocation again include reforms to allow the services sector to thrive and absorb labor and measures to sustain rapid urbanization.

Liberalize service markets and shift out of agriculture. A gradual liberalization of service sectors, including education, health care, the financial sector, communications, transport, and utilities, could encourage job creation in these sectors (Beverelli, Fiorini, and Hoekman 2017). It could also boost manufacturing productivity, as services sectors provide important inputs into manufacturing.

Encourage urbanization. The reallocation of factors, especially labor, from low-productivity agricultural activities to higher-productivity manufacturing and services can accelerate the convergence of EAP to the productivity frontier. Clarification of land ownership rights and transferable social benefits could encourage such labor movement (Fuglie et al 2019). Urban planning can encourage a reallocation of labor towards more productive sectors by improving access to jobs, affordable housing, public transportation, health care, education, and other services (World Bank 2015a). Road congestion, which is a major problem in many large cities may discourage job switching (World Bank 2018e, 2019f). Accelerated productivity growth will also require improved management of country and regional transportation, telecommunications, and utility infrastructure in metropolitan areas.

Creating a growth-friendly environment

Safeguard macroeconomic stability. Over the longer term, strong and sustained productivity gains require financial stability (Chapter 3; Box 3.4). Elevated corporate debt, especially in China, weighs on investment and productivity in exposed corporations. Policy measures to rein in financial risks are therefore critical.