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ORIGINAL ARTICLE

Regional dimensions of recent investment weakness: Facts, investment needs and policy responses[1]

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ABSTRACT

Investment growth in many emerging market and developing economies (EMDEs) has slowed sharply since 2010. Investment growth performance has varied significantly across different regions, however. This paper examines the evolution of investment growth in six EMDE regions, documents remaining investment needs, especially for infrastructure, and presents a set of region-specific policy responses to address these needs. It reports three main findings. First, investment growth has been particularly weak in EMDE regions hosting a large number of commodity exporters. In regions with a substantial number of commodity-importing economies, investment growth has been somewhat resilient but has also declined steadily since 2010. Second, sizable investment needs remain in most EMDE regions to make room for expanding economic activity and rapid urbanization. A large portion of these investment needs is in infrastructure and human capital. Finally, while specific policy priorities vary across regions, several policy options to address remaining investment needs apply universally. These include more, and more efficient, public investment and measures to improve overall growth prospects and the business climate. Improved project selection and monitoring, as well as better governance, may enhance the efficiency and benefits from public investment.

Keywords: *growth; regional investment; investment; human capital; infrastructure; fiscal policy; emerging markets; developing economies*

1. Introduction

Investment plays a critical role for growth and social development. Investment in human capital and high-quality, sustainable infrastructure lays the foundation for output and productivity growth, provides basic services to households and market access for firms, enables sustainable urban development, and opens corridors of trade to link into the global economy (Global Infrastructure Facility, 2015). Competitiveness rests on strong human capital and quality infrastructure (World Economic Forum, 2016). Investment plays a critical role for growth and social development. Investment in human capital and high-quality, sustainable infrastructure lays the foundation for output and productivity growth, provides basic services to households and market access for firms, enables sustainable urban development, and opens corridors of trade to link into the global economy (Global Infrastructure Facility, 2015). Competitiveness rests on strong human

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capital and quality infrastructure (World Economic Forum, 2016).

Investment growth in emerging market and developing economies (EMDEs) has slowed sharply since 2010 (World Bank, 2017a; Vashakmadze *et al.*, 2017).[1] However, investment growth has varied significantly across different regions (Figure 1). The objective of this study is to examine the regional dimensions of recent weakness in investment.[2] Specifically, the study addresses the following three questions: First, how has investment growth in the six EMDE regions evolved? Second, what are the remaining investment needs across these regions? Third, which policies can help address investment needs?

Investment growth in EMDEs slowed from 10.7 percent in 2010 to 3.3 percent on average in 2015–16. This slowdown exceeded 5 percentage points in almost half of EMDEs. In 2015, investment growth was below its long-term average in more than 60 percent of EMDEs and negative in about 30 percent of EMDEs. Developments varied widely across regions, however, reflecting the presence of commodity importers or exporters, the degree of political stability, and spillovers from key trading partners and investors. In the EMDE regions with a substantial number of commodity-importing economies—East Asia and Pacific (EAP), which accounted for one-quarter of global investment during 2010–15 and South Asia (SAR), which accounted for 4 percent—investment growth has been stronger than the average across EMDEs, but also declined steadily in 2010–14.

In contrast, since 2010, investment growth has declined sharply and registered several years of anemic growth or even contraction in EMDE regions with a large number of commodity exporters. In addition to a severe terms-of-trade deterioration since the peak of commodity prices in the first quarter of 2011, investment growth was set back by procyclical policy tightening (Nigeria, Russian Federation, South Africa, some Gulf Cooperation Council (GCC) countries), balance of payment pressures (Angola, Azerbaijan, Kazakhstan, Nigeria), political instability or policy uncertainty (Argentina, Brazil, Russia, Ukraine), and spillovers from conflicts and recessions in neighboring countries (Middle East and North Africa, Central Asia, South Caucasus, South America).

Post-crisis investment weakness affected both public investment, which accounted for 31 percent of investment in 2010–15, and private investment. In all regions except SSA, public investment growth has slowed steadily from elevated levels during the global financial crisis to below long-term averages. This slowdown partly reflected increasing financing constraints as fiscal space eroded with crisis-related fiscal stimulus and slowing post-crisis output growth. Following a post-crisis rebound in 2010, private investment growth also slowed sharply and remained below the long-term average in more than half of all EMDEs. Private investment growth was weakest in ECA, partly as a result of spillovers from the Euro Area crisis, and MENA, where political uncertainty in the wake of the Arab Spring weighed on sentiment.

In some EMDEs, especially in China and commodity exporters, slowing investment growth in recent years is partly a correction from high pre-crisis investment growth. In China, this process has involved economic rebalancing towards domestic consumption and the services sectors. In commodity-exporting

1. Throughout this section, unless otherwise specified, investment refers to real gross fixed capital formation (public and private combined). For the sake of brevity, "investment" is understood to indicate investment levels. Investment growth is measured as the annual percent change in real investment.
2. The six regions include East Asia and Pacific (EAP), Europe and Central Asia (ECA), Latin America and the Caribbean (LAC), Middle East and North Africa (MNA), South Asia (SAR), and Sub-Saharan Africa (SSA). In Latin America and the Caribbean (LAC), investment growth fell from 11.6 percent in 2010 to -5.7 percent in 2015; in Europe and Central Asia (ECA), it declined from 6.3 percent in 2010 to -0.3 percent in 2015; in the Middle East and North Africa (MNA), it slowed from 4.4 percent in 2010 to 1.2 percent in 2015; and in Sub-Saharan Africa (SSA), it fell from 7.1 percent in 2010 to 1.3 percent in 2015.

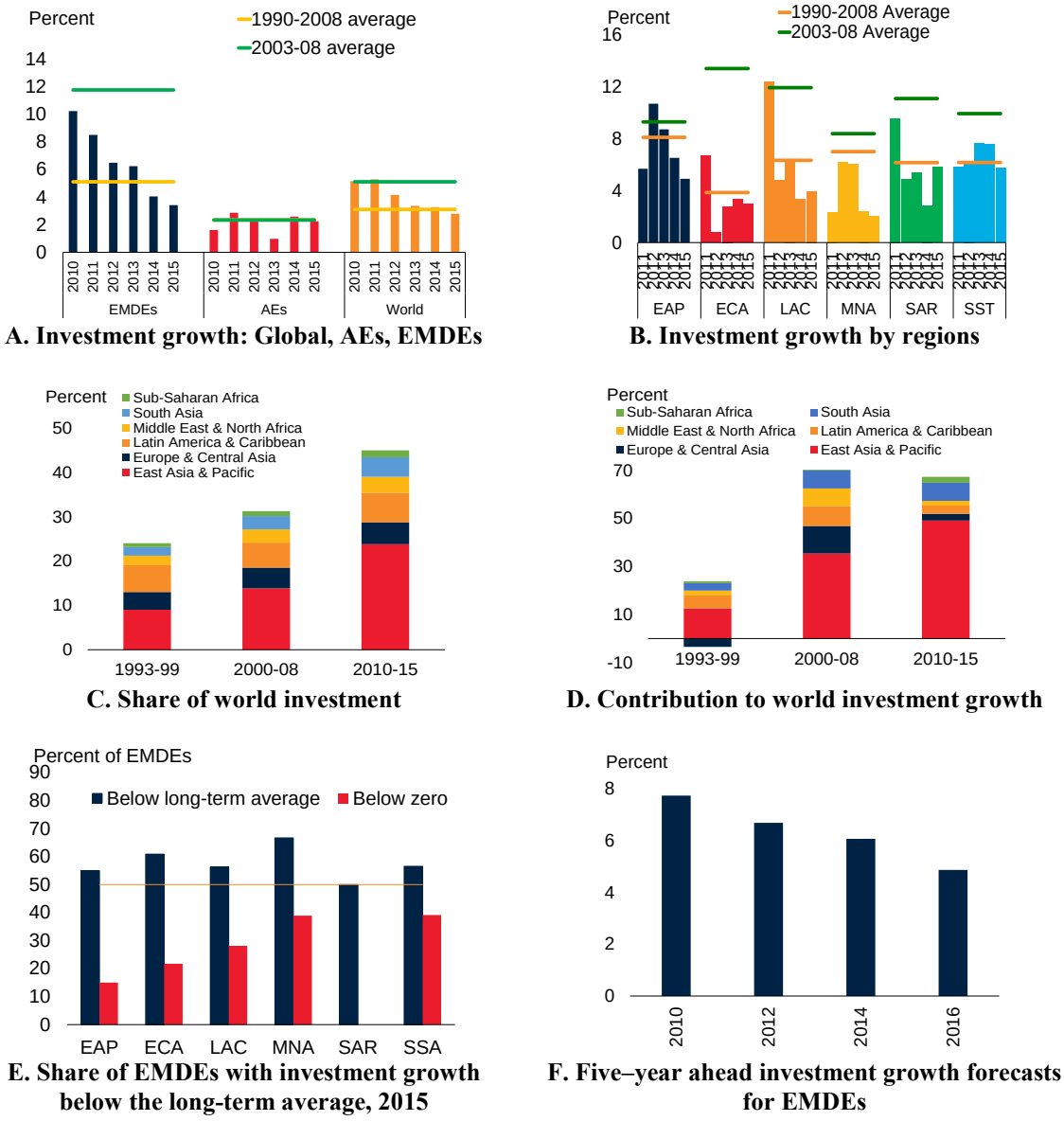


Figure 1. Regional variation in EMDE investment growth.

Investment growth in EMDEs has slowed sharply since 2010 but there has been considerable regional heterogeneity.

Sources: Haver Analytics, World Economic Outlook, Consensus Economics.

Notes: GDP-weighted averages using 2010 real GDP at constant prices and exchange rates for weights. EAP is East Asia and Pacific, ECA is Europe and Central Asia, LAC is Latin America and the Caribbean, MNA is Middle East and North Africa, SAR is South Asia, SSA is Sub-Saharan Africa.

A. Share of EMDEs in each region with investment growth below the long-term average (1990–2008). Data for 2015. Horizontal line indicates 50 percent. AEs are advanced economies.

C. Each column shows the period average of the share of global investment contributed by EMDE regions denoted. Includes 95 EMDEs. The rest is contributed by 30 AEs.

D. The columns denote the percent contribution of EMDE regions to global investment growth over the periods denoted. Includes 95 EMDEs. The rest is contributed by 30 AEs.

E. Longterm average for 1990–2008.

F. Five-year ahead consensus forecasts in the year denoted. Unweighted averages of 21 EMDEs. Latest available month in the year denoted.

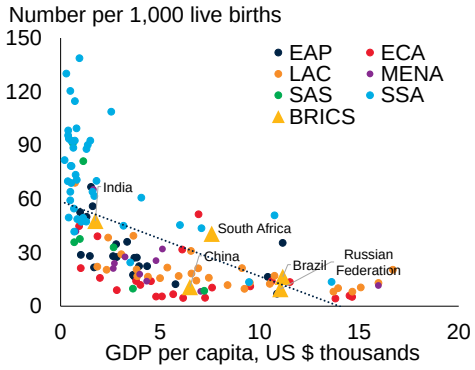
EMDEs, especially oil-exporting ones, a sharp terms-of-trade deterioration undermined long-term growth prospects and set back investment. A moderation of investment growth in commodity-importing economies reflected weak trading partner growth and slowing foreign direct investment (FDI). Political risk and weak growth prospects in major trading partners have been important obstacles for investment growth in all EMDEs.

Sizeable investment needs remain in EMDEs, driven by three forces: the need to alleviate severe poverty, income and demographic shifts, and rapid urbanization. Investment needs include the provision of basic public services, fostering efficiency, promoting innovation, and ensuring sustainable growth. A sizeable portion of these investment needs is in infrastructure and human capital. Public investment in these areas can crowd in private investment, especially in the presence of economic slack, accommodative financial conditions, well-developed institutions, and a sufficiently skilled labor force (IMF, 2014a; World Bank, 2017a).

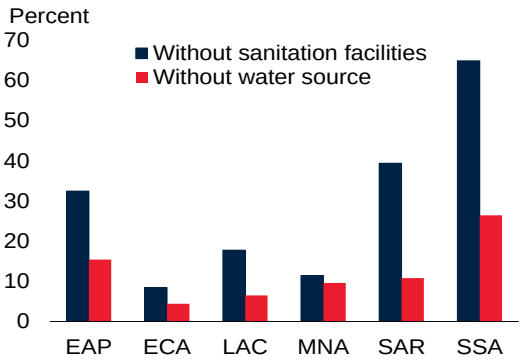
- *Basic public services*: Despite some remarkable successes, the provision of basic public services, which help to reduce mortality and morbidity and enable basic economic activity, remains a challenge in many EMDEs, especially in Africa but also in parts of other EMDE regions. The challenge of providing basic services—water and waste water management, access to markets, and access to basic health care and education—is especially big in Sub-Saharan Africa but continues in parts of other EMDE regions (Figure 2). About 770 million people worldwide lack access to clean water, 2.5 billion people do not have adequate sanitation, 2.8 billion people still cook their food with solid fuels (such as wood), and 1 billion people live more than a mile (~2 kilometers) from an all-weather road (Global Infrastructure Facility, 2015). There are over 59 million primary-school-age children without access to education, of whom more than half live in Sub-Saharan Africa.
- *Accommodating growth and urbanization*: Investment in quality infrastructure and human capital is critical to expanding economic activity, enhancing productivity, and facilitating urbanization. EMDEs have the potential for decades of rapid urban development (World Bank, 2015a). For example, relative to their per capita incomes, the share of the population living in urban agglomerations is below-average in India and Russia. Despite internal migration, the share of people living in urban centers in the EAP region remains at 54 percent in 2015, well below the advanced-economy average (80 percent). Slums are still prevalent in about half of SSA economies, but also in Brazil and several other LAC economies (Figure 3).

Urbanization and accommodating growth puts a premium on quality transport network, reliable provision of electricity, and availability of quality education. Organisation for Economic Co-operation and Development (OECD) (2012) estimates that worldwide air passenger traffic could double in 15 years, air freight could triple in 20 years, and port handling of maritime containers worldwide could quadruple in 15–20 years. Yet, most of the current gateway and corridor infrastructure could not accommodate a 50-percent increase, let alone a doubling of passengers in 15 years or a tripling of freight in 20 years (OECD, 2012). Transport infrastructure is of below-average quality in Brazil and several economies in the ECA region, especially in Central Asia, and the quality of ports is below the average in Brazil and Russia (Figure 3). Similarly, almost 20 percent of the world's population still has no access to electricity. Just to keep pace with growing global electricity demand, annual investment in energy supply of almost 2 percent of GDP (US$1.6 trillion) may be needed until 2035 (International Energy Agency, 2014). Annual

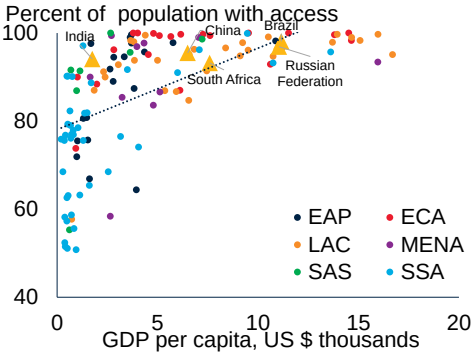
spending needs on energy efficiency, measured against a 2012 baseline, are expected to rise almost five-fold by 2035 (Ruiz-Nuñez and Wei, 2015).



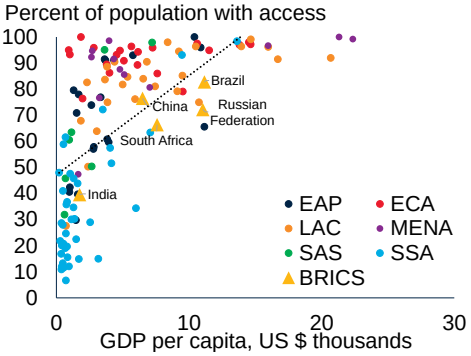
A. Under-5 mortality rate, 2015



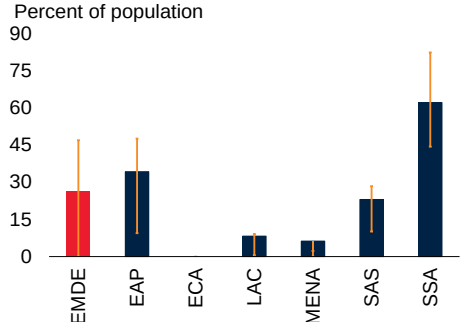
B. Access to improved water and sanitation, 2011-15



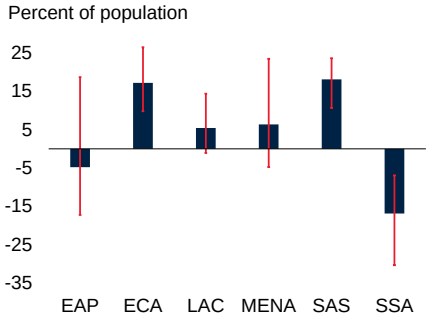
C. Improved water source, 2012



D. Improved sanitation facilities, 2015



E. Percent of population without access to electricity, 2012



F. Access to electricity, controlling for per capita GDP, 2012

Figure 2. Regional variation in health outcomes and service provision.

Despite some remarkable successes, provision of basic public services to reduce mortality and morbidity and enable basic economic activity, remains a challenge in many EMDEs, especially in Sub-Saharan Africa, but also in parts of other EMDE regions.

Source: World Bank.

Notes: EAP is East Asia and Pacific, ECA is Europe and Central Asia, LAC is Latin America and the Caribbean, MNA is Middle East and North Africa, SAS is South Asia, SSA is Sub-Saharan Africa. BRICS are Brazil, Russia, India, China and South Africa. Regional aggregates are simple averages.

A. Under-five mortality rate is the probability per 1,000 that a newborn baby will die before reaching age five.

B, C, D. Improved sanitation facilities include flush/pour flush, ventilated improved pit latrine, pit latrine with slab, and composting toilet. An improved drinking water source includes piped water on premises (piped household water connection located inside the user's dwelling, plot or yard), and other improved drinking water sources (public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs, and rainwater collection).

E, F. Vertical bars indicate 25th–75th percentile range.

F. To control for per capita income, Figure shows deviation of access to electricity from results of a linear regression of access to electricity on per capita income.

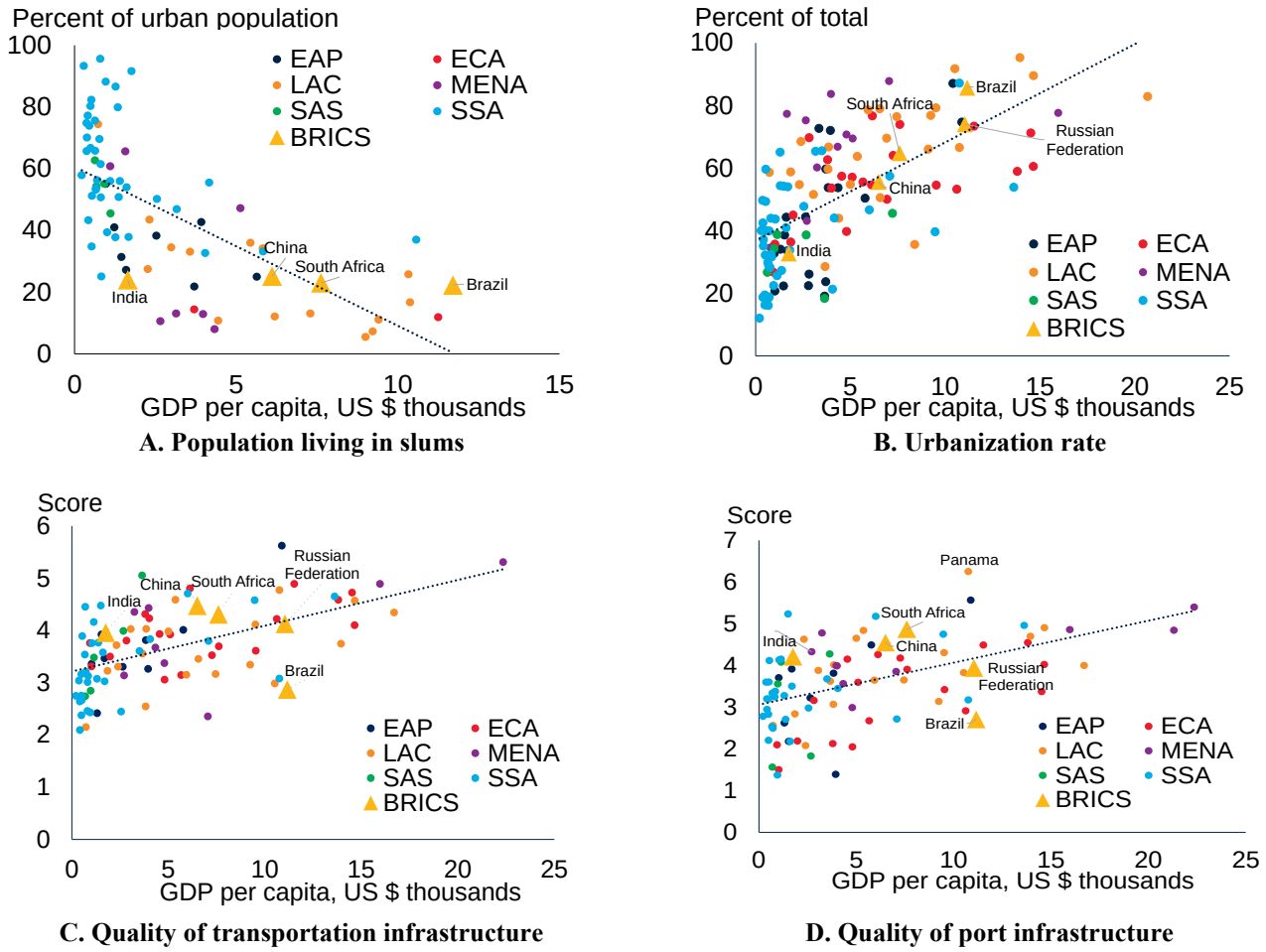


Figure 3. Regional variation in urbanization and quality of transport infrastructure.

Sizable investment is needed to accommodate urbanization and keep pace with growing economic activity.

Sources: World Bank, World Economic Outlook.

Note: EAP is East Asia and Pacific, ECA is Europe and Central Asia, LAC is Latin America and the Caribbean, MENA is Middle East and North Africa, SAS is South Asia, and SSA is Sub-Saharan Africa. BRICS are Brazil, Russia, India, China and South Africa.

A. Data 2014. Population living in slums is the proportion of the urban population living in slum households, defined as a group of individuals living under the same roof lacking one or more of the following conditions: access to improved water, access to improved sanitation, sufficient living area, and durability of housing.

B. Data for 2015. Urban population refers to people living in urban areas as defined by national statistical offices. The data are collected and smoothed by United Nations Population Division.

C. Data for 2015. The score is from 1 to 7. Higher score indicates better quality. Quality of Transportation Infrastructure surveyed countries on the question of "How would you assess general infrastructure (e.g., transport, telephony, and energy) in your country?" The score is from 1 to 7. Higher value indicates better quality.

D. Data for 2015. The score is from 1 to 7. Higher score indicates better quality. Quality of Port Infrastructure surveyed countries on the question of "In your country, how would you assess the quality of seaports? (For landlocked countries: How accessible are seaport facilities?)".

- *Sustainable growth*: Even in EMDEs with above-average infrastructure and adequate provision of basic education and health care, investment is needed to ensure environmentally sustainable growth and preserve competitiveness. Environmental challenges include water management, deforestation and

land degradation, air pollution, and natural disaster management (Lee and Pang, 2015). For example, relative to their per capita incomes, air pollution is high in China, India, and several GCC countries. To maintain competitiveness in the global economy, both innovation and absorption of productivity-enhancing technologies is critical, supported by higher education and training. Innovation can be fostered by investment in research and development, the presence of high-quality scientific research institutions that can generate the basic knowledge needed to develop new technologies, collaboration between different sectors in research and technological developments, and the protection of intellectual property. These activities rest on the availability of well-educated workers who are able to perform complex tasks and adapt rapidly to their changing environment and the evolving needs of production (World Economic Forum (WEF), 2016). The quality of education is particularly weak in South Africa and in Brazil and other parts of LAC (Figure 4).

How large could total investment needs be over the next decade? For infrastructure, specifically, a number of studies have estimated sizeable investment needs. At the global level, OECD (2006) estimated that key infrastructure sectors (land transport, telecommunications, electricity and water) require additional annual investment of 2.5 percent of global GDP (US$53 trillion) until 2030 to keep pace with rising global demand. Electricity generation and other energy-related infrastructure in oil, gas, and coal require an additional investment of 1.5 percent of global GDP (US$3 trillion per year) (OECD, 2012; McKinsey Global Institute, 2013; WEF, 2013). Global environment-related infrastructure needs represent another 1.7–2.5 percent of global GDP (US$3.5–US$5 trillion per year) (WEF, 2013).

Since EMDEs tend grow faster on average than advanced economies, investment needs for maintenance and increased capacity of infrastructure are estimated to be highest in EMDEs (6–8 percent of GDP on average) (Fay *et al.*, 2011). However, there are significant differences in the size and the composition of investment needs across regions and countries depending on development and income levels, demographic, and urbanization trends. Estimated infrastructure investment needs are largest in U.S. dollar amounts in fast-growing, populous Asia (US$9.5–US$16 trillion by 2030). However, relative to GDP, infrastructure needs are largest in Africa and South Asia where, by some estimates, they reach double-digits (Foster and Briceño-Garmendia, 2010; Inderst, 2016). On average, across EMDEs, investment requirements are largest in electricity generation, followed by construction and upgrading of transportation networks, real estate development, water, and telecommunications (RBS, 2011). In Asia, about half of investment needs are for energy, about one-third for transport and the rest for telecommunications and water.

A sizable portion of these infrastructure investment needs remain unmet, although estimates vary widely and are subject to large uncertainty (*e.g.*, Gramlich (1994) and Dethier and Moore (2012)). For example, the difference between expected investment needs and current actual investment in EMDEs is estimated at US$1–US$2 trillion per year (1.25 to 2.5 percent of EMDE GDP) (WEF, 2013; Bhattacharya *et al.*, 2012; McKinsey Global Institute, 2013; 2016). Public investment in infrastructure can catalyze private investment (World Bank, 2017a). However, public investment is more likely to crowd in private investment in the presence of economic slack, accommodative financial conditions, sizable investment needs, well-developed institutions, and a sufficiently skilled labor force. Improved project selection and monitoring, as well as better governance, may enhance the benefits from public investment.

The following six sections discuss investment developments and remaining investment needs in each of the World Bank's six EMDE regions. The final section concludes with a summary of policy implications.

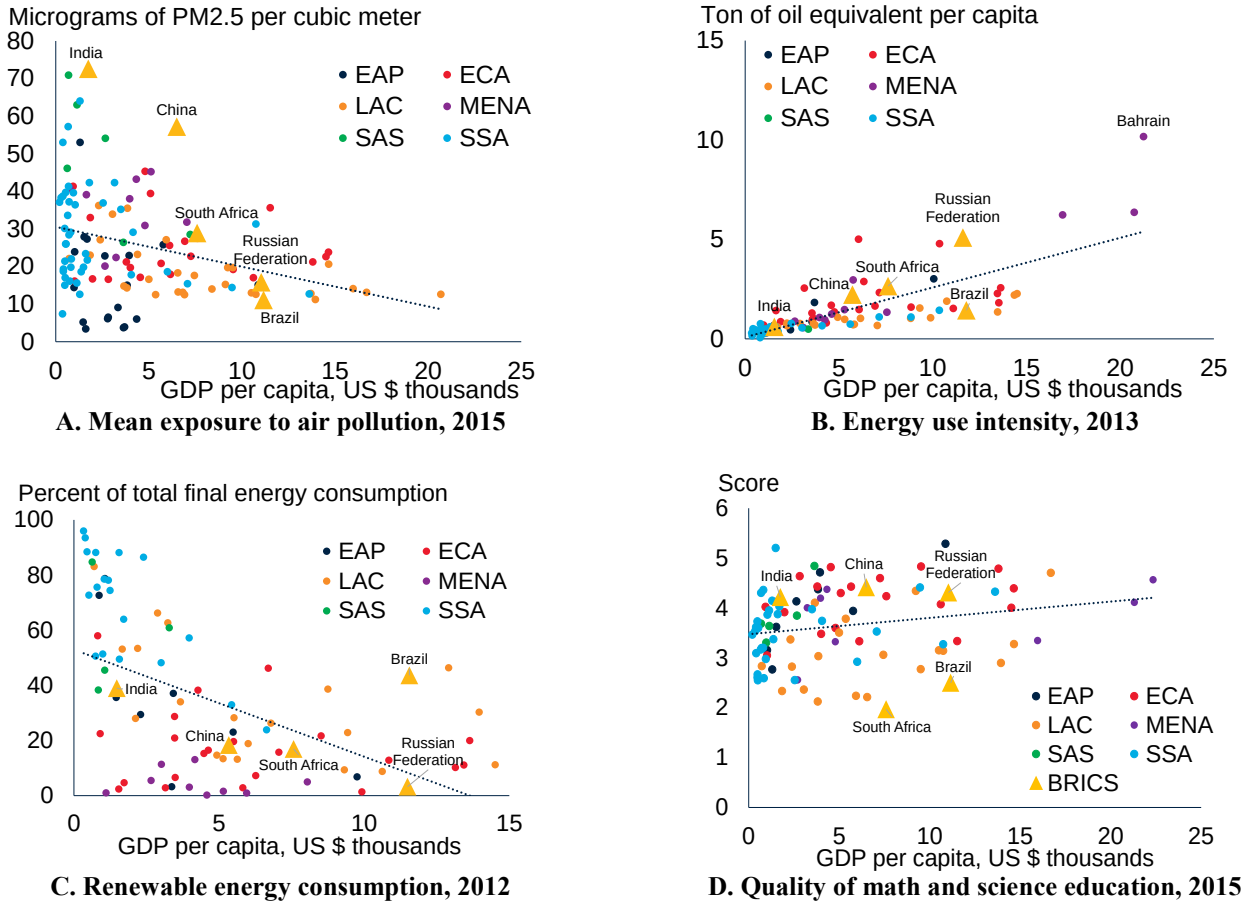


Figure 4. Regional variation in air pollution, energy use, and education outcomes

Investment in human capital is needed to preserve competitiveness. Investment is also needed to ensure that growth is sustainable.

Source: World Economic Forum, World Bank.

Note: EAP is East Asia and Pacific, ECA is Europe and Central Asia, LAC is Latin America and the Caribbean, MENA is Middle East and North Africa, SAS is South Asia, and SSA is Sub-Saharan Africa. BRICS are Brazil, Russian Federation, India, China and South Africa.

A. Population-weighted exposure to ambient PM2.5 pollution is defined as the average level of exposure to concentrations of suspended particles measuring less than 2.5 microns in aerodynamic diameter, which are capable of penetrating deep into the respiratory tract and causing severe health damage. Exposure is calculated by weighting mean annual concentrations of PM2.5 by population in both urban and rural areas.

B. Energy use refers to use of primary energy before transformation to other end-use fuels, which is equal to indigenous production plus imports and stock changes, minus exports and fuels supplied to ships and aircraft engaged in international transport.

C. Renewable energy consumption is the share of renewable energy in total final energy consumption.

D. Data are as of 2015. The score is from 1 to 7. Higher value indicates better quality. Quality of math and science education surveyed countries on the question of "In your country, how do you assess the quality of math and science education?"

2. East Asia and Pacific

During 2010–15, East Asia and Pacific accounted for almost one-half of the growth in global investment, and one-quarter of global investment. Investment growth has steadily declined since 2010. The slowdown has been broad-based and reflected decelerating public as well as private investment. To some extent, the deceleration represents a necessary adjustment from high pre-crisis growth rates and the

post-crisis policy stimulus. The process has involved economic rebalancing, from manufacturing industry to services, and from investment (in excess of 40 percent of GDP) and exports to domestic consumption. In other economies, the cycle in commodity markets, from a decade of high prices to recent weakness, has encouraged adjustment. Despite several decades of rapid investment growth prior to the recent slowdown, requirements in the areas of transport, health and education, and environmental protection, remain sizable across the region.

2.1 How has investment growth in the EAP region evolved?

Investment growth in East Asia and Pacific has steadily declined—from 12.2 percent in 2010 to 6.6 percent on average in 2015–16. This is well below the region's double-digit growth rates of 2001–08, but higher than in other EMDE regions. The slowdown in investment growth in the EAP region was concentrated in China and commodity exporters (Figure 5). It reflected decelerating public as well as the private investment growth, as the coordinated fiscal stimulus following the global financial crisis was unwound (especially in China) (World Bank, 2016a). Since 2015, investment growth has begun to recover in the EAP region, with the exception of China, where it eased to around 6.5 percent. This has reflected a number of developments: stabilizing commodity prices, more accommodative policies amid low inflation and benign global financial conditions, and buoyant FDI (World Bank, 2015b).

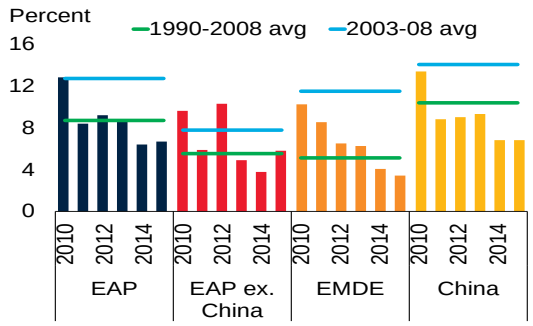
2.2 What are the remaining investment needs in the EAP region?

Income and demographic shifts and rapid urbanization are the three main forces driving investment needs in the region (World Bank, 2015c; 2016b). Rapid urbanization, large-scale migration, and population aging place heavy strains on urban infrastructure for housing, transportation, healthcare, and education. Meeting the growing demands of these forces requires choosing a balance between economic growth and environmental protection (ESCAP, 2015).[3] Estimates of costs vary widely (Inderst, 2016; Bhattacharyay, 2012; McKinsey Global Institute, 2014). The largest costs involve road construction and upgrading, energy infrastructure, and real estate development (McKinsey Global Institute, 2014). The region shows a significant disparity in density and quality of transport networks, electricity provision, and housing, with greater gaps in China, Indonesia, and lower-income ASEAN economies (primarily because of large landmass and population size). There is substantial demand for upgrading and maintenance of infrastructure in other regional economies, including Malaysia, the Philippines, and Thailand.

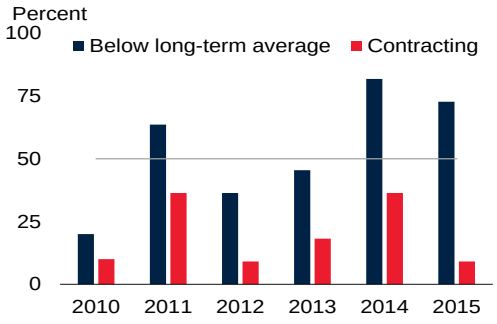
The region has made progress in human development outcomes, including child survival, nutrition, and education. Nevertheless, the region still faces education and human-resource shortfalls such as high child mortality rates in Lao PDR, Myanmar, Papua New Guinea, and Timor-Leste, raising rates of non-communicable diseases (NCDs), and high rates of infectious diseases associated with high population mobility and environmental degradation (Anbumozhi and Intal, 2015).

Many countries in the region face environmental problems that threaten to undermine future growth and stability. The main challenges include water management, deforestation and land degradation, air pollution, and climate change (Lee and Pang, 2015). In several major cities in China, air and water pollution still presents a health risk (World Bank and DRC 2014).

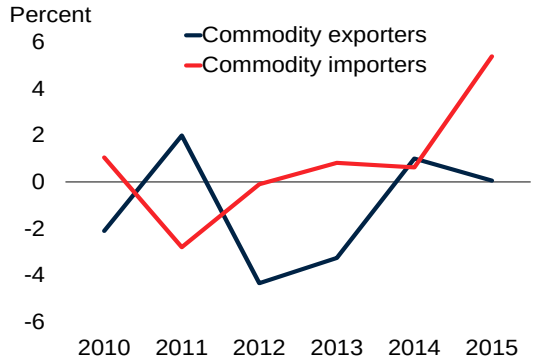
3. For example, in addition to 170 cities in China with populations exceeding 1 million, China is expected to gain 292 million city dwellers by 2050 (World Economic Forum, 2015).



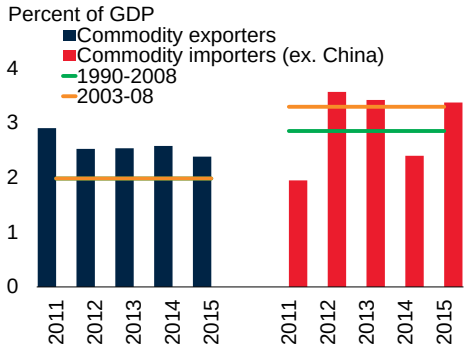
A. Investment growth



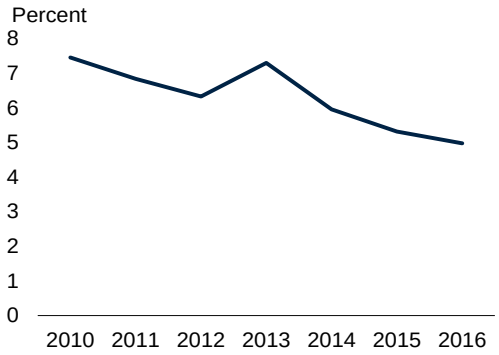
B. Share of countries with weak investment growth



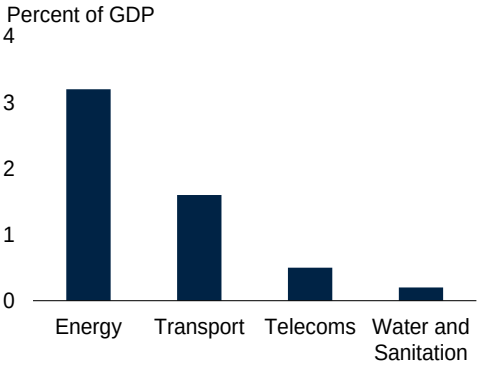
C. Terms of trade change



D. FDI groups



E. Long-term investment growth expectations



F. Infrastructure investment needs, East and Southeast Asia

Figure 5. EAP: Investment growth and investment needs

Investment growth in the EAP region stabilized at moderate levels in 2015–16 following a gradual decline in 2010–13. A rebound of investment in 2015 helped, but investment growth remains below its long-term average in more than half of EAP economies. Long-term forecasts suggest continued weakness in investment growth, while sizable investment needs remain in infrastructure.

Sources: Haver Analytics, International Monetary Fund, United Nations Conference on Trade and Development, World Bank, Bhattacharya (2012), China Economic and Industry Data Database (CEIC), Consensus Economics, General Statistics Office of Vietnam, Inderst (2016), Investment and Capital Stock database.

B. Share of countries in EAP region with investment growth below the long-term (1990–2008) average or negative investment growth ("contracting").

C. Investment-weighted averages. Commodity exporters include Indonesia, Malaysia, Myanmar, and Papua New Guinea. Commodity importers include Cambodia, the Philippines, Thailand, and Vietnam. An increase denotes an improvement in terms-of-trade.

D. FDI inflows. Weighted averages.

E. Five-year ahead consensus forecasts made in the year denoted. Weighted average.

2.3 Which policies can help address investment needs in the EAP region?

Greater spending efficiency will help increase the benefits of public investment. Private sector participation can help improve efficiency, and at the same time provide funding. Several reforms can help realize the potential benefits of public-private-partnerships (World Economic Forum, 2013). Governments can centralize agencies that coordinate national infrastructure, in cooperation with the private sector and multilateral agencies. Multilateral development banks can work with the private sector to provide quality and governance assurances. Standardization and a global "code of conduct" can enhance confidence in the private sector as a good partner. This could include a regulatory framework, transparency principles, and a system for dispute resolution (McKinsey Global Institute, 2013). Investment growth in EAP is unlikely to revert to the high rates of the previous decade. Demands for capital formation in the region will nevertheless remain relatively high, and governments and multilateral agencies will remain important providers of funding. The establishment of the Asia Infrastructure Investment Bank provides a new source of funding. In March 2016, the Japan International Cooperation Agency signed an agreement with the Asian Development Bank to establish a new US$1.5 billion fund to support private infrastructure investments across the Asia-Pacific region. In order to have the desired impact, it is important that investments go to economically viable projects. Close coordination of regional and global initiatives will help reduce duplication and inconsistencies in public investment projects (BMI Research, 2016).

3. Europe and Central Asia

Europe and Central Asia (ECA) accounted for 5 percent of global investment during 2010–15. Investment growth in the region decreased sharply, from a 6.3 percent in 2010 to -0.3 percent in 2015. Investment bottomed out in 2016, led by easing investment contractions in Russia and Ukraine. However, regional investment growth remains well below its long-term (1995–2008) average of 6.5 percent a year.

The slowdown in investment growth in the ECA region was initially concentrated in Central Europe in the aftermath of the Euro Area's debt crisis of 2011–12 and the associated recession. The post-crisis recovery in Central Europe was weak, reflecting impaired banking systems and corporate sectors in the aftermath of the Euro Area crisis. Lingering concerns about armed conflict and related geopolitical tensions (Russia, Ukraine), policy uncertainty in several major regional economies, and adjustment to the terms-of-trade shock in energy exporters (Russia, Azerbaijan, Kazakhstan) have weighed on regional investment growth.

Meanwhile, current and prospective investment needs are sizable. Investment and major reforms are needed to increase productivity and set the stage for a sustained growth recovery. However, efforts to address under-investment are likely to be constrained by the need for sustainable financing.

3.1 How has investment growth in the ECA region evolved?

The recent investment growth slowdown was sharp and broad-based. In 2015, investment growth remained below its long-term averages in three-quarters of the countries in the region, and was negative

in one-quarter of them, including Belarus, Russia, and Ukraine (Figure 6). Between 2010 and 2015, investment growth trends differed markedly between commodity importers, which are located in Central, Eastern, and Southeastern Europe, and commodity exporters, mainly Russia and the economies of Central Asia.

In general, in commodity-importing EMDEs in the region, investment financing became difficult to obtain from domestic banking sectors that were still healing from the crisis and pre-crisis credit booms (Hungary, Moldova, Serbia). The 2012–13 debt crisis and subsequent weak growth prospects in the Euro Area weighed on investor sentiment. The recovery in investment in commodity-importing economies has been gradual since 2013, despite support from accommodative monetary and fiscal policies in some countries and sharply lower oil prices that lifted business confidence and real incomes.

In commodity-exporting EMDEs, the global financial crisis-related fiscal stimulus supported double-digit investment growth in 2010. Investment growth remained robust until 2013, but slowed sharply once oil prices started sliding in 2014. Since mid-2014, investment has contracted year-on-year in every quarter until mid-2016, weighed down by the following factors: the unfolding conflict in Ukraine, intermittent border tensions in the Caucasus, international sanctions that heavily restricted access to finance in Russia, a severe terms-of-trade shock that hit energy exporters (Azerbaijan, Kazakhstan, Russia), and contracting public sector investment.

3.2 What are current and prospective investment needs in the ECA region?

Infrastructure needs are sizable across the ECA region. The additional investment needed to reach the investment levels of economies at similar stages of development has been estimated at 1.3 percent of GDP per year on average (EBRD, 2015).[4] Investment priorities vary widely across the region.

ECA is an energy-intensive region that relies heavily on non-renewable energy. Belarus, Bosnia and Herzegovina, and Turkey are implementing policy reforms (such as cost-based energy pricing) and investments in both public infrastructure and private industry, including renewable energy and energy efficiency. Efforts to adapt to climate change include improved water resource management (flood protection, water loss reduction, irrigation efficiency) in Kazakhstan, climate-smart agriculture (switching to more resilient crops) in Tajikistan, and better weather forecasting and climate change monitoring in Russia.

The region has made significant advances in human development, including reductions in child mortality rates. Many countries in the region have achieved universal primary enrollment and gender parity in both primary and secondary education, and literacy rates are high. On average, the ECA region scores above average among EMDE regions in several education and health indicators. Nevertheless, shortcomings remain. Levels of learning achievement are low in several countries, and socio-economic and ethnic disparities in education persist. Among the basic education indicators, regional gaps are most apparent for math and science education.

4. In addition to 24 countries in ECA region, the estimate includes the Arab Republic of Egypt, Estonia, Jordan, Latvia, Lithuania, Mongolia, Morocco, the Slovak Republic, Slovenia, and Tunisia.

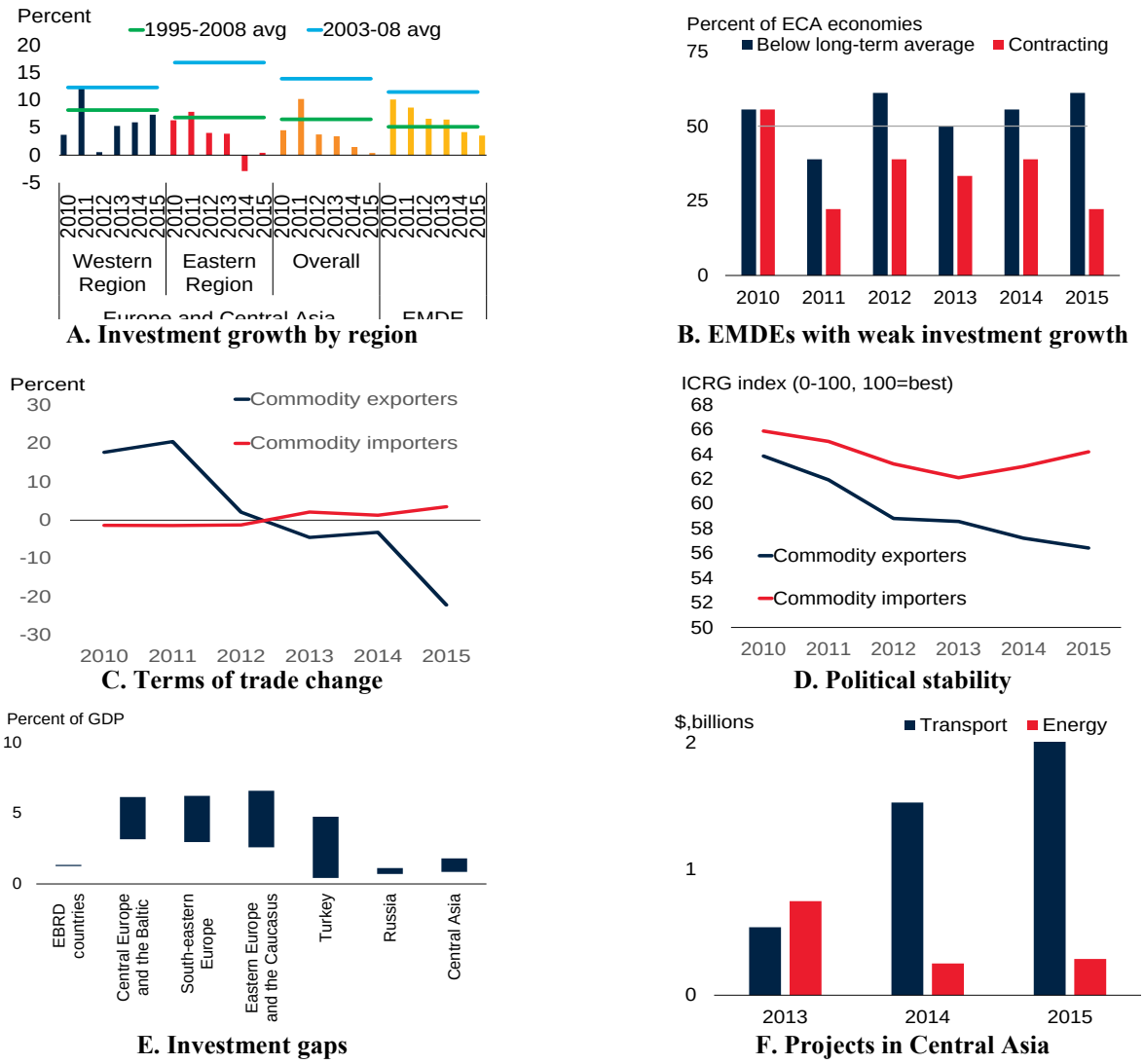


Figure 6. Investment growth slowdown in Europe and Central Asia, 2010–15

Regional investment growth declined from 6.3 percent in 2011 to -0.3 percent in 2015. The recovery of investment growth in the western part of the region in 2014–15 was outweighed by a contraction in oil-exporting economies in the eastern part of the region, which suffered a major terms-of-trade shock after the oil price drop. Recession in Russia was exacerbated by international sanctions. Amid sizable investment gaps across the region, large-scale infrastructure investment projects are underway.

Sources: Consensus Economics, EBRD (2015), Eurostat, Haver Analytics, Central Asia Regional Economic Cooperation (CAREC), European Investment Bank (2016), World Bank.

A,B. Investment growth rates are weighted averages of gross fixed capital formation growth rates in the public and private sectors, respectively, in constant 2005 US dollars.

A. The eastern part of the region comprises Eastern Europe (Belarus, Moldova, and Ukraine), South Caucasus (Armenia, Azerbaijan and Georgia), Central Asia (Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan) and Russia. The western part of the region includes Central Europe (Bulgaria, Croatia, Hungary, Poland and Romania) and the Western Balkans (Albania, Bosnia and Herzegovina, Kosovo, FYR Macedonia, Montenegro, and Serbia), and Turkey.

B. Share of ECA economies with investment growth below its long-term average or negative.

C. Investment-weighted average. A decline denotes a terms of trade deterioration.

D. ICRG = International Country Risk Guide. Investment-weighted average. A higher index denotes greater political stability.

E. Range of different investment gap estimates for each region from EBRD (2015). EBRD countries include Estonia, Latvia, Lithuania, the Slovak Republic, Slovenia Mongolia, Egypt, Jordan, Morocco, and Tunisia in addition to 24 countries in ECA. Financing gap for Central Asia and the Caucasus includes all infrastructure financing requirements that are not covered by national governments. For Central Asia, the range is GDP-weighted average for Azerbaijan, Kazakhstan, Kyrgyz Republic, Mongolia, Tajikistan, and Uzbekistan.

F. Total value of approved Central Asia Regional Economic Cooperation (CAREC)-related projects in Azerbaijan, Kazakhstan, Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, and Uzbekistan.

3.3 Which policies can help address investment needs in the ECA region?

Unmet investment needs, along with governance, financial, and labor market obstacles, limit output growth in the region (World Bank, 2015d–g; World Bank and Vietnam, 2016; World Bank, 2016c; EBDR, 2015a). Many EMDEs in the ECA region remain under pressure to consolidate their fiscal positions to reduce high debt-to-GDP ratios and ensure long-term fiscal sustainability (Georgia, Hungary). While policy priorities depend on country circumstances, appropriate cyclical and structural policies are needed in all cases to raise investment growth.

Effective public investments can meet needs with less cost (Dabla-Norris *et al.*, 2012), but regional institutional capacities fall behind the standards in advanced economies. The eastern part of the ECA region ranks particularly low in measures such as government effectiveness, and control of corruption. The efficiency of investments can be enhanced through strategic, rigorous, and transparent project selection mechanisms and through strong institutions able to fund, manage, execute, and monitor project implementation.

Policy efforts can be geared toward developing private funding sources for investment. Many countries still lack adequate frameworks for effective public-private partnerships, which can improve the effectiveness of public investment (Engel *et al.*, 2011). Capital market reforms can help channel domestic savings towards private investment (EBRD, 2015).

The region, especially the South Caucasus and Central Asia, will continue to depend on financial support from multilateral development institutions such as the European Bank for Reconstruction and Development, the Asian Development Bank, and the World Bank. Countries in Central Asia will likely benefit from China's "One Belt, One Road" (OBOR) initiative due to their locations. EU structural funds will continue to play an important role in closing investment gaps in Central and South Eastern Europe.

4. Latin America and the Caribbean

Latin America and the Caribbean (LAC) accounted for 7 percent of global investment in 2010–15, less than LAC's 8 percent share of global output.[5] During this period, investment growth slowed sharply in the region, from about 11.6 percent in 2010 to -5.7 percent in 2015, well below its long-term (1990–2008) average of 4.6 percent. Regional investment declined further, by about 0.5 percentage point in 2016.

The decline in investment growth in the LAC region in 2010–15 was concentrated in commodity exporters. It reflected domestic macroeconomic challenges, a sharp terms-of-trade deterioration resulting from declines in global commodity prices, and slowdowns in economic growth, with outright recessions in some cases. Current and prospective investment needs are sizable, especially in education and infrastructure.

4.1 How has investment growth evolved in the LAC region?

Investment-to-GDP ratios are low in LAC, averaging around 22 percent during 2010–15, significantly below the EMDE average of 32 percent. Current private investment-to-GDP ratios have fallen below levels prior to the global financial crisis (IMF, 2015a; 2015b). Regional investment has contracted since 2014 amid deep recessions in several of the region's largest economies (Argentina, Brazil, Bolivarian Republic of Venezuela) and growth slowdowns in the rest of the region (Figure 7). In 2016, investment growth was below its long-term average in more than 80 percent of LAC economies and negative in half of them (Argentina, Brazil, Chile, Ecuador, and Peru).

5. Throughout this section, unless otherwise specified, investment refers to real gross fixed capital formation (public and private combined). For the sake of brevity, "investment" is understood to indicate investment levels. Investment growth is measured as the annual percent change in real investment.

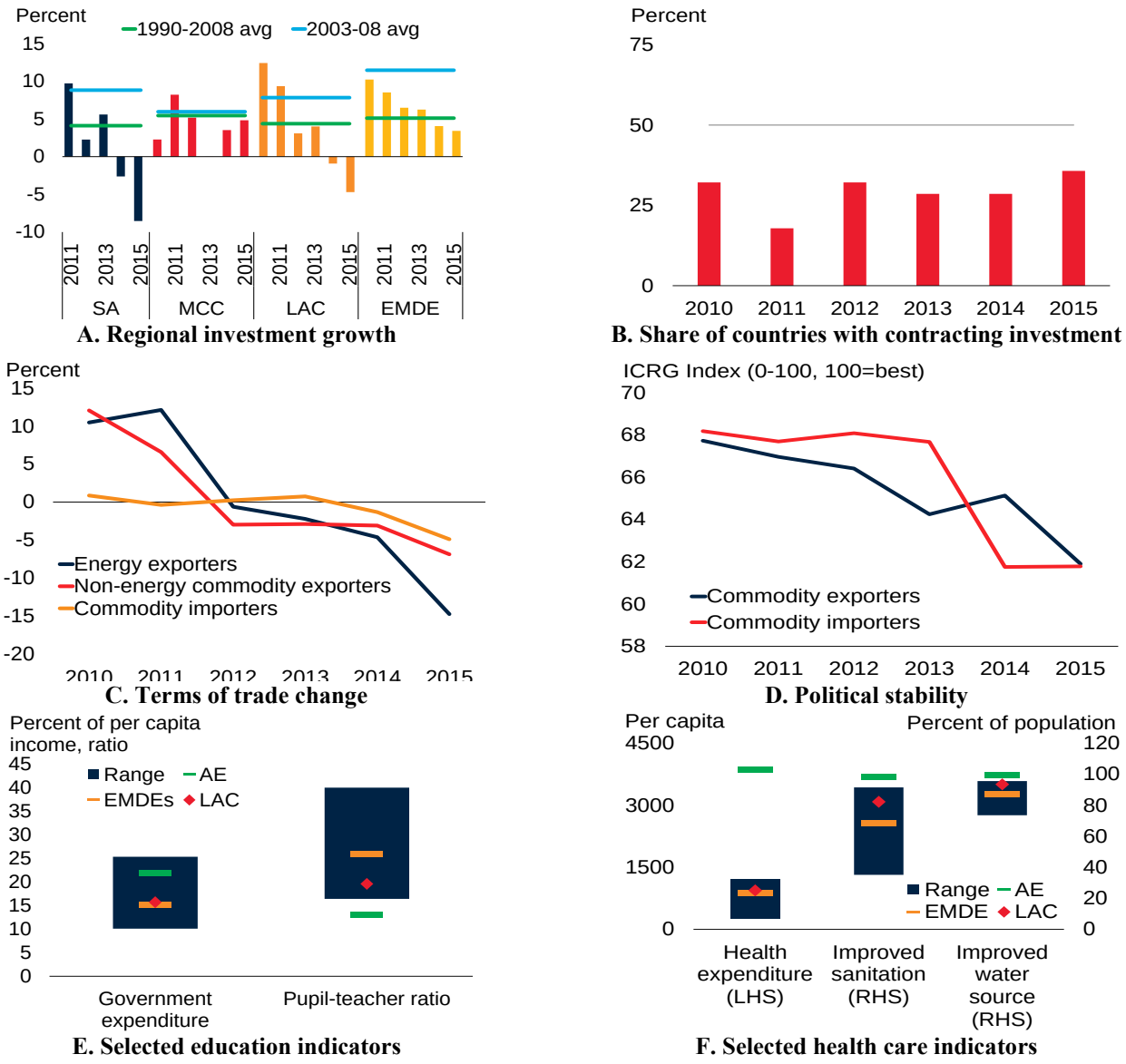


Figure 7. LAC: Investment growth slowdown

Partly due to weak overall economic growth, investment growth slowed sharply during 2010–15. The investment slowdown has coincided with severe terms-of-trade deteriorations, the slowing of FDI inflows, political tensions, and domestic policy tightening. Important among current investment needs are infrastructure and education, in terms of both quantity and quality.

Sources: Haver Analytics, International Monetary Fund, Oxford Economics, World Bank, World Economic Forum, Consensus Economics.

A. Averages weighted by investment levels. "SA" stands for South America. "MCC" stands for Mexico, Central America, and the Caribbean.

C. GDP-weighted average annual change in terms of trade. Negative value indicates deterioration. Energy exporters include Bolivia, Colombia and Ecuador. Non-energy commodity exporters include Argentina, Brazil, Chile, Costa Rica, Guatemala, Honduras, Nicaragua, Panama, Paraguay, Peru, and Uruguay. Commodity importers include Dominican Republic, El Salvador, Haiti, and Mexico.

D. Investment-weighted averages. A decline indicates greater political instability.

E, F. Blue bars denote range of unweighted regional averages across EMDE regions. Government expenditure is per primary student (in percent of per capita income), unweighted averages of 87 EMDEs, 32 AEs, and 20 LAC economies. Pupil-teacher ratio is in primary education (headcount basis), unweighted averages for 165 EMDEs, 31 AEs, and 23 LAC economies. Latest data available during 2011–15. Health expenditure per capita is in purchasing power parity terms, unweighted averages of 199 EMDEs, 34 AEs, and 31 LAC economies. Access to improved sanitation facilities (in percent of population) is the unweighted averages for 150 EMDEs, 33 AEs, and 28 LAC economies. Access to improved water sources (in percent of population) is the unweighted averages for 148 EMDEs, 34 AEs, and 30 LAC economies. Latest data available during 2011–15.

The declines mark a sharp reversal of the region's robust investment growth before 2010, when LAC countries were buoyed by robust overall growth prospects, still-elevated commodity prices, and relative political stability in the region. During 2010–15, investment growth averaged 3.3 percent, significantly below the 7.8 percent average during 2003–08. The recent weakening of investment growth has returned investment-to-GDP ratios near their levels in the early 2000s. The slowdown in investment growth has been broad-based across various sectors, and across public and private investment. In light of the weakened economic growth prospects for the region, investment growth is expected to remain low in the short to medium term.

4.2 What are current and prospective investment needs in the LAC region?

Investment needs in the region remain significant. The low quality of infrastructure and poor skills of the labor force are bottlenecks to the achievement of faster productivity growth, for example in Brazil (IMF, 2016a; World Bank, 2016d), and to poverty reduction. Infrastructure has not kept pace with urbanization in the region (USAID, 2010), while the majority of the poor in LAC are in urban areas. Immediate needs for investment in infrastructure and education have also been identified in country studies of Belize, Bolivia, Colombia, Costa Rica, El Salvador, Guatemala, Haiti, Honduras, Panama, and Uruguay (World Bank, 2015h–p; 2016e).

On average, across the 16 EMDEs in LAC over 2008–13, infrastructure investment amounted to just 3.7 percent of GDP, well below the 5–6 percent of GDP required just to sustain current economic growth rates (Bhattacharya *et al.*, 2012; Kohli and Basil, 2010; Fay and Yepes, 2003; Calderón and Servén, 2008; Perrotti and Sánchez, 2011).

The region's public health expenditures are slightly above that of EMDE comparators. Health infrastructure, such as access to improved sanitation and improved water sources, exceeds that of EMDE peers. However, urgent health care investment needs remain (World Bank, 2015i; 2015m). These include tackling malnutrition (Guatemala), increasing access to improved sanitation in rural and urban areas, and access to specialized health care services for women and children (Bolivia).

4.3 Which policies can help address investment needs in the LAC region?

While policy priorities differ across countries, most economies in the region have limited funds to expand public investment spending. The lack of resources places a premium on the efficiency of public investment, which may be enhanced by leveraging public funds with public-private partnerships and implementing reforms to stimulate private investment.

- Strengthening the efficiency of public investment includes streamlining the process for the development, approval, and selection of projects (IADB, 2016). Transparency in the project selection process and its monitoring and coordination between multiple stakeholders can help remove inefficiencies.
- Several countries have begun to develop public-private partnership frameworks (Chile, Colombia, Peru). If designed well, these can improve the efficiency of public investment spending (Engel *et al.*, 2011).

- LAC economies rank low on ease of business startup and tax compliance (South America and Central America), as well as trading across borders and registering property (Caribbean and South America) (World Bank, 2017b). Reforms to ease these constraints can also encourage investment.

5. Middle East and North Africa

The Middle East and North Africa (MNA) accounted for 4 percent of global investment, on average, during 2010–15. Investment growth in the region slowed from 4.4 percent in 2010 to 1.2 percent in 2015, far below the long-term (1990–2008) average of 7.2 percent, with considerable divergence among oil exporters and importers (Figure 8).

This section documents the recent slowdown in investment growth in the Middle East and North Africa due to the severe terms-of-trade deteriorations in oil-exporting economies and uncertainty associated with deep political changes in several oil-importing economies. Remaining investment needs are sizable, especially in the transport and energy sectors.

5.1 How has investment growth in the MNA region evolved?

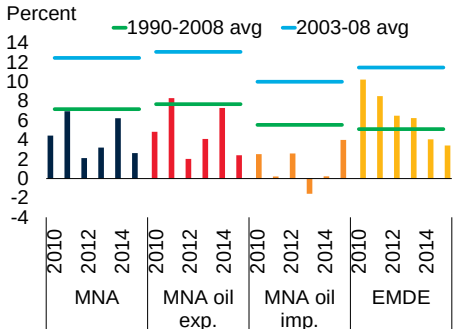
In 2015, investment growth remained below its long-term average in 70 percent of EMDEs in the region, and investment contracted 30 percent of the EMDEs in the region. However, investment developments have diverged between oil exporters and oil importers since the broad-based slowdown in investment growth during 2010–13.

Oil-exporting countries—where oil and gas accounts for, on average, 40 percent of GDP, 70 percent of fiscal revenues, and 80 percent of goods exports—have been hard-hit by the sharp oil price decline since mid-2014. The terms of trade of oil exporters in the region deteriorated sharply between 2011 and 2015. Panel regression estimates suggest that the terms-of-trade shock accounted for nearly all of the slowdown in investment growth. A two-year growth contraction in the Islamic Republic of Iran in 2013 and 2014 also contributed to the slowdown.

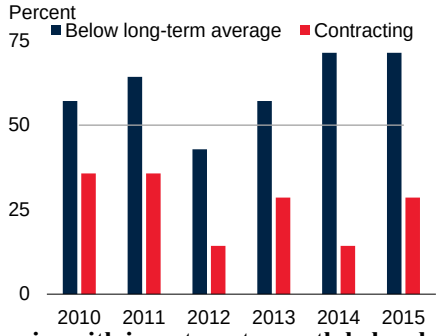
In oil importers, deepening political uncertainty associated with profound institutional changes in 2011 weighed heavily on investment. Political risk deteriorated particularly sharply in Egypt and Tunisia, where civil uprisings led to regime change, and investment has not yet recovered to 2010 levels. Developments in the larger economies in the region had spillovers to confidence in the smaller ones (World Bank, 2015q). On average, such political uncertainty may have been associated with slower investment growth of approximately 1.5 percentage points during 2011–15.

5.2 What are the remaining investment needs in the MNA region?

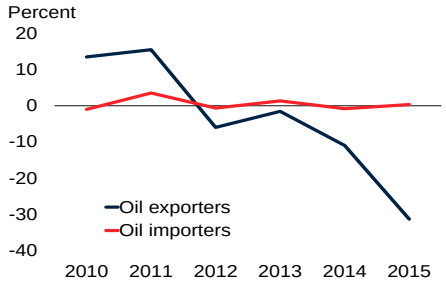
A ramping up of infrastructure investment is needed across MNA. In oil-importing and non-GCC oil-exporting countries, where the quality of infrastructure is on par with that in all EMDEs, there is significant under-investment in the transport and electricity sectors. In Lebanon, and in recent years in Egypt, frequent blackouts make electricity a binding constraint to competitiveness and doing business (World Bank, 2015q; Le Borgne and Jacobs, 2016). Large numbers of Syrian refugees in Jordan and Lebanon have compounded existing strains on infrastructure in those countries. In Syria, the cost of rebuilding infrastructure damaged or destroyed by war is estimated to be on the order of US$100–



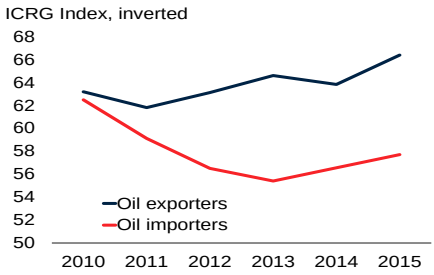
A. Investment growth



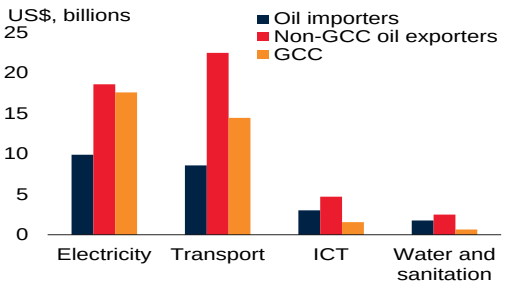
B. Economies with investment growth below long-term average or negative



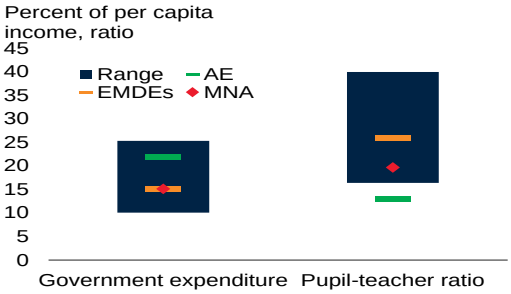
C. Terms of trade change



D. Political stability



E. Infrastructure investment needs



F. Selected education indicators

Figure 8. MNA: Investment growth slowdown.

Investment growth slowed from 4.4 percent in 2010 to 1.2 percent in 2015. The slowdown reflects a severe terms-of-trade deterioration in oil exporters, spillovers from armed conflict, and political uncertainty in oil importers. Infrastructure investment needs are high, especially in electricity and transport. While the region Middle East and North Africa performs well relative to other EMDEs on basic health measures, it is at or below the EMDE average in terms of education indicators, despite considerable long-term gains.

Sources: Haver Analytics, PRS Group, World Bank, Estache et al. (2013), World Economic Forum.

A. Averages weighted by investment levels. Oil exporters include Algeria, Bahrain, the Islamic Republic of Iran, Kuwait, Oman, Saudi Arabia, and the United Arab Emirates. Oil importers included Djibouti, Egypt, Jordan, Lebanon, Morocco, and Tunisia.

B. Economy coverage is the same as for panel A.

C. Investment-weighted averages. Oil exporters include Algeria, Kuwait, Oman, Saudi Arabia, and the United Arab Emirates. Oil importers include Egypt, Jordan, Lebanon, Morocco, and Tunisia.

D. Investment-weighted averages of ICRG. An increase denotes greater political stability. Oil exporters include Algeria, the Islamic Republic of Iran, Iraq, Kuwait, Oman, Saudi Arabia, and the United Arab Emirates. Oil importers include Egypt, Jordan, Lebanon, Morocco, and Tunisia.

E. Values are constant 2005 US dollars and indicate annual investment needs for 2011–20. Oil importers include Djibouti, Egypt, Jordan, Lebanon, Morocco, and Tunisia. Non-GCC oil exporters include Algeria, the Islamic Republic of Iran, Iraq, Libya, Syria, and the Republic of Yemen. GCC countries include Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

F. Blue bars denote range of unweighted regional averages across EMDE regions. Government expenditure is per primary student (in percent of per capita income), unweighted averages of 87 EMDEs, 32 AEs, and 8 MNA economies. Pupil-teacher ratio is in primary education (headcount basis), unweighted averages for 165 EMDEs, 31 AEs, and 14 MNA economies. Latest data available during 2011–2015.

US$200 billion (Gobat and Kostial, 2016). Iraq, as well, faces large infrastructure investment needs, which have risen as a result of conflict. GCC countries also have outstanding infrastructure investment needs, predominantly in electricity generation. With higher income levels, however, these countries also have greater capacity to fulfill such needs (IMF, 2014b). GCC countries' planned medium-term public spending on infrastructure generally tracks their infrastructure investment needs, while planned spending in oil-importing and non-GCC oil-exporting countries lags far behind needs (Ianchovichina *et al.*, 2013).

Besides contributing to growth, higher investment in infrastructure could also help improve labor market conditions in MNA. One study estimated that each US$1 billion of infrastructure investment has the potential to generate 110,000 infrastructure-related jobs, on average, in oil-importing MNA countries (Estache *et al.*, 2013). It is key that countries prioritize investment projects to suit country conditions, however. MNA scores well relative to other emerging and developing regions on basic health measures. However, the region is at or below the EMDE average in terms of education indicators, despite considerable long-term gains (World Bank, 2011). MNA does not necessarily need to increase the level of investment in education, which has risen substantially over several decades, but rather to invest with the goal of increasing the quality of education, thereby supporting growth and lowering poverty (World Bank, 2008).

5.3 Which policies can help address investment needs in the MNA region?

Several policy measures could support investment in MNA. Across the region, the scaling back of subsidies since 2014 has created space for increased public spending on investment in infrastructure, health, and education (IMF, 2016b). High public sector wage expenditures could be reduced, with funds reallocated to investment. Improvements in governance and investor protection could also support private sector investment, as could incentives to undertake public-private partnerships (*e.g.*, in Morocco) (EBRD, 2015). In some oil importers, the electricity sector would benefit from additional privatization (Lebanon) or efforts to incentivize the private sector's contribution to electricity generation (Egypt). Finally, improved security conditions in the region are a prerequisite for a sustained pickup in investment.

6. South Asia

South Asia (SAR) accounted for 4 percent of global investment, on average, over 2010–15. Despite an uptick in public investment spending, a deceleration in the private sector resulted in a substantial decline in overall investment growth, from 11 percent in 2011 to 3 percent in 2014. A rebound, to 6 percent in 2015, still left the growth rate below the long-term (1990–2008) average of 8 percent.

Recent investment weakness in South Asia reflects the legacy of weak output growth during 2010–13, excess manufacturing capacity in the face of sluggish external demand, and some uncertainty about government policy (World Bank, 2016h). These factors have compounded the long-term problems of structural bottlenecks, weak banking systems, and bouts of political tension. The needs for capital formation remain sizable, especially in the energy and transport sectors; the region also lags in the provision of health and education services. Governments can help directly, and by encouraging private sector participation. More broadly, improvements to the general business environment (*e.g.*, through more streamlined regulations and reduced corruption) would enhance incentives for productive investment.

6.1 How has investment growth in the SAR region evolved?

Weak investment has been a drag on South Asia's recent, consumption-driven expansion (World Bank 2016i). Investment growth slowed sharply from 10.5 percent in 2011 to 3 percent in 2014, with only a modest rebound to 5.2 percent on average in 2015–16—barely half of its 2011 pace and well below the long-term (1990–2008) average of 8 percent (Figure 9). The downward trend reflects a slackening in India, (which accounts for more than three-quarters of the region's total investment), which offset a pickup in Bhutan, Nepal, and Pakistan.

6.2 What are the remaining investment needs in the SAR region?

South Asia is the second most densely populated region in the world, behind East Asia and Pacific, with large and pressing investment needs for infrastructure improvement (Bloom and Rosenberg, 2011). Metrics of human capital provision (*e.g.*, expenditure on education and healthcare, teacher-pupil ratios, doctor-patient ratios, availability of improved water, and sanitation in rural areas), are below the EMDEs average (World Bank, 2016j). This suggests that sizable additional outlays on human capital could effectively alleviate poverty (Romer, 2016; Estache and Garsous, 2012). Rapid urbanization and the maintenance of growth momentum, call for improvement of energy and transport infrastructure (Ellis and Roberts, 2016; Inderst, 2016; Battacharya, 2012; ADB, 2009; 2012; Andres *et al.*, 2014).

South Asia is one of the least economically integrated regions in the world (World Bank, 2016a). This has been attributed to inadequacies in transport and power infrastructure (ADB, 2009). Coverage differs within countries and across the region, with India and Pakistan somewhat better positioned than other countries.

Energy shortages (electricity, diesel) remain a critical constraint to activity in the region. Underdeveloped within-country and cross-border electricity grid network connectivity and, in some cases, geopolitical tensions have contributed to significant energy shortfalls, compounding regular electricity outages. In India, dependence on imported fuels for power generation, and low electricity tariffs, have hampered power generation capacity, which now requires significant expansion to meet energy shortfalls (McKinsey Global Institute, 2011).

6.3 Which policies can help address infrastructure needs in the SAR region?

The alleviation of some longstanding obstacles to growth would help increase the level and productivity of investment of all forms. A more targeted, multi-pronged policy strategy could also encourage investment by increasing returns to investment, and by expanding the financing envelope (Henckel and McKibbin, 2010 and 2017; Nataraj, 2007).

Under the right conditions, public investment can crowd-in private investment (World Bank, 2016i).[6] For example, private firms may be able to reap the benefits of scale if public infrastructure facilitates market access (Calderón *et al.*, 2014). However, in South Asia, only India appears to have experienced a positive crowding-in effect (Sathanapriya and Jesintha, 2011; World Bank, 2006). Financing for public and private investment can be expanded in a number of ways to narrow the investment financing gap (Andres *et al.*, 2014; McKinsey Global Institute, 2013; ADB, 2009; 2012).

6. Public investment could also lead to crowding-out of private investment, *e.g.* Pakistan (World Bank, 2016g).

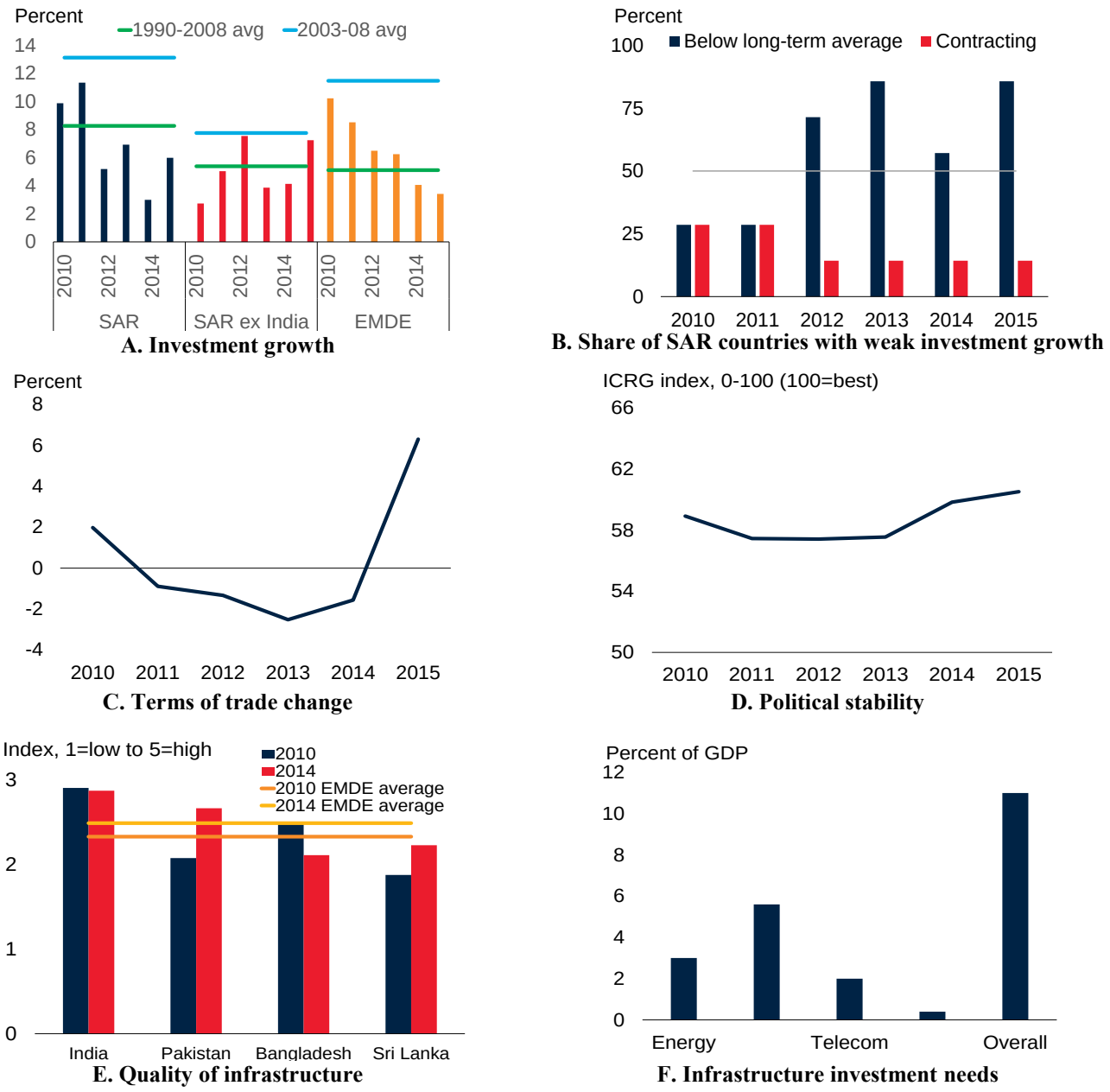


Figure 9. Investment growth slowdown in South Asia.

Investment growth has been below the long-term average in more than half of SAR economies since 2012. While lower oil prices and less political tensions supported investment, weak activity during 2010–12 and long-standing structural bottlenecks constrained investment. Despite improvements since 2010, sizable investment needs remain in public infrastructure (energy, transport) and human capital development.

Sources: Haver Analytics, PRS Group, Ministry of Finance of Sri Lanka, Reserve Bank of India, World Bank.

A. Weighted averages. Includes annual data for Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka.

B. Share of SAR economies with investment growth below its long-term average or with negative investment growth.

C. Investment-weighted averages. An increase denotes terms of trade improvements.

D. Investment-weighted average of ICRG index of Political Risk. An increase denotes greater political stability.

F. This represents investment as a share of GDP required every year during 2010–12 to meet investment needs. The authors use "bottom-up" approach based on identified pipeline regional infrastructure projects across SAR.

South Asia is just ahead of Sub-Saharan Africa, but behind the other regions, in terms of a conducive business climate (World Bank, 2016f; Lopez-Acevedo *et al*., 2016). Reforms that promote competitiveness and reduce barriers to trade can encourage investment in the tradable export-oriented sectors (*e.g.*, services and manufacturing). This can also level the playing field and increase profitability of exporting, or of competing with imports in hitherto protected industries (Alfaro and Chari, 2014). Strengthening public investment management processes, integrating infrastructure projects in budget cycles, and curbing corruption in infrastructure projects will not only improve quality of the infrastructure, but also improve the efficiency of government spending (KPMG, 2011; Al-Sadig, 2009).

Policy and political uncertainty represents a deterrent to investment in parts of the region. Security challenges (Afghanistan, Pakistan) and geopolitical tensions (India, Pakistan) remain a formidable obstacle to creating a more conducive investment climate (Sahoo *et al*., 2014) especially for cross-border projects that could increase regional economic integration.

7. Sub-Saharan Africa

Sub-Saharan Africa (SSA) accounted for a modest 2 percent of global investment, on average, during 2010–15. However, it suffered the sharpest investment growth slowdown among EMDE regions despite large-scale public investment efforts until recently. Investment growth slowed from 7.1 percent in 2010 to 1.3 percent in 2015, on average—well below the long-term (1990–2008) average of about 6 percent.

The investment growth slowdown in Sub-Saharan Africa is concentrated in South Africa and oil exporters. It reflected domestic political tensions, a sharp terms of trade deterioration and, in some economies, domestic policy tightening. Investment needs remain sizable in agriculture, infrastructure, and health and education.

7.1 How has investment in the SSA region evolved?

For Sub-Saharan Africa as a whole, investment growth averaged about 7 percent in 2010–15, about half the average annual growth of 12 percent recorded prior the global financial crisis. In more than two-thirds of SSA countries, investment growth was below its long-term average in 2015 and, in more than one-third, it was negative (Figure 10).

Investment growth was particularly weak in South Africa and a number of oil exporters, but was robust among metals exporters. Investment growth averaged just 2.5 percent per year in South Africa in 2010–15, compared with over 9 percent in 2000–08, reflecting deep structural constraints, including inefficiencies in state-owned enterprises.

7.2 What are Sub-Saharan Africa's remaining investment needs?

Sub-Saharan Africa's strategic priorities to reinvigorate growth and reduce poverty call for investments in agriculture, infrastructure, and health and education. Although some countries in the region have made progress in improving their infrastructure, results vary. Improved infrastructure was partly responsible for the region's recent strong growth performance (Calderón and Servén, 2008). That contribution reflected mostly advances in information communication technology (ICT). The region has experienced an unprecedented increase in mobile phone subscriptions. By contrast, progress in the power

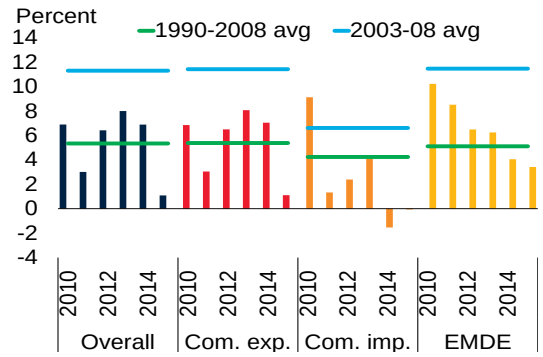
sector has been far more limited. Only a third of households have access to electricity (World Bank, 2016k). The region's infrastructure investment needs are large, estimated at 15 percent of GDP, reflecting insufficient and inefficient spending on capital, operation, and maintenance expenditures (Figure 11) (Foster and Briceño-Garmendia, 2010). Financing to address these investment needs has increased. The external sources of financing for infrastructure have expanded. Official development finance—led by the World Bank and the African Development Bank—has increased appreciably and is supporting transport and water and sanitation investments in a number of countries. China emerged as a major bilateral source of infrastructure finance. Chinese investments have increasingly targeted the energy sector and hydropower in particular. Direct private sector participation in infrastructure investment has surged. Private participation in infrastructure now accounts for more than half of total external finance, with a large share of the investments going to the telecom, energy, and transport sectors (Gutman *et al*., 2015).

7.3 Which policies can help address the SSA region's remaining infrastructure investment needs?

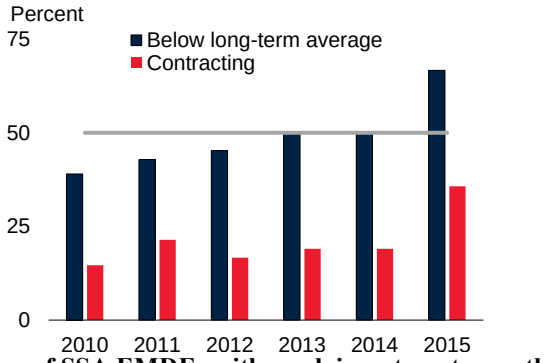
Financing for infrastructure in Sub-Saharan Africa from multilateral development banks, China, and the private sector tripled between 2004 and 2012 (Gutman *et al*., 2015). External financing for infrastructure grew fastest in the energy sector, with Ethiopia, Ghana, Kenya, Nigeria, and South Africa among the largest recipients. Untapped opportunities remain, including in renewable energy (EBRD, 2015) as well as in other investments that can support private sector development. Innovative financing solutions for infrastructure investment that mitigate risk factors for investors have been developed. Tools such as blended finance, co-financing between private investors and development finance institutions, public-private partnerships and climate finance instruments are being deployed in countries across the region (IFC, 2016). Nevertheless, financing investment projects remain challenging. Although private investment has become significant and covers a broad range of countries, it has focused more on ICT than other sectors.

Despite the rising importance of external finance, public sector budgets remain the primary source of funding for infrastructure investments in the region. Countries across the region finance about 65 percent of their infrastructure expenditures with domestic resources (IMF, 2014c). In some countries, the fiscal space created by debt relief for heavily indebted poor countries facilitated these expenditures. Others took advantage of low interest rates to issue eurobonds to finance infrastructure investments. Governments spend most of their resources on transport and energy. Nonetheless, the level of public finance remains insufficient to cover their infrastructure needs. Sub-Saharan African countries need to mobilize more domestic resources to finance infrastructure investment. Tax-to-GDP ratios are far below the EMDE average in a number of countries, reflecting a failure to reform weak tax systems, especially in oil exporters.

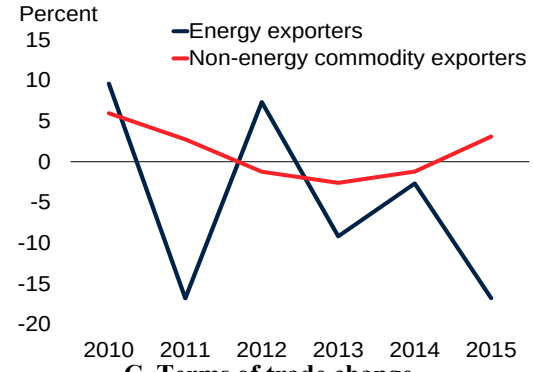
The capacity of countries in the region to effectively use resources for infrastructure investment remains a critical issue. The efficiency of public investment in Sub-Saharan Africa lags behind other EMDEs, reflecting poor project selection, weak enforcement of procurement procedures, and failure to complete projects (Dabla-Norris *et al*., 2012). These weaknesses point to a need to increase absorptive capacity in public infrastructure in the region.



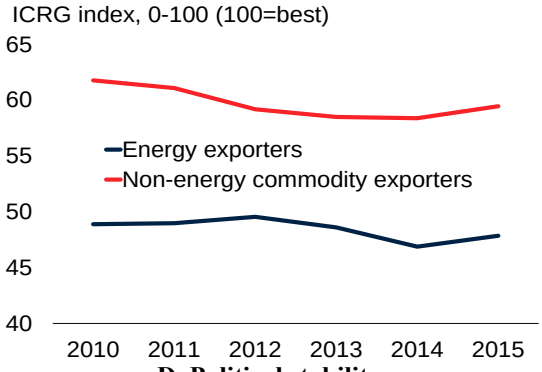
A. Investment growth



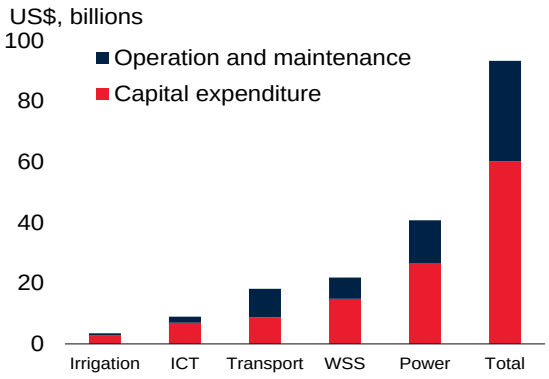
B. Share of SSA EMDEs with weak investment growth



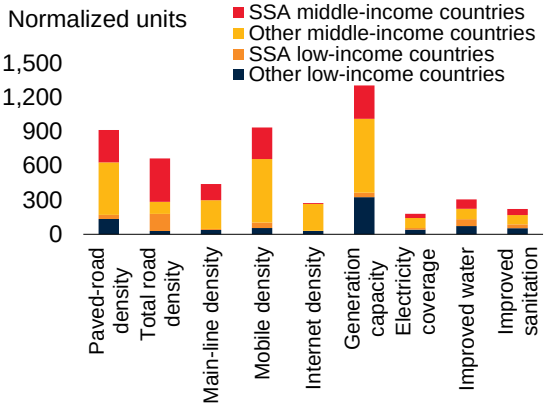
C. Terms of trade change



D. Political stability



E. Total infrastructure spending needs



F. International perspective on Africa's infrastructure deficit

Figure 10. SSA: Investment growth slowdown and investment needs.

Investment growth has slowed sharply despite significant public investment until 2014. The slowdown has reflected a severe terms-of-trade deterioration in commodity exporters as well as long-standing structural bottlenecks and political tensions. Sub-Saharan Africa's investment needs are high across a wide range of sectors.

Sources: Haver Analytics, Oxford Economics, World Economic Outlook, International Monetary Fund, World Bank Development Indicators, PRS Group, World Bank.

A. Weighted averages.

B. Long-term averages are country-specific and refer to available data over 1990–2008.

C, D. Investment-weighted averages.

E. ICT=information and communication technology; WSS=water supply and sanitation. Estimates by Foster and Briceño-Garmendia (2010).

F. Road density is measured in kilometers per 100 square kilometers of arable land; telephone density in lines per thousand population; generation capacity in megawatts per million population; electricity, water, and sanitation coverage in percentage of population.

Sub-Saharan Africa's infrastructure development faces major geographic and physical challenges, reflecting its low population density, low urbanization, and large number of landlocked countries. A sizable number of small countries make it difficult for firms to exploit economies of scale. As a result, Sub-Saharan Africa's infrastructure services are more expensive than in other regions, suggesting that greater gains could be achieved through deeper forms of regional integration.

Four key areas of policy priorities to address investment needs and ensure sustainable financing are the following: sustaining public investments, encouraging greater private sector participation in infrastructure, strengthening public investment management systems, and promoting regional integration of infrastructure.

8. Conclusion

This paper documents regional perspectives on the recent slowdown in investment growth in EMDEs. It finds that the deceleration in investment growth since 2010 has been more pronounced among BRICS and in EMDE regions with a large number of commodity exporters. It also finds that infrastructure investment needs are sizable across EMDE regions, reflecting the challenges to support expanding economic activity, accommodate rapid urbanization, and achieve sustainable development goals. While public investment efforts have improved infrastructure stock and quality, the infrastructure deficit remains significant, particularly in the energy and transport sectors. Across EMDE regions, governments need to expand, upgrade and maintain roads, power generation, water and sanitation systems, telecommunications infrastructure, and education and health care institutions.

Public investment can help address the investment weakness in EMDE regions. Public investment directly boosts overall investment in the economy, and can foster private investment. Some countries, such as the GCC countries, have the ability to ramp up public investment thanks to their high incomes. However, many other EMDEs, including those in Europe and Central Asia and Sub-Saharan Africa, have little fiscal space to increase public investment because of their high debt-to-GDP ratios and the need for fiscal consolidation. External financing conditions have tightened, with increased uncertainty in the United States and Europe, which makes tapping debt markets increasingly difficult and risky. At the same time, in many regions, low tax revenues, weak banking systems and underdeveloped capital markets limit the share of domestic resources that can be allocated to public investment. In low-income countries, regulatory and implementation capacity constraints are key obstacles to scaling-up public investment in infrastructure. Against this backdrop, a number of policy measures could allow EMDEs to boost investment.

Improve the efficiency of public investment: A key priority for EMDEs should be to increase the efficiency of public investment. Increasing public investment efficiency is particularly crucial for lower-middle and low-income economies given their limited resources. The efficiency of public investment in EMDEs in Sub-Saharan Africa and South Asia consistently lags behind other EMDEs. This reflects weaknesses in their public investment management, including poor project selection, weak enforcement of procurement procedures, and failure to complete projects. Medium-term budget frameworks can improve spending predictability; greater transparency of expenditures and independent spending evaluations can improve incentives to tighten efficiency; and better coordination between various levels of government can reduce duplication and inconsistencies. Improvements in public investment efficiency could also involve strong rules to protect capital expenditures during periods of fiscal consolidation, and

strengthening capacity in project selection and appraisal and in monitoring of project execution.

Create more fiscal space through domestic resource mobilization and changes in the composition of expenditures: Additional domestic tax revenues could help create space for public investment in priority spending areas such as infrastructure. Domestic resources could be mobilized through increased revenue collection, by enhancing tax administration, broadening the tax base, or raising tax rates. Revenue-to-GDP ratios are particularly low in South Asia and Sub-Saharan Africa. Efforts to remove exemptions, tighten tax administration, and broaden tax bases could help generate budgetary resources to finance public investment projects. Spending on public investments could also be boosted by reallocating expenditures toward growth-enhancing investment from expenditures that are less clearly aligned with policy priorities. Such expenditures could be identified in periodic public expenditure reviews that assess all government expenditures against policy priorities.

Facilitate private investment: Empirical studies show that an increase in public investment would raise private investment, but this crowding-in effect may be temporary (World Bank, 2017a). A favorable business environment, including stable macroeconomic conditions and predictable policies and regulations, may not be sufficient to attract private investment. Countries may need to develop appropriate innovative fund and deal structures, such as guarantees and risk sharing, and promote blended finance instruments that can leverage private sector development financing. Public-private partnerships are a tested strategy that can be applied to numerous sectors. However, governments must establish autonomous regulatory agencies to oversee the private agents. Multilateral development institutions can help EMDEs address these issues.

References

ADB (Asia Development Bank) (2009). *Infrastructure for a Seamless Asia*. Manila, the Philippines: Asia Development Bank.

Samad G (2012). *Infrastructure for Supporting Inclusive Growth and Poverty Reduction in Asia*. Manila, the Philippines: Asia Development Bank.

Alfaro L and Chari A (2014). "Deregulation, misallocation, and size: Evidence from India". *The Journal of Law and Economics*, 57(4): 897–936. doi: 10.1086/680930.

Al-Sadig A (2009). "The effects of corruption on FDI inflows". *Cato Journal*, 29(2): 267–294.

Anbumozhi V and Intal PS (2015). "Can thinking green and sustainability be an economic opportunity for ASEAN?" Discussion Paper ERIA-DP-2015-66. Jakarta, Indonesia: Economic Research Institute for ASEAN and East Asia (ERIA).

Andres L, Biller D and Herrera Dappe, M (2014). "Infrastructure gap in South Asia: Infrastructure needs, prioritization, and financing". Policy Research Working Paper Series 7032. Washington, DC, USA: World Bank.

Bhattacharya A, Romani M and Stern N (2012). "Infrastructure for development: Meeting the challenge". London, UK: Centre for Climate Change Economics and Policy; London, UK: The Grantham Research Institute on Climate Change and the Environment.

Bhattacharyay BN (2012). "Estimating demand for infrastructure 2010–2020". In: Bhattacharyay BN, Kawai M and Nag RM (eds.). *Infrastructure for Asian Connectivity*. Cheltenham, UK: Edward Elgar Publishing. doi: 10.4337/9781781003138.00010.

Bloom DE and Rosenberg L (2011). "The future of South Asia: Population dynamics, economic prospects and regional coherence". Program on the Global Demography of Aging Working Paper Series 68. Cambridge, MA, USA: Harvard University, T.H. Chan School of Public Health.

BMI Research (2016). "Asia infrastructure report". London, UK: BMI Research.

Calderón C and Servén L (2008). "Infrastructure and economic development in Sub-Saharan Africa". Policy Research Working Paper No. 4712. Washington, DC, USA: World Bank. doi: 10.1596/1813-9450-4712.

Calderon C, Moral-Benito E and Servén L. (2014). "Is infrastructure capital productive? A dynamic heterogeneous approach." Policy Research Working Paper 5682, World Bank, Washington, DC.

Dabla-Norris E, Brumby J, Kyobe A, *et al*. (2012). "Investing in public investment: An index of public investment efficiency". *Journal of Economic Growth*, 17(3): 235–266. doi: 10.1007/s10887-012-9078-5.

Dethier J-J and Moore A (2012). "Infrastructure in developing countries: An overview of some economic issues". Zentrum für Entwicklungsforschung (Center for Development Research) ZEF Discussion Papers on Development Policy No. 165. Bonn, Germany: University of Bonn.

EBRD (2015). *EBRD Transition Report 2015–16.* London, UK: European Bank for Reconstruction and Development.

European Investment Bank (2016). "Responding to Africa's energy needs". Luxembourg: European Investment Bank.

Ellis P and Roberts M (2016). *Leveraging Urbanization in South Asia: Managing Spatial Transformation for Prosperity and Livability*. Washington, DC, USA: World Bank. doi: 10.1596/978-1-4648-0662-9.

Engel E, Fischer R and Galetovic A (2011). "Public-private partnerships to revamp U.S. infrastructure". Discussion Paper 2011-02, February 2011. Washington, DC, USA: The Brookings Institution.

ESCAP (2015). *Economic and Social Survey of Asia and the Pacific 2015*. Bangkok, Thailand: United Nations Economic and Social Commission for Asia and the Pacific.

Estache A and Garsous G (2012). "The impact of infrastructure on growth in developing countries". IFC Economics Notes Note 1. Washington, DC, USA: World Bank.

Estache A, Ianchovichina E, Bacon R, *et al*. (2013). *Infrastructure and employment Creation in the Middle East and North Africa*. Washington, DC, USA: World Bank. doi: 10.1596/978-0-8213-9665-0.

Fay M and Yepes T (2003). "Investing in infrastructure: What is needed from 2000 to 2010?" Policy Research Working Paper 3102. Washington, DC, USA: World Bank. doi: 10.1596/1813-9450-3102.

Fay M, Toman M and Benitez D, *et al.* (2011). "Infrastructure and sustainable development". In: Fardoust S, Kim Y and Sepúlveda C (eds.). *Post-crisis Growth and Development: A Development Agenda for the G-20*. Washington, DC, USA: World Bank. doi: 10.1596/9780821385180_CH08.

Foster V and Briceño G C (2010). "Africa's infrastructure: A time for transformation". Washington, DC, USA: World Bank.

Global Infrastructure Facility (2015). "Global Infrastructure Facility results framework: As adopted by the GIF Governing Council on 25 May, 2015". Washington, DC, USA: World Bank.

Gobat J and Kostial K (2016). "Syria's conflict economy". IMF Working Papers 16/123, Washington, DC, USA: IMF. doi: 10.5089/9781498336826.001.

Gramlich EM (1994). "Infrastructure investment: A review essay". *Journal of Economic Literature*, 32(3): 1176–1196.

Gutman J, Sy A and Chattopadhyay S (2015). "Financing African infrastructure: Can the world deliver?" Washington, DC, USA: The Brookings Institution.

Henckel T and McKibbin W (2010). "The economics of infrastructure in a globalized world: Issues, lessons and future challenges". Washington, DC, USA: The Brookings Institution.

Henckel T and McKibbin W (2017). "The economics of infrastructure in a globalized world: Issues, lessons and future challenges". *Journal of Infrastructure, Policy and Development*, 1(2): 254–272. doi: 10.24294/jipd.v1i2.55

IADB (Inter-American Development Bank) (2010). "Urbanization in Latin America and the Caribbean: Trends and challenges". Washington, DC, USA: IADB.

Powell A (2016). *Time to Act: Latin America and the Caribbean Facing Strong Challenges.* Washington, DC, USA: IADB.

Ianchovichina E, Estache and Foucart R, *et al*. (2013). "Job creation through infrastructure investment in the Middle East and North Africa". *World Development*, 45(May): 209–222. doi: 10.1016/j.worlddev.2012.11.014.

IMF (International Monetary Fund) (2014a). "Is it time for an infrastructure push? The macroeconomic effects of public investment." In: *World Economic Outlook: Legacies, Clouds, Uncertainties*. Washington, DC, USA: International Monetary Fund.

Ebrary I (2014b). "Middle East, North Africa, Afghanistan, and Pakistan". In: *Regional economic outlook: Middle East and Central Asia.* Washington, DC, USA: International Monetary Fund.

Rozycki GS (2014c). "Staying the course". In: *Regional Economic Outlook: Sub-Saharan Africa.* Washington, DC, USA: International Monetary Fund.

Staff I (2015a). *World Economic Outlook: Adjusting to Lower Commodity Prices.* Washington, DC, USA: International Monetary Fund.

_____ (2015b). "Recent investment weakness in Latin America: Is there a puzzle?" In: *Western Hemisphere Regional Economic Outlook: Northern Spring, Southern Chills.* Washington, DC, USA: International Monetary Fund.

_____ (2016a). "Latin America and the Caribbean: Are chills here to stay?" Regional economic outlook update, Fall 2016. Washington, DC, USA: International Monetary Fund.

Ebrary I (2016b). "Middle East, North Africa, Afghanistan, and Pakistan". In: *Regional Economic Outlook: Middle East and Central Asia.* Washington, DC, USA: International Monetary Fund.

Inderst G (2016). "Infrastructure investment, private finance, and institutional investors: Asia from a global perspective". ADBI Working Paper Series 555. Tokyo, Japan: Asian Development Bank Institute.

International Energy Agency (2014). *Special Report: World Energy Investment Outlook*. Paris, France: International Energy Agency.

International Finance Corporation. (2016). "Transforming African Development: Partnerships and Risk Mitigation to Mobilize Private Investment on a New Scale." IFC, World Bank, Washington, DC.

Kohli H A and Basil P (2010). "Requirements for Infrastructure Investment in Latin America under Alternate Growth Scenarios: 2011–2040." *Global Journal of Emerging Market Economies*, 3(1): 59–110.

KPMG (2011). "Survey on bribery and corruption: Impact on economy and business environment". KPMG.

Le Borgne E and Jacobs TJ (2016). "Lebanon: Promoting poverty reduction and shared prosperity. Systematic country diagnostic". Washington, DC, USA: World Bank.

Lee K and Pang T (2015). "Asia and the Pacific: Health policy challenges of a region in transition". *Asia & the Pacific Policy Studies*, 2(2): 211–213. doi: 10.1002/app5.94.

McKinsey Global Institute (2011). "Powering India: The road to 2017". McKinsey Global Institute.

_____ (2013). "Infrastructure productivity: How to save $1 trillion a year". McKinsey Global Institute.

_____ (2014). *Southeast Asia at the Crossroads: Three Paths to Prosperity.* McKinsey Global Institute.

_____ (2016). "Bridging global infrastructure gaps". McKinsey Global Institute.

Nataraj G (2007). "Infrastructure challenges in South Asia: The role of public-private partnerships". Asian Development Bank Institute Discussion Paper No. 80. Tokyo, Japan: Asian Development Bank Institute.

OECD (Organisation for Economic Co-operation and Development) (2006). *Infrastructure to 2030: Telecom, Land Transport, Water and Electricity.* Paris, France: OECD. doi: 10.1787/9789264023994-en.

Home O, To I (2012). *Strategic Transport Infrastructure Needs to 2030*. Paris, France: OECD. doi: 10.1787/9789264 114425-en.

Perrotti D and Sánchez RJ (2011). "La brecha de infraestructura en América Latina y el Caribe" [Spanish] (The infrastructure gap in Latin America and the Caribbean). Serie Recursos Naturales e Infraestructura no. 153. Santiago, Chile: Economic Commission for Latin America and the Caribbean (ECLAC).

RBS (2011). "The roots of growth. Projecting EM infrastructure demand to 2030". Emerging markets strategy. Edinburgh, Scotland: Royal Bank of Scotland.

Romer P (2016). "To end poverty, give everyone the chance to learn". Speech at the End Poverty Day Event, Dhaka, Bangladesh, October 17. Washington, DC, USA: World Bank.

Ruiz-Nuñez F and Wei Z (2015). "Infrastructure investment demands in emerging markets and developing economies". Policy Research Working Paper 7414. Washington, DC, USA: World Bank. doi: 10.1596/1813-9450-7414.

Sahoo P, Nataraj G and Dash RK (2014). *Foreign Direct Investment in South Asia: Policy, Impact, Determinants and Challenges*. New Delhi, India: Springer. doi: 10.1007/978-81-322-1536-3.

Sathanapriya M and Jesintha P (2011). "Public private partnership in India". *Journal of Management and Science*, 1(1):

61–68.

USAID (United States Agency for International Development) (2010). "Urbanization in Latin America and the Caribbean: Trends and challenges". USAID, Washington, DC.

Vashakmadze E, Kambou G and Chen D, *et al*. (2017). "Regional dimensions of recent weakness in investment: Drivers, investment needs and policy responses". Policy Research Working Paper 7991. Washington, DC, USA: World Bank. doi: 10.1596/1813-9450-7991.

World Bank (2006). *India: Building Capacity for Public-Private Partnerships*. Washington, DC, USA: World Bank.

World Bank (2008). *The Road not Traveled: Education Reform in the Middle East and Africa*. Washington, DC, USA: World Bank.

World Bank (2011). *Learning for all: Investing in People's Knowledge and Skills to Promote Development*. Washington, DC, USA: World Bank.

World Bank (2015a). *East Asia's Changing Urban Landscape: Measuring A Decade of Spatial Growth*. Washington, DC, USA: World Bank.

World Bank (2015b). *Adjusting to a Changing World. East Asia and Pacific Economic Update.* April issue. Washington, DC, USA: World Bank.

World Bank (2015c). *Global Monitoring Report 2015/2016: Development Goals in an Era of Demographic Change*. Washington, DC, USA: World Bank.

World Bank (2015d). "Azerbaijan: Systematic country diagnostic". Washington, DC, USA: World Bank.

World Bank (2015e). "Rebalancing Bosnia and Herzegovina: A systematic country diagnostic". Washington, DC, USA: World Bank.

World Bank (2015f). "Bulgaria's potential for sustainable growth and shared prosperity: Systemic country diagnostic". Washington, DC, USA: World Bank.

World Bank (2015g). "Serbia: Systematic country diagnostic". Washington, DC, USA: World Bank.

World Bank (2015h). "Bolivia—Systematic country diagnostic: Rebalancing inclusive growth to deepen gains on poverty and inequality reduction". Washington, DC, USA: World Bank.

World Bank (2015i). "Colombia: Systematic country diagnostic". Washington, DC, USA: World Bank.

World Bank (2015j). "Costa Rica's development: From good to better. Systematic country diagnostic". Washington, DC, USA: World Bank.

World Bank (2015k). "El Salvador: Building on strengths for a new generation. Systematic country diagnostic". Washington, DC, USA: World Bank.

World Bank (2015l). "Guatemala: Closing gaps to generate more inclusive growth. Systematic country diagnostic". Washington, DC, USA: World Bank.

World Bank (2015m). "Haiti: Toward a new narrative. Systematic country diagnostic". Washington, DC, USA: World Bank.

World Bank (2015n). "Honduras: Unlocking economic potential for greater opportunities. Systematic country diagnostic." Washington, DC, USA: World Bank.

World Bank (2015o). "Panama: Locking in success. Systematic country diagnostic." Washington, DC, USA: World Bank.

World Bank (2015p). "Uruguay: Systematic country diagnostic". Washington, DC, USA: World Bank.

World Bank (2015q). "Egypt: Promoting poverty reduction and shared prosperity. A systematic country diagnostic". Washington, DC, USA: World Bank.

World Bank (2016a). *Global Economic Prospects, January 2016: Spillovers Amid Weak Growth*. Washington, DC, USA: World Bank.

World Bank (2016b). "Live long and prosper: Aging in East Asia and Pacific". World Bank East Asia and Pacific regional report. Washington, DC, USA: World Bank.

World Bank (2016c). "Moldova: Paths to sustained prosperity. A systematic country diagnostic". Washington, DC, USA: World Bank.

World Bank 2016d. "Retaking the path to inclusion, growth and sustainability. Brazil systematic country diagnostic". Washington, DC, USA: World Bank.

World Bank (2016e). *The Commodity Cycle in Latin America: Mirages and Dilemmas.* Washington, DC, USA: World Bank.

World Bank (2016f). *Doing Business 2016: Measuring Regulatory Quality and Efficiency*. Washington, DC, USA: World Bank.

World Bank (2016g). "Commodity markets outlook: OPEC in historical context". Washington, DC, USA: World Bank.

World Bank (2016h). *South Asia Economic Focus, Fall 2016: Investment Reality Check*. Washington, DC, USA: World Bank.

World Bank (2016i). *World Development Indicators*. Washington, DC, USA: World Bank.

World Bank (2016j). "Sri Lanka systematic country diagnostic: Ending poverty and promoting shared prosperity". Washington, DC, USA: World Bank.

World Bank (2016k). "Africa region: Sustaining growth and fighting poverty amid rising global risks". Regional update 2016. Washington, DC, USA: World Bank.

World Bank (2017a). *Global Economic Prospects, January 2017: Weak Investment in Uncertain Times*. Washington, DC, USA: World Bank.

World Bank (2017b). *Doing Business 2017: Equal Opportunity for All.* Washington, DC, USA: World Bank.

World Bank and Development Research Center of the State Council, the People's Republic of China (2014). *Urban China: Toward efficient, inclusive, and sustainable urbanization*. Washington, DC, USA: World Bank. doi: 10.1596/978-1-4648-0206-5.

World Bank and Ministry of Planning and Investment of Vietnam (2016). *Vietnam 2035: Toward Prosperity, Creativity, Equity, and Democracy.* Washington, DC, USA: World Bank. doi: 10.1596/978-1-4648-0824-1.

World Economic Forum (2013). *Strategic Infrastructure: Steps to Prepare and Accelerate Public-Private Partnerships.* Geneva, Switzerland: World Economic Forum.

World Economic Forum (2015). *The Global Competitiveness Report 2015–16*. Geneva, Switzerland: World Economic Forum.

World Economic Forum (2016). *The Global Competitiveness Report 2016–17.* Geneva, Switzerland: World Economic Forum.