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Investment in Emerging Market and Developing Economy Regions

Trends, Prospects, and Policy Options

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Abstract

Investment growth slowed in the past decade in all emerging market and developing economy (EMDE) regions, but most sharply in East Asia and the Pacific (EAP) and the Middle East and North Africa (MNA). Yet, pressing investment needs remain. All regions need to boost infrastructure investment and investment in mitigating and adapting to climate change and reversing pandemic-related learning losses. In other areas, investment needs vary by region. They include accommodating high and rising urbanization (EAP, Latin America and the Caribbean [LAC], South Asia [SAR]); boosting productivity, especially in sectors that employ large proportions of the population (for example, agriculture in Sub-Saharan Africa [SSA]); rebuilding after conflict (Europe and Central Asia [ECA], MNA, SSA); improving trade linkages (LAC); and preparing for future public health crises. Across all EMDE regions, policy priorities include strengthening the efficiency of public investment, boosting private investment (especially in ECA, LAC, and MNA), and expanding the availability of finance for investment (especially in SSA, LAC).

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1. Introduction

Investment in human capital and high-quality infrastructure has multiple benefits. It supports the provision of basic services to households and market access for firms, helps the integration of domestic and international markets, and promotes advances in labor productivity and per capita incomes through capital deepening and technical progress. Investment in infrastructure can also support climate change mitigation and adaptation.

Investment growth was slower in the past decade (2011-21) than in the preceding one (2000-10) in all six emerging market and developing economy (EMDE) regions.[2] In all EMDE regions except East Asia and the Pacific (EAP), investment fell in 2020 amid the outbreak of the COVID-19 pandemic and rebounded in 2021. In 2022, investment growth performance was mixed, and for several regions, the outlook for investment growth is now mediocre. This puts the spotlight on policies that could help meet the large and diverse investment needs across regions.

Against this backdrop, this paper addresses three questions: First, how has investment growth evolved in the past two decades in each EMDE region? Second, what are the current and prospective investment needs in each EMDE region? And third, which policies could help countries address their investment needs in each EMDE region?

The paper presents four main findings. First, investment growth slowed during the past decade in all six EMDE regions, but most sharply in EAP and the Middle East and North Africa (MNA). In EAP, a policy shift in China aimed at reducing reliance on credit-fueled investment and mitigating financial stability risks was largely responsible for the slowdown. In MNA, an oil price slide in 2014-16, armed conflicts, and persistent policy uncertainty contributed to the slowdown.

Second, investment growth is projected to remain well below its 2000-21 average in the near term in EAP, Europe and Central Asia (ECA), Latin America and the Caribbean (LAC), and South Asia (SAR) but to be close to its two-decade average in MNA and SSA. Consensus long-term (five-years-ahead) investment growth forecasts have been downgraded repeatedly. Annual investment growth in the 2020s is now forecast to be lower than in the 2010s in all regions except in LAC and SAR, where adverse shocks that depressed investment growth in the 2010s are not expected to recur.

Third, all regions have large needs to invest in physical and human capital, whether to mitigate and adapt to climate change and reverse pandemic-related learning losses (all regions); improve very low levels of infrastructure development (SAR, Sub- Saharan Africa [SSA]); accommodate rising levels of urbanization (EAP, LAC, SAR); support productivity growth, particularly in sectors that employ large proportions of the

[2] Throughout this paper, unless otherwise specified, investment refers to real gross fixed capital formation (public and private combined). "Investment growth" is measured as the annual percent change in real investment. Annual investment growth rates for country groups are weighted by average 2010-19 investment levels.

population (for example, agriculture in SSA); rebuild following conflicts (ECA, MNA, SSA); improve trade linkages (LAC); or prepare for future public health crises.

Fourth, a range of policies are needed to lift investment. Priorities include strengthening the efficiency of public investment (especially in SAR and SSA), boosting private investment (especially in LAC and MNA), and expanding the availability of financing for investment (all regions).

2. Investment trends

The decade 2000-10 saw double-digit, or near double-digit, average annual investment growth in EAP, ECA, MNA, and SAR. In the subsequent decade, 2011-21, investment growth was sharply lower in all regions, although the magnitude and causes of the decline varied across regions. Commodity price movements, domestic policies, uncertainty stemming from domestic conditions, and spillovers from key trading partners all played a role (Vashakmadze et al. 2018).

The sharpest slowdowns occurred in MNA and EAP, where investment growth averaged nearly 8 and 6 percentage points per year less, respectively, in 2011-21 than in 2000-10 (figure 1). In MNA, the decade 2011-21 was marked by the oil price plunge of 2014- 16, several armed conflicts, and persistent political uncertainty in some countries. Investment growth was negative in four of the six years of 2016-21. In EAP, a policy shift in China aimed at reducing reliance for economic growth on credit-fueled investment and at managing financial stability risks was largely responsible for the slowdown. Elsewhere in the region, investment growth weakened in commodity exporters, such as Indonesia, following commodity price declines in the middle of the decade and in Thailand owing to policy uncertainty.

In three other regions—ECA, LAC, and SAR—average investment growth in 2011-21 was over 3 percentage points per year slower than in 2000-10. In ECA, investment was buffeted by spillovers from the euro area debt crisis, a domestic financial crisis in Russia, the mid-decade commodity price plunge, conflict in Eastern Europe and associated sanctions, and financial stress in Türkiye. In SAR, the slowdown, which mostly occurred in the first half of the decade, reflected excess manufacturing capacity in the face of sluggish external demand, financial sector stress and uncertainties related to government policy. In LAC, slower investment growth in the 2010s mirrored a broader weakening of GDP growth, with severe recessions in the region's largest economies. SSA experienced the mildest investment growth slowdown among the six regions in the 2010s, with strong public investment growth limiting the overall investment slowdown to less than 2 percentage points a year.

The investment growth slowdown in EMDEs in 2011-21 was accompanied by changes in the regional composition of aggregate EMDE investment and average EMDE investment growth. Most notably, despite slower investment growth in EAP in 2011-21, EAP's share of aggregate EMDE investment rose from half to more than three-fifths compared to 2000-

10, while its share of EMDE investment growth jumped from about three-fifths to more than three-quarters (figure 2).

Investment growth is projected to remain well below its 2000-21 average in the near term in EAP, ECA, LAC, and SAR but to be close to its two-decade average in MNA and SSA. Consensus long-term (five-years-ahead) investment growth forecasts have been downgraded repeatedly. Annual average investment growth in 2022-30 is now forecast to be lower than in 2011-21 in all regions except in LAC and SAR, where adverse shocks that depressed investment growth in the 2010s are not expected to recur.

Medium- and long-term prospects for EMDE investment growth have deteriorated over the past decade. Five-year-ahead consensus forecasts for investment growth have declined in all EMDE regions with available data, and the 10-year ahead projections are well below the actual growth rates of the 2010s (figure 3).

3. Investment needs

All EMDE regions continue to have substantial investment needs, reflecting several major challenges and policy priorities. All regions will need to invest heavily in infrastructure, whether to mitigate and adapt to climate change (all regions), reverse pandemic-related learning losses (all regions), improve very low levels of infrastructure development (SAR, SSA), accommodate high and rising levels of urbanization (EAP, LAC, SAR), support productivity growth, particularly in sectors that employ large proportions of the population (for example, agriculture in SSA), rebuild following armed conflicts (ECA, MNA), improve trade linkages (LAC), or prepare for future public health crises (all regions). All regions will need to address a likely widening of investment gaps during the pandemic, as public spending was redirected to high-priority social safety nets and healthcare, even as they prepare their health and education systems for future crises.

Basic infrastructure. Despite some remarkable successes, the provision of essential public services (water, sanitation, electricity, and transport), which support health and safety and enable participation in economic activity, remains a challenge in many EMDEs, especially in SSA but also in parts of other regions. About 775 million people worldwide lack access to clean water; 1.7 billion people do not have adequate sanitation; 2.4 billion people still cook their food with solid fuels (such as wood); and 1 billion people live more than 2 kilometers from an all-weather road.

Climate change mitigation and adaptation. In large EMDEs whose greenhouse gas emissions are globally significant, investment in climate-smart infrastructure and technologies by both public and private sectors is an urgent priority, ideally combined with other actions such as measures to improve energy efficiency. In smaller EMDEs, adaptation to climate change necessitates investment in new and retrofitted infrastructure, maintenance of which will also require resources.

For EAP (for example, Vietnam), the World Bank recently estimated additional financing needs for adaptation measures at 4.5-5.4 percent of GDP per year (World Bank 2022a). Small island states in EAP and LAC have particularly large investment needs to strengthen their resilience to the rising frequency of severe weather events and to address challenges from rising sea levels.

SAR and SSA are particularly vulnerable to climate-induced increases in poverty, disease, child mortality, and food prices. Half of SAR's population live in areas expected to become climate hot spots and rely heavily on agriculture for employment (Amarnath et al. 2017; Hallegatte et al. 2016; Jafino et al. 2020; Mani et al. 2018). Fragile states in SSA are particularly at risk because their governments often lack the institutional capacity needed to respond effectively to climate challenges (Maino and Emrullahu 2022).

Rebuilding following conflict. The war following Russia's invasion of Ukraine in early 2022 has dramatically expanded investment needs in ECA. Preliminary assessments for recovery and reconstruction needs in Ukraine across social, productive, and infrastructure sectors total $349 billion—more than 1.5 times the country's 2021 GDP (World Bank 2022b). The conflict has also dramatically worsened near-term prospects for investment in Russia and Belarus, in part because of international sanctions. In MNA, there is continued need to replace private and public capital destroyed during wars in the Syrian Arab Republic, the Republic of Yemen, and Iraq. In Syria, the cost of rebuilding infrastructure damaged or destroyed was estimated in 2016 to be in the range of $100-200 billion—more than ten times the country's 2015 GDP (Gobat and Kostial 2016). Iraq too faces large infrastructure investment needs, increased by conflict. It has been estimated that some $200 billion in 2018 prices would be needed to restore "hard" infrastructure to pre-ISIS levels in Iraq, almost equal to the country's 2018 GDP (Gunter 2018). In the Republic of Yemen, recovery and reconstruction costs are estimated at $20-25 billion cumulatively over a five-year period, equivalent to 1.1-1.3 times the country's 2020 GDP (World Bank 2020a).

Education and health investment. Beyond investment in infrastructure and physical capital, the COVID-19 pandemic has underscored the need to invest in health and education. This is especially urgent in SSA, as it remains well behind other regions in human capital development, but also in ECA, LAC, and MNA to ensure that education systems provide the skills needed for productive employment.

LAC spends more as a proportion of GDP on education and healthcare than any other EMDE region, but outcomes suggest that better value could be derived from these investments. Educational attainment is highly unequal across income levels, and the region on average attains only mediocre Programme for International Student Assessment (PISA) scores.

In ECA, despite above-average levels of education, learning outcomes, as measured by PISA scores, have deteriorated over the past decade in some economies. There have also been substantial learning losses from the pandemic. With regard to healthcare, since 2000

such measures as the proportion of the population covered for essential services and maternal mortality rates have improved more slowly in ECA than in other regions.

In MNA, the share of human capital in total wealth is the lowest among EMDE regions. The returns to education are also the lowest, reflecting in part low-quality education (Lange, Wodon, and Carey 2018; Montenegro and Patrinos 2014). With regard to healthcare, inadequacies are indicated by the fact that in 2021, the region shared with SAR the highest prevalence of diabetes among EMDE regions, at 12.1 percent of the adult population.

In SAR, healthcare and health outcomes are also poor. Apart from the high prevalence of diabetes, SAR has the lowest number of hospital beds per capita among EMDE regions, and among the most burdensome out-of-pocket healthcare expenses. These issues result largely from low public health spending; at only 2 percent of GDP, it is well below all other EMDE regions. Urgent investment is required in healthcare to help address these challenges. Taxation that would bring health benefits, such as sugar taxes, have been suggested as funding options to meet growing needs and help address morbidity (Kurowski et al. 2021). SAR also faces significant air pollution that imposes heavy health costs and mitigation of that will require major investment.

In SSA, investment in health and education is especially urgent considering the scale of human capital losses caused by the pandemic. The region remains one of the most vulnerable to public health risks, with many countries remaining ill-equipped to respond effectively to outbreaks of infectious diseases. Meanwhile, educational outcomes are among the poorest in the world. Thus, just 10 percent of lower secondary students achieve minimum proficiency in mathematics, reflecting the lack of access to quality schooling, especially for the poor (UNESCO 2019).

Transport infrastructure. SSA has large transport infrastructure needs, especially to reap the full potential of the African Continental Free Trade Agreement (Ohnsorge and Quaglietti 2023). In many SSA countries, only a small proportion of the road network is paved, and railway development is broadly inadequate, often because of damage from wars or natural disasters, or poor maintenance. In SAR also, the quantity and quality of transport infrastructure fall well behind most other regions, contributing to the region's lack of global integration. Transport infrastructure upgrades are also needed in EAP, ECA, and LAC to deepen the integration of remote parts of some countries and strengthen the resilience of regional value chains. In EAP, SAR, and LAC, infrastructure investment, combined with effective land use regulation, is needed to accommodate high and rising urbanization. The annual cost of traffic congestion is already estimated to be more than 1 percent of GDP in several major cities in LAC (Buenos Aires, Sao Paulo, Montevideo and Santiago; Calatayud et al. 2021).

Digital connectivity. In EAP, due to the presence of many small remote island states, and in ECA, where digitization falls well behind that in its main trading partners, increased public sector investment in digital connectivity infrastructure is needed— particularly high-speed fiber optic lines ("the middle mile") and drop lines that allow individual homes

to be connected ("the last mile"). The focus needs to be on reducing the digital divide by expanding international connectivity and local broadband services to remote islands and communities. The resilience of digital infrastructure to climate events and natural disasters also needs to be improved.

4. Policies to boost investment

Given current mediocre prospects for investment growth and the wide array of challenges that EMDEs face, policies to stimulate investment remain a priority. Although specific policy choices depend on national and regional circumstances, multi- pronged strategies are generally needed to boost both public and private investment growth. The World Bank and other multilateral development institutions can help EMDEs design and implement these strategies.

Improve the efficiency of public investment. Increasing the efficiency of public investment is a priority in all EMDE regions, especially lower-middle-income and low- income economies given their limited resources. The efficiency of public investment in SSA and SAR consistently lags behind other EMDE regions, while in ECA it substantially trails EU peers. Low efficiency partly reflects weaknesses in public investment management, including poor project selection, weak enforcement of procurement procedures, and poor monitoring of project execution. Improvements in these areas are often key. Effective use of medium-term budgeting frameworks can help improve spending efficiency, by improving the predictability and transparency of spending, as can the introduction of independent spending evaluations. Better coordination between various levels of government can help reduce duplication and inconsistencies. Public investment efficiency could also be improved through rules that protect capital expenditures during periods of fiscal consolidation.

Create more fiscal space. Additional domestic tax revenues could provide needed space for public investment in priority areas. Revenue-to-GDP ratios are particularly low in SAR and SSA. Additional revenues could be obtained through improved revenue collection, enhanced tax administration, a broader tax base, higher tax rates, or reduced exemptions. For example, new tax reform legislation in Indonesia is expected to raise revenue by 1.2 percent of GDP in the medium term. Productive public investment could also be boosted by shifting expenditures away from items that do not promote economic growth or other policy objectives. Expenditure priorities could be identified in periodic public expenditure reviews that assess all expenditures against policy objectives. For some large countries in LAC, this may require reforms to reduce budget rigidities (Herrera and Olaberria 2020).

Promote private investment. Empirical studies show that increases in public investment tend to raise private investment, but that this crowding-in effect may be temporary (Kose et al. 2017). A favorable business environment—including stable macroeconomic conditions, predictable policies and regulations, robust competition, and limited barriers to entry and exit—is an important precondition for vigorous private investment growth

anywhere. In LAC, tax reforms could encourage investment (Acosta-Ormaechea, Pienknagura, and Pizzinelli 2022). Funding for private investment could be increased by greater mobilization of domestic saving (LAC), broader access to formal financial services (SSA), and stronger banking systems (SAR, EAP). Regional integration (LAC, ECA, SAR, SSA), by increasing market size, can incentivize private investment. Public- private partnerships, which are less common in SSA and MNA than elsewhere, have been successfully applied to numerous sectors in other EMDE regions, although the need for autonomous regulatory agencies to oversee the private agents is clear. Since the effective use of high-productivity technologies often requires complementary skilled human capital, better-quality education and health systems also generally encourage greater private investment.

The remainder of the paper is presented in six sections, one on each of the six EMDE regions. Each section examines the evolution of investment growth since 2000 and the region-specific underlying factors. Regional investment needs and policy options are also examined.

5. East Asia and the Pacific

5.1 Introduction

East Asia and the Pacific (EAP) accounted for 60 percent of EMDE investment during 2011-21. Investment growth in EAP slowed from 11.6 percent a year, on average, in 2000-08 to 6.4 percent a year in 2011-21. The country that was the main contributor to this slowdown was China (which accounted for 85 percent of EAP GDP and 90 percent of EAP investment in 2000-21), where investment growth almost halved from 12.3 percent a year in 2000-08 to 6.6 percent a year in 2011-21. However, the decline in investment growth was not limited to China: in the region excluding China, investment growth also moderated, from 7.8 percent a year in 2000-08 to 4.7 percent a year in 2011-21.

In China, the slowdown in investment growth was policy-led and aimed at reducing the reliance of GDP growth on credit-fueled investment and at managing financial stability risks. In the region excluding China, the moderation of investment growth, which started in the early 2010s, initially reflected the worsening terms of trade of large commodity exporters, including Indonesia and Malaysia, and increased policy uncertainty in Thailand. Investment growth in the region weakened further in 2018, partly reflecting increased global policy uncertainty related to the escalation in trade tensions between China and the United States. Then in 2020, investment growth fell sharply during the COVID-19 pandemic outbreak, turning negative in the region excluding China.

Investment growth rebounded in much of the region in 2021 and was robust in 2022. Nevertheless, in the region excluding China, where investment contracted by 7.6 percent in 2020, investment was still below its pre-pandemic level in mid-2022; in 2022-23, investment growth is expected to rise above its 2011-21 average rate, but not sufficiently to prevent a further widening of the gap between investment and its pre- pandemic trend.

In China, after a couple of years of stimulus-fueled growth, investment is expected to resume its structural deceleration when policy support is withdrawn.

The prospect for weak investment growth in EAP over the medium term raises concerns about the effects on EAP's potential output growth—the growth rate that can be sustained at full employment and capacity utilization. The sustained weakening of investment growth during the 2010s, together with declining total factor productivity growth, has already contributed to a slowdown in labor productivity growth in EAP and, as a result, slower convergence toward advanced economy per capita income levels (Dieppe 2020). The adverse effect of the COVID-19 pandemic on investment in EAP could be prolonged and adding to it will be the fallout from the war in Ukraine and heightened geopolitical tensions.

Despite several decades of rapid investment growth, investment needs in the region remain significant. Given the importance of investment in generating growth of productivity and per capita income, it is important that impediments to productive investment, including those related to financing, be reduced. For many EAP countries, boosting well-targeted public investment can have particularly large benefits due to high multipliers (Izquierdo, Pessino, and Vuletin et al. 2018). At the same time, improving business climates and reducing policy uncertainty are essential to supporting private investment.

Several possibilities could improve the regional investment outlook. A productivity-enhancing investment surge might be triggered by the recovery from the pandemic. A boost could materialize through renewed investment in digital technologies in sectors such as manufacturing, finance, and education, or through the onshoring of production of some essential products (Dieppe 2020). A pickup in investment also creates opportunities to shift infrastructure spending toward more resilient and environmentally sustainable options, in turn raising productivity and supporting progress toward the Sustainable Development Goals (Hallegatte and Hammer 2020).

5.2 Evolution of regional investment

Investment growth in EAP declined from 11.6 percent a year on average in 2000-08 to 6.4 percent a year in 2011-21. But it has remained higher than average investment growth in all EMDEs (figure 4). The investment slowdown was particularly pronounced in China, where it dropped from a peak of 24.1 percent in 2009 to below 5 percent in 2019. This slowdown was policy-led and aimed at reducing reliance on credit-fueled investment for GDP growth and at managing financial stability risks. It was achieved largely through tighter macroprudential regulations and stricter oversight of shadow banking.

In the region excluding China, the moderation of investment growth initially reflected the worsening of terms of trade in large commodity-exporting economies like Indonesia and Malaysia during 2014-16 (Vashakmadze et al. 2018, World Bank 2017). In this period, virtually all EAP economies recorded investment growth below long-term averages, mainly reflecting weak private investment. Tight monetary, fiscal, and prudential policies designed to contain rapid credit growth also limited investment growth in these countries.

In smaller, more heavily commodity-dependent economies, including Mongolia and Papua New Guinea, investment contracted in the mid-2010s as foreign direct investment (FDI) in mining sector projects declined and domestic macroeconomic policies were tightened sharply in response to balance of payments stress. Among the commodity-importing countries, investment weakness during the mid-2010s reflected policy uncertainty in Thailand and the Philippines, including delays in investment project approvals.

Investment growth in the region weakened further in early 2019, partly reflecting increased global policy uncertainty amid the escalation in trade tensions between China and the United States. A short period of investment normalization in late 2019, supported by a stabilization of commodity prices and benign global financial conditions, was followed by a sharp weakening of investment growth at the onset of the pandemic in 2020. In EAP as a whole, investment growth in 2020 slowed to 3.2 percent. In China, stimulus policies moderated the weakening of investment growth, to 4.4 percent. But in the rest of EAP, investment shrank by 7.6 percent. This decline, which occurred despite benign financial conditions, contrasts with the resilience of investment in the region excluding China during the 2009 global recession, when investment continued growing. But the decline in 2020 was smaller than that of 1999, in the aftermath of the Asian financial crisis, when investment in the region excluding China contracted by almost 10 percent. The contraction in 2020 was sharpest in Malaysia, Mongolia, and the Philippines, where GDP also declined the most. Outside China, the decline in investment in 2020 was smallest in Vietnam, where activity was supported by a large fiscal stimulus program and resilient FDI inflows.

Investment growth rebounded in much of the region in 2021, led by stimulus-fueled public investment; private investment remained subdued, reflecting weak business confidence. In the region excluding China, investment growth is expected to accelerate in 2022 and 2023 before returning to its 2011-21 trend rate as policy support is unwound. Public investment is expected to play a smaller role in the near term. After the substantial fiscal stimulus of 2020, governments in the region have become more focused on safeguarding fiscal sustainability and containing debt service costs. In China, investment is expected to resume its policy-guided deceleration once policy support begins to be withdrawn.

The growth of private investment will be limited by uncertainty about the post- pandemic economic landscape, the viability of existing production structures, and tightening financing conditions. In 2020, investment contracted in about four-fifths of EAP economies. Investment rebounded in about two-thirds of EAP countries in 2021, but investment growth remained below its long-term average in almost all these cases; and investment declined further in the remaining one-third of countries (figure 5). Medium-term (5-years-ahead) private sector forecasts suggest continued weakness in investment growth, while sizable investment needs remain.

Projected investment growth implies that the gap between investment and its long-term (2000-21) trend level will continue to grow. The prospect of weak investment growth in EAP in the medium term, after the severe contraction in 2020, raises concerns about the

effects on EAP's potential output growth—the growth rate of output that can be sustained at full employment and capacity utilization. The sustained weakening of investment growth in the 2010s, together with declining total factor productivity growth, has already contributed to a slowdown in labor productivity growth in EAP and, as a result, slowed EAP's convergence with per capita incomes in the advanced economies (Dieppe 2020).

5.3 Regional investment needs

Infrastructure. Income and demographic shifts, urbanization, and climate change are the main forces driving investment needs in the region. Rapid urbanization, large-scale migration, and population aging place heavy strains on urban infrastructure. In many East Asian countries, about one-third of the population lives in substandard housing. Meeting the growing demands of these trends while mitigating and adapting to climate change requires a balance to be struck between economic growth and environmental protection. Estimates of the costs of the needed investment vary widely (ADB 2017; ESCAP 2022; Hansen 2022; OECD 2019a), but it is clear that EAP countries need to invest more than 5 percent of their GDP over the next decade to meet the infrastructure needs of their growing economies (ADB 2017).

The largest costs would be involved in the upgrading of power and transport infrastructure, investment in telecommunications, and real estate development. There are significant disparities across the region, including within countries, in the density and quality of transport networks, electricity provision, housing, water, and sanitation. The within-country gaps are largest in China, primarily because of its size; Indonesia; and the lower-income ASEAN economies (figure 5). But there are substantial needs for upgrading and maintenance of infrastructure in other EAP economies, including Malaysia, the Philippines, and Thailand.

Despite some remarkable successes, providing adequate transport networks, power and water supplies, and other utilities remains a challenge across much of the region. Extensive construction activities are underway, with transport, especially rail, accounting for the largest share, with aims including better integration of the region s transport networks and support for urbanization.

China's highway network more than doubled in size between 2010 and 2021, and the share of high-speed railways was boosted from 33 to 50 percent of total railway kilometers. Yet, transport density in China still falls far short of that in advanced economies. Infrastructure needs vary considerably across Chinese regions and range from establishing new high-speed railways to installing basic municipal infrastructure and pollution-reducing (or -reversing) technologies.

Lack of adequate infrastructure is the main cause of Indonesia's reduced but still high logistics costs (around 15 percent of companies' total expenditure), including high transport costs. Middle-income ASEAN countries in general, such as Malaysia and Thailand, are still investing heavily in rail and other public transport systems. In

Malaysia, projects like the expansion of the public transport system in Kuala Lumpur, and airport and port upgrades, are expected to proceed through 2030 with a significant share of investment going toward renewable energy and green infrastructure. The Philippines ranks particularly low for transport and trade-related infrastructure; although it rose two places in the World Economic Forum's 2022 global infrastructure ranking to 57th place, this remains the country's lowest-ranked competitiveness factor. By contrast, it ranks quite high on measures of health and education infrastructure and the quality of its seaports and airports. In Cambodia and Lao PDR, investment in basic road infrastructure is a priority.

Education and health care. The region has made great progress in human development outcomes, including child survival, nutrition, and education, but still faces serious human-resource shortfalls.

- *Health care.* EMDEs in EAP reduced child mortality rates by an average of one-fourth between 2010 and 2020. However, child mortality rates in Kiribati, Lao PDR, Myanmar, Papua New Guinea, and Timor-Leste are still well above global averages. The region has historically faced a high incidence of infectious diseases, some of which have spread globally (for example, SARS, pandemic influenza, and COVID-19; Lee and Pang 2015). Rates of non-communicable diseases are expected to rise, and infectious diseases are expected to remain a risk associated with high population mobility and environmental degradation (Anbumozhi and Intal 2015). Adjusting to these trends will require public investment in basic infrastructure, education, health, and environmental protection.
- *Education.* Although enrollment in primary education in the region is almost universal, there are deficiencies in student retention (Cambodia, Lao PDR, Myanmar), quality of education (Cambodia, Lao PDR, Malaysia, Thailand, Vietnam), and literacy rates (Cambodia, Lao PDR, Papua New Guinea, Timor-Leste). Extended school closures during the pandemic led to substantial further learning losses, especially for the poor.

Environmental challenges. Many countries in the region face environmental problems that threaten to undermine not only economic growth and stability but living standards, lives, and livelihoods. The main challenges include water management, deforestation and land degradation, air pollution, and climate change. According to the Verisk Maplecroft Global Risk Analytics Dataset, which ranks the world's 576 largest urban centers on their exposure to a range of environmental and climate-related threats, 99 of the world's 100 riskiest cities are in Asia, including 37 in China, where air and water pollution presents a growing health risk. The worst-performing city in the ranking, Jakarta, also suffers from severe air pollution, but added to this are perennial threats from seismic activity and flooding. These have prompted the government of Indonesia to initiate relocating the capital.

5.4 Regional policy priorities

Improve spending efficiency. In the wake of the COVID-19 pandemic, EAP countries have been struggling to reconcile spending on relief, recovery, and growth with shrinking fiscal space. With economic recoveries now underway, fiscal policy support could be better targeted (World Bank 2021a). More efficient and better targeted support for households and firms, rather than universal transfers and price regulations, would create space for investment in infrastructure for trade, energy, and technology diffusion (World Bank 2022c). When curtailing spending or raising taxes is difficult in the short term, countries can commit to future fiscal restraint and efficiency-enhancing reforms. Committing to fiscal rules and future revenue and expenditure reforms would help reconcile future spending needs with tightening budget constraints amid growing debt. Countries could also improve public investment management, which is key for increasing social rates of return. In the longer term, additional domestic tax revenues could help create space for needed public investment. Efforts to remove exemptions, improve tax administration capacity, and broaden tax bases could help generate budgetary resources. For example, new tax reform legislation in Indonesia is expected to raise revenue by 1.2 percent of GDP in the medium term.

Private sector participation can help improve efficiency, and at the same time provide funding. Developing countries in Asia with relatively low-income levels face major challenges in implementing public-private partnerships (Cambodia, Myanmar), especially in the context of infrastructure development. Among these challenges are governance issues, institutional structure and capacity constraints, weak public-private partnership laws and policies, and weak country and sovereign risk ratings. Several reforms could help realize the potential benefits of public-private partnerships. Governments could centralize agencies that coordinate national infrastructure, in cooperation with the private sector and multilateral agencies. Multilateral development banks could work with the private sector to provide quality and governance assurances. A global "code of conduct" with a clear set of standards for businesses covering a regulatory framework, transparency principles, and a system for dispute resolution could enhance confidence in the private sector as a good partner.

Encourage private investment. Confidence in the business environment is central to encouraging private investment (World Bank 2017). Measures to improve the environment could include cutting red tape where there are unnecessary regulations, clarifying laws and regulations, allowing greater market access to foreign companies, opening more investment areas to private enterprise (especially in services sectors), and cutting financing costs. Reforms to deepen capital markets and strengthen banking systems (for example, through faster and more effective insolvency procedures) can encourage private financing. (IMF country rankings for financial development in the region range widely, from 14th (Thailand) to 170th (Solomon Islands).) Such reforms could be complemented by reforms and assistance to encourage diffusion of technology. Increased domestic and international competition could strengthen incentives for productivity-enhancing technological innovation, which could also be promoted by improved access to finance and digital infrastructure. Eliminating domestic distortions, such as fossil fuel

subsidies and local content requirements, could encourage investment in, and the adoption of, green technologies.

Focus on developing skills that are in demand in labor markets. Primary and secondary education must focus on education quality and on learning outcomes, and on building effective and accountable educational systems. Higher education, vocational education, and job training can become more effective if institutions are given the right incentives to meet labor market demand. Efforts to help match job openings and the skills of prospective workers will also pay dividends, as will investments in "EdTech" (World Bank 2021b). The substantial learning losses, resulting from the extended school closures during the pandemic, must be reversed to prevent lasting damage to student progression, human capital formation, and opportunities for productive work.

Health: focus on preventative care. In health, additional investment should favor less costly preventative care rather than hospital care. However, this will entail reforms to insurance regimes.

Address environmental challenges. Instruments in this area that can be used by policymakers include: phasing out fossil fuel and energy subsidies; aligning carbon prices with environmental policy goals, including emissions targets; raising public investment in low-carbon innovation and infrastructure; and undertaking low-carbon policy reforms in key sectors, such as energy, transport, agriculture, land use, and urban planning. Fuel subsidies have recently been increased in most countries as a temporary crisis measure aimed at moderating increases in fuel prices. This runs counter to the efforts in major EAP countries in the last few years to reduce fuel subsidies (China, Indonesia). Production of fossil fuels such as coal is also being revived. These actions should not be allowed to compromise the achievement of emission reduction commitments or perpetuate dependence on imported fossil fuels and the region's vulnerability to future energy price shocks.

The costs associated with moving toward a low-carbon economy need to be equitably distributed. The revenue generated by carbon pricing, for example, can be fed back into the economy to help subsidize abatement costs, alleviate negative social impacts, or cut taxes (World Bank 2021a). To garner support for a low carbon economy, policy makers must emphasize its widespread benefits. And they must adopt a holistic approach to support implementation. They need to encourage stakeholder participation; commit to scientific and technological research; emphasize long-term planning; implement reforms to align resource and utility pricing with costs, including externalities; improve governance and general institutional capacity; and strengthen regionally coordinated approaches and international support.

Investment growth in EAP is unlikely to revert to the high rates of the first decade of the 2000s, given the structural slowdown in China. But investment needs in the region remain substantial, and governments and multilateral agencies will remain important providers of funding. Such funding should be directed toward the projects with the highest social

returns. Close coordination of local, regional, and global initiatives will be needed to help reduce duplication and inconsistencies in public investment projects.

6. Europe and Central Asia

6.1 Introduction

Europe and Central Asia (ECA) accounted for less than 10 percent of EMDE investment in 2011-21—down from 12.2 percent in 2000-10 (figure 7.A-D). The decline in ECA's share of EMDE investment reflected a steep fall in investment growth in the region, from an average annual rate of 7.3 percent in 2000-10 to 3.1 percent over 2011-21. Compared with 2000-10, average annual investment growth during 2011-21 was more than 6 percentage points lower in almost half of ECA's economies.[3]

The slowdown in investment growth over the past two decades reflects several adverse shocks, including the global financial crisis of 2007-08, the Russian Federation's domestic financial crisis of 2008-09, the European debt crisis of 2009-11, conflicts in Eastern Europe, the 2014-16 oil price plunge for ECA's energy exporters, the COVID- 19 pandemic, and intense financial pressures in Türkiye—the region's second largest economy after Russia. In addition, structural pressures weighed on ECA investment, including those related to maturing global value chains and stalled progress in some countries with economic reforms.

ECA investment fell in 2019—mostly on account of a decline in Türkiye amid weak investor sentiment and high policy uncertainty. There was a further contraction of 1.4 percent in ECA investment in 2020 with the onset of the COVID-19 pandemic. Investment rebounded by 5.6 percent in 2021, but Russia's invasion of Ukraine in February 2022 reversed the recovery. Investment in ECA is estimated to have shrunk by 3.2 percent in 2022, and is forecast to contract 1.6 percent in 2023—the sharpest fall projected for any EMDE region in 2023. In contrast to 2020, when the contraction in investment was widespread across ECA, most of the fall in 2022 is accounted for by Ukraine, Russia and Belarus, reflecting the war and the impact of international sanctions. Excluding Ukraine, Belarus, and Russia, investment growth in ECA is projected to recover to 1.4 percent in both 2022 and 2023.

Current and prospective investment needs are sizable across ECA—to support the green and digital transitions, improve social protection, foster private sector development, and to close ECA's gaps with the European Union (EU) in living standards, although these gaps vary widely across ECA (figure 7.E). Over the remainder of this decade, the EU plans to step up lending and grants to Central Europe and the Western Balkans, partly meeting investment needs in these sub-regions. Eventually, Ukraine's immense reconstruction needs will require funding, including from the international donor community (figure 7.F). In contrast, the ability to narrow investment gaps in Belarus and

[3] Data available for the following ECA economies: Albania, Armenia, Bulgaria, Belarus, Georgia, Hungary, North Macedonia, Moldova, Poland, Romania, Russian Federation, Türkiye, and Ukraine.

Russia is currently curbed by the international sanctions imposed in response to the invasion of Ukraine, leaving both economies with limited external financing options. The invasion will also make filling sizable investment needs more difficult in neighboring ECA economies. In the economies of the South Caucasus and Central Asia, which are closely linked to Russia, weaker economic growth in Russia will likely dent investment prospects, including through reduced inflows of foreign direct investment (FDI).

Across ECA's economies, recent headwinds—including pandemic-related increases in government debt, negative spillovers from Russia's invasion of Ukraine, and tightening global and domestic financing conditions, as well as lingering structural issues, mean that strengthening the growth of investment, public or private, faces severe challenges. Reforms are needed to confront the shocks from the pandemic and the invasion, to address long-standing structural challenges, and to set the stage for sustained recovery.

6.2 Evolution of regional investment

In 2011-21, ECA experienced the second sharpest slowdown in investment growth, relative to the preceding decade, among EMDE regions. Investment growth fell from an average annual rate of 7.3 percent in 2000-10 to 3.1 percent a year in 2011-21, with the pace of growth in the second decade weaker in most ECA economies. Weakening investment growth in large part reflected the effects of several adverse shocks, including the global financial crisis (2007-8), Russia's domestic financial crisis (2008-09), spillovers from the European debt crisis (2009-11), Russia's annexation of Crimea in 2014 and associated sanctions, the 2014-16 oil price plunge, the COVID-19 pandemic, and financial stress in Türkiye. As a result, investment had not recovered to the levels observed prior to the global financial crisis in 90 percent of the ECA sample by 2019. Related to the weakening of investment growth, net FDI inflows fell from nearly 5.5 percent of GDP in 2007 to 1.8 percent of GDP in 2018-19.

In the aftermath of the European debt crisis of 2009-11, there was a significant weakening of prospects for economic growth in the EU, ECA's largest trading partner.[4] The associated weakening of prospective growth in demand for ECA's exports and in financial flows from the EU to ECA reduced prospective returns on investment in ECA and increased financing costs. With ECA countries heavily reliant on financial flows, including FDI, from the EU, there were significant negative spillovers from deteriorating EU growth prospects to ECA investment (figure 8.A).[5] Just as investment growth was starting to firm after 2016, the external environment deteriorated again, as a spike in policy

[4] Ten-year-ahead GDP growth forecasts for the EU produced by Consensus Economics fell from 1.9 percent in 2007 to 1.2 percent in 2019.

[5] Data available for the following ECA economies: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Georgia, Hungary, Kazakhstan, Kosovo, Kyrgyz Republic, Moldova, Montenegro, North Macedonia, Poland, Romania, Russian Federation, Serbia, Tajikistan, Türkiye, and Ukraine.

uncertainty around the United Kingdom's exit from the EU weighed on trade growth and investor confidence in Europe. An escalation in trade tensions between the United States and China also dampened ECA's trade and investment prospects, as several economies in the region are deeply integrated into global markets and trade, especially supply chains for automobiles.

For most of the decade preceding the pandemic, declines in private investment persisted following the global financial crisis as ECA economies experienced multiple adverse shocks in quick succession. Investment financing became difficult to obtain from domestic banking sectors that were still healing from the crises and earlier credit booms. Even by 2019, private investment had not recovered to 2008 levels in six ECA economies (Albania, Armenia, Belarus, Bulgaria, Ukraine, and Romania).[6] The recoveries in Central Europe and the Western Balkans were weak between 2011 and 2016, reflecting disrupted financial intermediation, and impaired banking systems and corporate sectors, in the aftermath of the European debt crisis, with sharp increases in non-performing loan ratios (Bykova and Pindyuk 2019). Large foreign currency- denominated debt amplified the damage to the banking sector (EBRD 2015). Following several years of rapid credit growth, Türkiye faced severe financial market pressures in 2018-19, prompting banking and corporate sector deleveraging, a deterioration in consumer and business confidence, and heightened policy uncertainty. As a result, private investment in Türkiye contracted in 2018 and 2019, the two years prior to the pandemic.

Long-term consensus forecasts of private investment growth in Eastern Europe, the South Caucasus, and Central Asia also declined in the years leading up to the pandemic amid escalating geopolitical tensions and armed conflict (Eastern Europe, the South Caucasus), and sharp terms of trade shocks from falling commodity prices (Central Asia, Eastern Europe, the South Caucasus; figures 8.B and C). In the region's energy exporters, private investment weakened alongside the sharp fall in oil prices in 2014-16. A steep rise in geopolitical tensions following Russia's annexation of Crimea in 2014 also triggered a decline in investor confidence, with private investment in Eastern Europe experiencing double-digit percentage contractions in both 2014 and 2015. The oil price plunge, combined with international sanctions that heavily restricted access to external finance in Russia, caused private investment in Russia to shrink in 2014-15. FDI inflows to Russia fell by more than three-quarters immediately following the imposition of international sanctions in 2014, and remained nearly 45 percent lower in subsequent years (UNCTAD 2022). Throughout the remainder of the decade, investment growth in Russia was tepid, reflecting subdued extractive investment, steep capital outflows and persistent FDI losses. As a result, private investment in 2019 was lower than in 2014. Neighboring countries suffered from spillover effects, including weaker trade, remittances, and FDI.

Public investment, accounting for about a quarter of total investment in ECA, was also constrained prior to the pandemic, as many governments faced falls in commodity

[6] For five other ECA economies—Bosnia and Herzegovina, Hungary, Montenegro, Russia, and Serbia—private investment reached 2008 levels between 2016 and 2018.

revenues amid the sustained decline in commodity prices over 2011-16. Over the decade, significant fiscal consolidations were implemented in most ECA countries, with structural deficits narrowing or turning into surpluses in about two-thirds of the ECA economies with data. In the region's energy exporters, fiscal adjustment needs grew in the second half of the decade, as sharp falls in energy prices called for fiscal sustainability to be shored up by realigning spending with lower revenues. The need for fiscal consolidation, in the wake of the European debt crisis, added to the woes of ECA's EU members (Central Europe) and candidate partners (Western Balkans). In Central Europe, fiscal consolidation over the 2010s proceeded gradually in Poland—ECA's third largest economy—and eased somewhat in the other economies in the second half of the decade, especially in Romania. The absorption of sizable EU structural funds in the second half of the decade helped to ease fiscal constraints and bolster public investment.

Structural factors also played a role in the slowdown of investment growth in 2011-21. Weak governance and shortcomings in the transition to market-based economies presented challenges to effectively implementing public investment, strengthening spending efficiency, and supporting private investment growth (figure 8.D). ECA's investment growth weakened alongside stalling progress with reforms and a weakening of other drivers of economic growth. After a reform boost from the EU-accession process, governance reform efforts slowed in many of the new member states in Central Europe, while reform progress sputtered in some candidate economies in the Western Balkans. In some ECA countries, reform progress backtracked, weakening the business environment. In some cases, pervasive corruption and large informal sectors continue to be formidable constraints on the ability of private firms to invest, innovate, and close the productivity gap with the EU. Deterioration of the business environment, combined with shortcomings in the transition to market-based economies and weaker governance, are all likely to have contributed to slowing investment growth. Structural change at the global level also likely played a role, as global value chains—a major driver of productivity-enhancing investment and technology transfer—appeared to mature (Lakatos and Ohnsorge 2017).

Following a decade of weak growth, ECA investment fell by 1.4 percent in 2020, the first year of the COVID-19 pandemic. Of the five EMDE regions where investment declined in 2020—it continued to grow in East Asia and the Pacific—ECA experienced the shallowest contraction, partly thanks to large fiscal support packages, with buoyant public investment offsetting sharp falls in private investment. It also reflected positive output and investment growth in Türkiye, as financial pressures abated somewhat from 2018-19. For many ECA economies, however, investment plunged in 2020 amid substantial portfolio outflows, with private investment falling by double-digit percentages in some economies in the Western Balkans and South Caucasus. FDI inflows collapsed more severely in ECA than in other EMDE regions in 2020, falling to a near 20-year low as large energy exporters, especially Russia, grappled with declines in extractive investment (UNCTAD 2021).

Following the pandemic-induced recession in 2020, ECA investment grew by 5.6 percent in 2021—slightly stronger than the 2000-21 average growth rate of 5.2 percent and strong

enough to bring investment in the year to within 4 percent of its pre- pandemic projection. This improvement was not region-wide, however, amid rising borrowing costs and elevated political tensions and policy uncertainty, with investment contracting in 2021 in Bulgaria, Belarus, Georgia, Kyrgyz Republic, and Montenegro (World Bank 2022d). As a result, investment in 2021 was at least 10 percent below pre- pandemic projections in some economies in Central Europe, Eastern Europe, the South Caucasus, and Western Balkans.

Russia's invasion of Ukraine in February 2022 halted the economic recovery. The ensuing war has had far-reaching consequences for investment in ECA and regional supply chains, given many countries' economic linkages with Russia and Ukraine (figure 8.E). The invasion has caused a fresh plunge in investor confidence, as well as capital outflows, tighter financing conditions, higher inflation, and currency depreciations. The war has also dampened regional trade and investment by weighing on external demand from the euro area, as well as Russia. FDI inflows, which recovered to some extent in 2021 in many ECA economies, have become more muted and are likely to remain so (UNCTAD 2022). Although FDI inflows are largely from the EU, some countries in the South Caucasus, Eastern Europe, and Central Asia have relied heavily on Russia as a financing source.[7]

Investment has thus been hit by Russia's invasion of Ukraine through multiple channels. Regional value chains have been interrupted, as many ECA economies depend heavily on both Russia and Ukraine for imports of key commodities and intermediate goods (Winkler, Wuester, and Knight 2022). The war has also pushed up inflation, prompting policy rate hikes in advanced economies and in most of ECA's economies, driving global and domestic borrowing costs higher. Moreover, limited fiscal space, which was narrowed by policies to support activity during the pandemic and the resulting increases in government debt, has made it more difficult to take countercyclical policy action and maintain public investment plans.

As a result of the invasion and associated sanctions, investment in ECA is estimated to have contracted by 3.2 percent in 2022 and projected to continue shrinking at 1.6 percent in 2023. While the contraction in 2022 was only about one-fifth as steep as during the global financial crisis, it was far steeper than the pandemic-induced contraction of 2020. Unlike 2020, when the fall in investment was region-wide, most of the contraction in 2022 is accounted for by Ukraine, Belarus and Russia. Investment growth in ECA excluding these three countries is estimated to have remained positive in 2022, at 1.4 percent, and is projected to remain at that pace in 2023. In 2023, investment is projected to be nearly 15 percent below pre-pandemic projections in ECA and nearly 9 percent below these projections in ECA excluding Ukraine, Belarus, and Russia (figure 8.F). Regional investment is expected to pick up beyond 2023, owing to reconstruction efforts in Türkiye following two devastating earthquakes in February 2023.

6.3 Regional investment needs

[7] Russia accounts for about one-third of FDI inflows in Armenia and Belarus and about one-fifth of FDI inflows in the Kyrgyz Republic and Moldova.

Even before the COVID-19 pandemic, Russia's invasion of Ukraine, and earthquakes in Türkiye, meeting ECA's sizable investment needs was expected to be a challenge, as prospects for investment growth trailed other EMDE regions amid heightened policy uncertainty and elevated geopolitical tensions. Public and private debt issuance in ECA also slowed from 2012-13 peaks in the decade prior to the pandemic despite wide investment gaps (figure 9.A).

The pandemic is likely to have widened investment gaps in ECA, as is the war, by further eroding medium- to long-term investment prospects. The gap in investment in Central Europe—which generally has lower investment needs than the rest of ECA— was estimated in 2020 to have widened from about 4 percent of GDP in 2019 to 6 percent of GDP in 2020-21, excluding needs related to the green and digital transitions (European Commission 2020a). In Russia and Belarus—which are under international sanctions related to the invasion of Ukraine—investment in 2022 is estimated to be at least 10 percent below pre-pandemic projections and, in Russia, widen to nearly 18 percent in 2023 (World Bank 2022d). Assuming that international sanctions remain, investment gaps in these countries are likely to remain wide, with investment increasingly relying on the public sector.

In Türkiye, earthquakes in early February 2023 have affected about 13.5 million people—or over 15 percent of Türkiye's population in 2021—with natural gas and electricity cut off in many areas and hundreds of buildings destroyed based on early needs assessments. Natural disaster experience from other ECA countries suggest the economic cost and investment needs could become sizable for Türkiye. In Croatia, the two earthquakes in 2020 (which, although devastating, were smaller in magnitude and resulted in less than 10 deaths in sharp contrast to Türkiye) incurred economic losses of 8.7 percent of 2019 GDP.

Infrastructure. ECA's infrastructure gaps with the euro area remain large, including in relation to roads, railways, air transport, power generation capacity, internet, and fixed and mobile telephone density. Closing half of these gaps by 2030 would require infrastructure investment of between 3.0 and 8.5 percent of GDP a year (IMF 2020).[8] Infrastructure investment to meet the Sustainable Development Goals and limit climate change to 2 ˚ C would cost, on average, 4.2 percent of GDP a year in ECA (Rozenberg and Fay 2019).

Such estimates for ECA as a whole mask considerable variation across subregions. In the Western Balkans and Eastern Europe excluding Ukraine, halving infrastructure gaps with the euro area by 2030 could cost 7-12 percent of GDP per year—4-9 percent of GDP per year more than current investment levels (IMF 2020). In contrast, in Central Europe, the

[8] Estimate for total investment rather than additional investment needed over current investment. Sample includes ECA countries classified as EMDE or advanced economy: Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Kosovo, Latvia, Lithuania, Moldova, Montenegro, North Macedonia, Poland, Romania, Russia, Serbia, the Slovak Republic, Slovenia, Türkiye, and Ukraine.

investment needed to close half the gap is 3 percent of GDP a year or less, given the larger initial infrastructure stock (IMF 2020).

ECA's sizable investment gaps are related partly to shortcomings in the efficiency of public infrastructure investment relative to EU peers (figure 9.B). In Bulgaria, for instance, the same public investment outcomes could have been achieved with considerably less investment spending (less by about 2 percent of GDP), had the efficiency of public investment and quality of infrastructure been closer to peers (IMF 2022a).

Education. Although average years of education in ECA are among the highest of the EMDE regions, there is significant scope for increased investment, beyond gross fixed investment, to improve basic and tertiary education in ways that would raise labor productivity (World Bank 2020b). The OECD's PISA scores and learning-adjusted years of schooling suggest that the subregions and countries where improvements in the quality of basic education are needed most are Central Asia (Kazakhstan, the Kyrgyz Republic, Tajikistan, and Uzbekistan); the South Caucasus (Azerbaijan and Georgia); the Western Balkans (Albania, Bosnia and Herzegovina, Kosovo, Montenegro, and North Macedonia); Moldova; and, in Eastern Europe, Bulgaria and Romania, which are among the EU countries that invest the least in education, including public expenditures on teachers and training, education infrastructure, digital learning, and equity and inclusion. Early childhood education is also important. On average, children who attend preschool stay in school nearly a year longer and are more likely to be employed in high- skill jobs. High-quality interventions in the early years have a high benefit-cost ratio and can deliver annual returns of about 13 percent on investment (García et al. 2016).

In some economies in ECA, particularly in Central Asia, inadequate investment in human capital has left parts of the workforce poorly equipped for rapid technological change (Flabbi and Gatti 2018). Low educational attainment among the workforce and inadequate skills have often been cited as constraints on doing business, job creation, and innovation in ECA (Brancatelli, Marguerie, and Brodmann 2020; World Bank 2019a). An aging workforce, a declining working-age population share, and high emigration rates among young and skilled workers in ECA highlight the need for education, training, and retraining to help workers adapt to new job requirements and technologies (Aiyar, Ebeke, and Shao 2016; Hallward-Driemeier and Nayyar 2018). Access to retraining programs, particularly for workers in the hardest hit sectors— whether from the pandemic or automation—can play an important role in facilitating their re-employment.

The COVID-19 pandemic underscored the critical need for investment in digital skills and technology to ensure educational continuity, as well as for resources to upgrade information and communications technology infrastructure to support virtual learning, particularly for more vulnerable households. Digital approaches to remote learning that were developed during the pandemic can be leveraged to broaden access to affordable education across EMDEs, including in ECA (Li and Lalani 2020). There is wide divergence in internet access, with some EU members having rates similar to those in euro area countries, while Central Asia lags even the EMDE average.

Digitalization. Investment in accelerating the digital transformation could support faster growth of productivity and output in ECA, while also strengthening economic resilience in times of crisis (Hallward-Driemeir et al. 2020; ITU 2020). During the pandemic, over 50 percent of small and medium-sized enterprises (SMEs) surveyed by the OECD increased the use of digital tools to ensure business continuity in the wake of reduced mobility (OECD 2021a). Preliminary evidence also suggests that innovation and digitalization may have helped promote firm survival (Muzi et al. 2021).

Although ECA fares well relative to other EMDE regions on digital connectivity, weak investment in recent years has led to large infrastructure gaps in telecommunications, limiting the capacity for further regional integration (IMF 2014). Moreover, outdated technologies, lagging innovation, misallocation of labor to inefficient sectors, and market rigidities have weighed on productivity and contributed to divergences in total factor productivity (TFP) across countries and firms (Bahar and Santos 2018; Hallward-Driemeir et al. 2020; Syverson 2011). While the number of individuals using the internet in countries in Central Europe is on par with the rest of the EU, it is below the global average in several of ECA's poorest EMDEs, hindering their ability to close the distance to the TFP frontier (Burunciuc 2021; UN 2020). The digital divide also extends to firms, with SMEs trailing larger companies in digital connectivity and adoption, particularly in high-speed broadband and e-commerce tools, which makes narrowing productivity gaps with larger companies even more challenging (Hallward- Driemeir et al. 2020; OECD 2021a).

For many ECA countries, improving digital infrastructure and expanding access to high-quality digital connectivity will require boosting investment in communications infrastructure (Hallward-Driemeir et al. 2020). Liberalized telecommunications, coupled with regulatory independence, effective control of monopoly power, and efficient taxation of digital services, can catalyze private sector investment to lower the cost of access to digital services and increase use of the internet, with positive spillovers to the rest of the economy (Arezki et al. 2021; Rodriguez-Castelan et al. 2021). Public investment can also play a role in supporting the digital transformation for firms by reducing cost barriers and accelerating digitalization, particularly by finance-constrained SMEs.

6.4 Regional policy priorities

For ECA's EU economies, private and public investment will benefit from the phasing in of projects financed by EU funds. The EU's National Recovery and Resilience Plans (NRRPs), which are supported by the largest funding package ever approved by the EU, provide a unique opportunity to promote economic recovery as well as green and digital infrastructure, and to help close investment and income gaps with more advanced EU members. In all, NextGenerationEU funds to support the NRRPs amount to 9.3 percent of 2021 GDP in Bulgaria, 11.0 percent in Croatia, 6.3 percent in Poland, and 12.1 percent in Romania—much larger than the EU average of 5.6 percent. Since the passage of the NRRPs, private investment prospects have also improved. In Bulgaria— the EU's poorest economy, where output per capita is only about 55 percent of the EU average—private-

sector forecasts for long-term (10 years ahead) investment growth almost doubled, from 1.6 percent in January 2020 to 3.0 percent in July 2022 (figure 9.C). Even in Poland—where output per capita is about three-quarters of the EU average—long-term investment growth forecasts rose from 1.9 percent in January 2020 to 3.1 percent in July 2022. Across EU and partner economies, however, the boost to investment could be tempered by low absorption of funds because of inadequate administrative capacity and governance (figure 9.D).

Western Balkan countries are also expected to be large recipients of EU funding over the remainder of the decade, which should help to counter headwinds to investment growth in these economies. The EU's Economic and Investment Plan for the Western Balkans is aimed at fostering integration and convergence with the EU, with financing over the next decade totaling over 25 percent of Western Balkans GDP. The EU investments also include sizable funding for the green and digital transitions—a key priority given that these economies are among those in ECA farthest from the green transition frontier and experiencing the highest levels of air pollution in Europe (Bartlett, Bonomi, and Uvalic 2022; European Fund for the Balkans 2021; OECD 2021b; Regional Cooperation Council 2018; UNEP 2019). The investments are largely in transport systems, which have long lacked sufficient investment, particularly in logistics and maintenance (figure 9.E; European Commission 2021a, 2021b). Modernizing and improving transportation will promote climate goals, as less than half of railway networks are electrified; most are powered by fossil fuels (European Commission 2020b).

In Ukraine, the focus will eventually turn to recovery and reconstruction. The World Bank estimates that at least $349 billion (1.5 times 2021 GDP) will be needed, based on damage incurred as of June 1, 2022 (World Bank 2022e). Other estimates put total reconstruction costs in the range of $750 billion to $1.1 trillion, with infrastructure costs at around $190 billion (Arons 2022; Kyiv School of Economics 2022; Ukraine Government 2022). Within about one month of the invasion, infrastructure damage alone had already exceeded Ukraine's 2022 budget. Given these major reconstruction and investment needs, Ukraine's recovery will be contingent on substantial external financing on concessional terms. Reconstruction efforts could usefully be accompanied by domestic reforms that strengthen institutional quality and transparency, address structural bottlenecks, and ensure that the financial sector is able to bolster private sector-led growth.

More broadly, several steps can be taken to improve the climate for private investment in ECA. A supportive environment would include stable policy frameworks to reduce uncertainty for businesses, and an effective regulatory environment, with environmental standards effectively enforced and strong competition ensured through control of monopoly power (Ambec et al. 2013). Measures to remove distortions and restrictions on competition—including nontransparent investment regulations, cumbersome tax compliance rules, and more favorable treatment for state-owned enterprises—as well as better targeting of policy support measures are among the reforms that could promote private sector investment.

Lack of exposure to international competition—partly because of non-tariff barriers and complex trade rules—as well as restrictive product market and services regulations, remain structural bottlenecks to domestic and foreign investment in the region (Shepotylo and Vakhitov 2015; World Bank 2016a). Low innovation rates—which partly stem from weak competition, inadequate control of corruption, and the dominance of state-owned enterprises—continue to dampen the business environment and hinder investment in the region, particularly in the absence of progress with other reforms (figure 9.F; EBRD 2018, 2019).

Structural reforms that help to close investment gaps and promote FDI inflows and greater participation in global value chains, by boosting private sector development and transition to competitive and inclusive markets, could help boost productivity in the region, particularly in the economies outside the EU (EBRD 2014; Gould 2018; EBRD 2018; World Bank 2019b). Greater economic integration and regional coordination could also help spur innovation and competition, and help unleash the region's growth potential (Kunzel et al. 2019). The pace of future growth will largely depend on the successful implementation of structural reforms to improve the business environment, achieve debt sustainability, and restructure state-owned enterprises (Belarus, Kyrgyz Republic, Moldova, Ukraine, Uzbekistan; EBRD 2017; Funk, Isakova, and Ivanyna 2017).

Measures to improve the climate for private investment need to be complemented by improvements in public investment, including by better prioritizing public expenditures and enhancing the appraisal and review of public investment projects. Even in ECA's EU member states, public investment efficiency can be as much as 2 percent of GDP lower than in other EU countries. Sound policies with respect to infrastructure investment and improvements in governance, education, and public health might help countries become more integrated into global and regional value chains.

7. Latin America and the Caribbean

7.1 Introduction

Latin America and the Caribbean (LAC) accounted for around 13 percent of emerging market and developing economy (EMDE) investment during 2000-21. Investment growth over the period was volatile. Following subdued growth in the early 2000s, there was a surge in investment in the period up to 2011 (temporarily interrupted in 2009 by the global financial crisis), followed by a long, fallow period from 2012 to 2020 when annual investment growth was never above 3.5 percent, and negative in five years.

Throughout the period, there was close co-movement between investment growth and commodity price changes, the major driver of terms of trade changes in LAC. Indeed, the marked decline in investment growth from 2010-16 was concentrated in South American commodity exporters such as Brazil, Chile, and Peru, while investment in Central America and the Caribbean was more resilient. Global financial conditions, and U.S. monetary policy in particular, are also important determinants of investment cycles in LAC. Following a strong rebound from the pandemic trough of 2020, investment is forecast to

once again underperform in 2023 and 2024. Much of this anticipated weakness reflects the lagged effects of sharp and synchronous monetary tightening in both LAC and the advanced economies in 2022.

Prospective investment needs in LAC are sizeable, especially for the provision of infrastructure and other public goods like healthcare and education. Investment in LAC also offers potential sources of commodity inputs crucial to a global green transition, but a long-term green investment dividend is likely to transpire only with conducive policy frameworks in place, and if policy makers can successfully leverage commodity windfalls to raise living standards. More broadly, consistently higher investment growth will be required if countries in LAC are to achieve faster growth of potential output, labor productivity, and real per capita incomes.

7.2 Evolution of regional investment

During 2000-21, annual average investment growth in LAC was 2.7 percent, significantly lower than the average for all EMDEs of 7 percent. The investment-to- GDP ratio averaged 19 percent in LAC in 2000-21, the lowest allocation to investment of any EMDE region, and well below the aggregate EMDE average of 28 percent. From the start to the end of the period, LAC's contribution to total EMDE investment declined from close to one quarter in 2000, to less than one tenth by the early 2020s. Marked weakness in investment since 2015 has been particularly pronounced in the public sector, reflecting fiscal constraints alongside the growth of government consumption spending. Indeed, in 2014, the public capital stock per capita in LAC fell below the EMDE average, while the private capital stock per capita remained at roughly twice the EMDE level (figure 10).

Fluctuations in LAC investment growth over the past two decades have broadly paralleled those in GDP growth. Regional investment grew healthily before the global financial crisis, as Argentina and Mexico emerged from recessions in 2003, and growth in Brazil picked up sharply from 2004 to 2008. Output and investment resumed steady expansions after the interruption of 2009, but faltered after 2011, and particularly in 2014-16, as commodity prices declined and monetary accommodation began to be withdrawn. By 2015-16, Brazil was in a deep recession, with consecutive years of double-digit negative investment growth. More years of anemic regional growth of output and investment followed, as Argentina slipped back into economic crisis, and growth remained weak in Brazil while slowing markedly in other sizeable regional economies like Chile and Colombia. While the sharpest slowdowns occurred in some of LAC's largest economies, the weakness of investment growth in the late 2010s was widespread. Between 2016 and 2019, investment growth was consistently below its long-run regional average in more than half of the countries in LAC, and in 2016 and 2019 the proportion approached 70 percent.

The onset of the COVID-19 pandemic, immediately following the stagnation of the late 2010s, precipitated a double-digit percentage investment collapse in LAC in 2020 as lockdowns hit global demand and sent commodity prices plummeting. The decline was

short-lived, however. In 2021, investment surged, underpinned by accommodative global financial conditions, a rapid recovery in commodity prices, and extensive fiscal stimulus by governments across the region. In Argentina and Brazil, investment-to-GDP ratios increased by nearly 3 and 2 percentage points, respectively. Prospects for 2023 look substantially weaker, however. With central banks in LAC undertaking some of the sharpest monetary tightening cycles globally, elevated interest rates are likely to dampen investment. Moreover, declines from mid-2022 in commodity prices and a weak outlook for global growth indicate likely weakening in the region's terms of trade, which has historically been associated with slower investment growth.

Commodities remain the dominant category of exports from LAC, especially South America, and commodity price movements have been a key driver of investment growth fluctuations in the region (figure 11). The relationship between commodity price movements and investment growth in South America operates through multiple channels. Rising commodity prices, as seen in the mid-2000s, directly incentivize a supply response through higher investment in commodity production and auxiliary industries, which shows up most clearly in machinery investment. Regional terms of trade also improve, effectively transferring income to LAC from commodity importers, including, generally, through real currency appreciation. Increased incomes and wealth feed broader increases in demand, to which investment also responds. Increasing fiscal revenues, which result from the prevalence of state-owned enterprises in key extractive sectors as well as the broader rise in economic activity, encourage increases in public investment (World Bank 2016b). These effects are strengthened by easier credit conditions, reinforcing the cyclical alignment of credit and investment growth. When commodity prices subsequently reverse, as they did after 2012, the same channels operate in reverse. Monetary policy may also have exacerbated the volatility of investment, as underestimation of the cyclical components of growth may have led to underestimated positive output gaps during booms, and therefore insufficiently restrictive policy (Ablerola et al. 2016).

External financial conditions, most notably in the United States, have had important spillovers on investment in LAC (Araujo et al. 2016). The gradual tightening of U.S. monetary policy in 2015, coupled with falling commodity prices, saw South American currencies depreciate rapidly against the dollar, in some cases by as much as 30 percent. Concerns about the effects of depreciation on inflation led central banks, notably in Brazil, to tighten policy despite weak demand, thus dampening investment. A spell of tighter financial conditions in the United States in 2016 further contributed to a period of tight financial conditions in Latin America that did not abate until 2017, when investment growth in the region again turned positive.

Beyond cyclical factors, low domestic saving and tax policies in LAC may have acted as structural headwinds to investment. Compared to OECD countries, LAC countries rely more on corporate income taxes, potentially disincentivizing investment (Acosta-Ormaechea, Pienknagura, and Pizzinelli 2022). LAC countries also tend to have materially higher corporate taxes than other EMDEs. The average effective corporate tax rate in

large LAC economies between 2017 and 2019 was around 29 percent, compared to the 23 percent average for all EMDEs.

7.3 Regional investment needs

Investment needs in the region remain significant, both regarding gross fixed capital formation (GFCF) for services like transportation and digital connectivity and, beyond GFCF, regarding investment in human capital formation through improved healthcare and education. Low-quality infrastructure, reflecting historically low investment, weighs on regional productivity and economic growth. Thus, infrastructure bottlenecks may be a key factor limiting agglomeration-related productivity gains that might otherwise be expected to accrue from the region's high levels of urbanization (Gómez-Lobo et al. 2022). High income and wealth inequality between and within countries contributes to highly variable performance on health and education indicators. Even the region's richer countries have pockets of significant need, despite higher spending on human development than in other EMDEs (World Bank 2022f). LAC economies could benefit substantially from a global green transition, but realizing this potential will require greater investment in enabling industries, backed by conducive policy frameworks. More generally, the increase in labor productivity needed across LAC to raise living standards is likely to be achieved only through higher investment growth, including in the private sector.

Infrastructure. Surveys indicate that mediocre infrastructure is a key constraint holding back LAC's development. In 2017, the average economy in LAC ranked 79th out of 136 countries on infrastructure quality, marginally better than the EMDE average but well below the averages of East Asia and the Pacific (EAP), Europe and Central Asia (ECA), and the Middle East and North Africa (MNA; World Economic Forum 2018). It has been estimated that meeting the infrastructure-related sustainable development goals (SDGs) will require infrastructure investment in LAC of around 4.5 percent of GDP annually at least (figure 4.12; World Bank 2019c). Extrapolating from data from 2008-15, roughly 70 percent of such needed infrastructure investment (over 3 percent of GDP annually) is likely to be public, but in the years leading up to the pandemic, public infrastructure investment in LAC countries was about 1 percent of GDP, suggesting a sizeable public investment gap (Infralatam database; Serebrisky et al. 2018). Past estimates of the total infrastructure investment gap in LAC are in the range of 3 to 4 percent of GDP (Brichetti et al. 2021; Kohli and Basil 2011).

Inadequate infrastructure provision is likely to be a key contributor to high levels of urban congestion. This is an important challenge because LAC is projected to be the most urbanized EMDE region by 2050. Rising congestion costs may offset otherwise beneficial returns to scale in urban environments, representing one potential cause of an apparent lack of agglomeration benefits in productivity growth in LAC cities (Gómez- Lobo et al. 2022). The annual cost of traffic congestion alone is estimated to be worth more than 1 percent of production in the cities of Buenos Aires, Sao Paulo, Montevideo, and Santiago (Calatayud et al. 2021).

Improvements to telecommunications infrastructure can also boost connectivity and productivity, including by facilitating expanded services trade. LAC has greater mobile and broadband connectivity, on average, than other EMDE regions, but lags substantially behind advanced economies. The need for a rapid switch to remote learning and work during the pandemic highlighted how digital connectivity can enhance social and economic resilience to crises (Bai et al. 2021; Strusani and Houngbonon 2020). Recent country-level studies highlight the need for several countries in LAC to upgrade port infrastructure and transport connectivity in underserved potential export corridors (Argentina, Mexico, the member countries of the Organization of Eastern Caribbean States; World Bank 2018a-b, 2019d). Such investments should help reduce trade costs and facilitate product and partner trade diversification.

Education. Beyond GFCF, LAC spends a significantly higher proportion of GDP on education—about 5 percent—than any other EMDE region, but only performs moderately better than EMDE averages on measures of education quality, including pupil-teacher ratios and the proportion of trained teachers in primary education. This suggests there is scope to derive better value from education expenditures. On educational attainment, Chile, Colombia, Costa Rica, and Mexico register in the bottom quartile of OECD member countries for PISA scores, while most other LAC countries participating in PISA fall within the lower half of the ranking of non-OECD member countries (OECD 2019b). Educational attainment in LAC mirrors high income inequality; the richest 20 percent of pupils are five times more likely than the poorest 20 percent to complete upper secondary education (UNESCO 2020).

Against this backdrop, the COVID-19 pandemic set back educational progress across LAC, with the poorest households worst affected. School closures in LAC were some of the longest in the world and early evidence suggests significant resulting learning losses, concentrated among younger and socioeconomically disadvantaged children (World Bank 2022g). The digital divide was a key driver of disparities: only about 40 percent of primary schools and 60 percent of secondary schools in LAC had access to the internet for educational purposes (World Bank 2021c). Given the increasing importance of digital skills, further government efforts to universalize connectivity in schools could boost lifetime earnings and enhance social mobility. More generally, the remediation of pandemic-related learning losses and assurance of more equitable educational access are likely to require more effective, and in rural and low-income areas greater, investment in education. Specific needs identified in recent World Bank country reports include improved teacher training and professional development (Argentina, Ecuador), expanded and enhanced early childhood education (Bolivia, El Salvador), and a greater focus on ensuring that education systems develop the skills sought by employers (Dominican Republic, Mexico, Paraguay; World Bank 2018a-d, 2019d, 2021d, 2022c).

Healthcare. At around 8 percent of GDP in 2015-19, health spending in LAC as a proportion of output has been higher than in any other EMDE region, with per capita health spending higher only in ECA. Some beneficial outcomes from above-average

spending are clear: life expectancy in LAC compares favorably to other EMDE regions, the region has about twice the number of physicians per capita of the average EMDE, and vaccination rates are generally high. Nonetheless, there are important areas where improvement has been slow. In 2017, ECA, EAP, and MNA all had lower maternal mortality rates, which have fallen only slowly in LAC since 2000. Similarly, while LAC was the EMDE region with the highest proportion of the population covered for essential health services in 2000, it has since seen the slowest improvement on this metric and has been overtaken by EAP and ECA. The COVID-19 pandemic laid bare shortcomings in regional healthcare systems, with LAC suffering a disproportionate death toll, likely reflecting inequitable healthcare access (Schwalb et al. 2022). The region also continues to lag in aspects of public health infrastructure; the proportion of the population with access to well-managed sanitation services is below the EMDE average.

Investing in improved public health infrastructure and services for low-income groups is likely to be a cost effective way to improve health outcomes and boost human capital. Recent studies of countries including Bolivia, Ecuador, El Salvador, and Paraguay suggest that improving sanitation in rural and low-income communities should be a priority (World Bank 2018b-c, 2021d, 2022h). Investments that raise the efficiency of healthcare provision could also free up resources for other sectors. This is likely to be important in coming decades given low productivity growth and growing demand in the healthcare sector, and the increasing prevalence of non-communicable diseases. Indeed, model-based estimates indicate that per capita health spending in LAC is set to grow faster than GDP at least up to 2050 (Rao et al. 2022). The region can meet its future healthcare demands at lower cost by investing in primary care facilities and triage capacity (including telemedicine), preventative public health interventions, and better information and data systems—all of which would lessen the burdens on governments and households (Savedoff et al. 2022).

Green transition. LAC economies could benefit substantially from the global transition toward greener forms of energy and broader emissions reduction. The region is endowed with a large proportion of the known reserves of several minerals and metals needed for electrifying transport and scaling up renewable energy technologies. For example, LAC is the location of roughly half of the world's lithium reserves (mainly in Chile, Argentina, and Brazil, though Bolivia has the largest known lithium resources in the world), more than a third of copper reserves (Chile, Peru, Mexico), and over a fifth of rare earth reserves (Brazil), as well as significant amounts of nickel, manganese and graphite (USGS 2021a-f). However, the efficient extraction and processing of green minerals will require large-scale capital investment and improved technological methods to ensure sustainability. Chile is the only country in LAC that currently exports substantial amounts of lithium, and there are significant concerns about potential strain on water supplies from using water in the extraction of lithium from brine (IEA 2022). In addition to sustainably expanding extractive capacity, which could further entrench primary commodity export dominance in LAC, several governments in the region have ambitions to foster domestic green industries down the value chain, including electric vehicle and battery

manufacturing. Evidence suggests that these plans may be more likely to succeed if public policy assumes a role nurturing such industries, as the auto sector tends otherwise to innovate incrementally on existing production techniques (Aghion et al. 2016). However, successfully implementing such plans would likely require substantial upgrades to regional research and development, development of complex manufacturing capacity, and significant upskilling of workforces.

7.4 Regional policy priorities

While policy priorities differ among countries, across LAC there is a clear need for improved infrastructure, and for more equitable access to quality education and healthcare. Given limited fiscal space, increasing public spending will be challenging, and policymakers may need to focus on reprioritizing and improving the efficiency of expenditures within existing budgets. At the same time, increasing the growth of output and productivity in the region's private sector will require stronger growth of business investment, beyond that focused on primary commodity extraction. This will require more supportive environments for private enterprise.

Public investment. Estimates of infrastructure gaps in LAC indicate that the region underinvests in infrastructure, including the provision of transport, energy, telecommunications, and water. While some such services can be provided primarily by the private sector, it is likely that LAC economies will need to materially increase public infrastructure investment to reach the 2030 infrastructure-related SDGs. In some cases, projects that offer very high economic returns could be funded via public borrowing, but otherwise countries in LAC have limited fiscal space, particularly in the aftermath of the COVID-19 pandemic and prior years of weak growth. The first recourse to raise productive public infrastructure investment could therefore be reprioritizing existing public expenditure away from unproductive uses. Public budgeting reviews could be used to identify wasteful spending—estimated by one analysis to be as high as 4.4 percent of regional GDP (Izquierdo, Pessino, and Vuletin 2018). In some countries (Argentina, Bolivia, Brazil) reforms may be required to reduce budget rigidities (Herrera and Olaberria 2020). Governments could also consider implementing fiscal rules that favor investment spending over consumption, though potential sustainability risks from poor quality investment would need to be managed (Blanco et al. 2020). Where policymakers seek to fund investment by raising additional revenues, negative growth impacts can be avoided by measures that broaden the tax base, limit distortive tax expenditures, and improve tax compliance. Governments could also consider increasing consumption taxes on goods such as alcohol, tobacco, and sugar, which could raise revenue while helping combat chronic illnesses that are bad for both general welfare and the public purse (Estevão and Essl 2022).

Even absent broader fiscal reforms, there is substantial scope for improving infrastructure in LAC by raising the efficacy of public investment. One study estimated that by operating at the efficient frontier, LAC infrastructure services output could be doubled with the

same inputs (Suárez-Alemán, Serebrisky, and Perelman 2019). Substantial efficiency gains could be derived, for example, from improvements in project selection, planning, management, and procurement (Fay et al. 2017). In some cases, additional use of public-private partnerships may improve risk allocation in the financing of infrastructure projects, smooth budget outlays, and augment state capacity in project delivery and maintenance (Garcia-Kilroy and Rudolph 2017). Policymakers could also consider establishing functionally independent advisory commissions (such as those in place in New Zealand and the United Kingdom) to aid in the planning and prioritization of infrastructure expenditures.

Private investment. To improve incentives for private investment, taxation frameworks in LAC could be reformed to reduce the relatively high dependence on corporate income taxes. In this context, broadly applicable reforms such as increased investment expensing are likely to provide more effective and efficient incentives than complex special tax regimes (Acosta-Ormaechea, Pienknagura, and Pizzinelli 2022). To incentivize green investment and research, carbon taxes could be used (Aghion et al. 2016). Regulatory environments in LAC could be improved, such as by ensuring that regulators have technocratic governance and that regulatory frameworks are transparent. Processes should follow international best practices regarding, for example, policy consultations, impact assessments, and ex-post evaluations (Querbach and Arndt 2017). Competition frameworks could be enhanced to reduce monopoly power, encourage innovation, and foster a level playing field among private firms as well as between private firms and state-owned enterprises. Upgrading the skills of the population through more effective utilization of education spending would increase the attractiveness of LAC as a destination for private investment. Policymakers could, for example, increase focus on educational attainment among students from low-income households, while seeking efficiency improvements and better matching between skills that are in demand and subjects studied in higher education (Ferreyra et al. 2017). Combatting corruption and reducing violence and social unrest would also bolster investor confidence (Keefer and Scartascini 2022).

Raising domestic saving. Domestic saving rates are lower in LAC than in other EMDE regions, even after accounting for the influence of such factors as financial depth, demographics, and macroeconomic and political stability (Becerra, Cavallo, and Noy 2015). Given historical long-term correlations between investment and domestic saving, it is unlikely that investment rates in LAC can durably increase without higher saving (Apergis and Tsoumas 2009). Policymakers therefore face a tension between increasing public investment and supporting higher national saving through government saving, sharpening the rationale for funding new investment out of existing fiscal envelopes. Evidence on the crowding out of private investment by public investment in LAC is ambiguous, but mitigating this risk calls for governments to focus on investments that can raise total factor productivity, thereby increasing returns on private capital and incentivizing private investment (Fernández, Imrohoroglu, and Tamayo 2017; Ramirez and Nazmi 2003; Santiago et al. 2020). Measures to increase financial access, trust in the banking system, and financial literacy (through early financial education, for example)

could help raise household saving rates (Cavallo and Serebrisky 2016). Absent higher domestic saving, LAC will have to continue relying heavily on foreign saving to support growth of the region's capital stock—an approach that may have contributed to low investment-to-output ratios over the last twenty years.

8. Middle East and North Africa

8.1 Introduction

The Middle East and North Africa (MNA) accounted for 6 percent of investment in emerging market and developing economies (EMDEs) during 2011-21. Over the past two decades, 2000-21, the region saw a momentous collapse in investment growth, from an average of 8.6 percent a year in 2000-10 to 0.5 percent a year in 2011-21. Foreign direct investment inflows halved over the two decades and were the lowest among EMDE regions in the 2010s, at 1 percent of GDP. In 2022, investment growth is estimated to have been 5.4 percent, just above the 1990-2021 annual average of 5.0 percent (figure 13).

The precipitous slowdown in investment in the past decade reflected violence and conflict, the impacts of the COVID-19 pandemic, the effects on oil exporters of a large drop in oil prices in the middle of the decade, and macroeconomic and political instability in many net oil importers. The oil price collapse in 2014-16 led to a significant slowdown in investment growth among oil exporters, from about 9.1 percent a year in 2000-10 to 0.3 percent a year in 2011-21. Oil importers in the region also saw a steep slowdown in average annual investment growth between the two decades, from 6.6 percent to 1.6 percent.

The pandemic led to a 6.5 percent decline in investment in the region in 2020, with the drop in oil-importing countries three-times greater than that in oil exporters. The rebound in 2021 was tepid, with investment growth of 5.3 percent. Consequently, investment in 2021 remained about 12 percent below pre-pandemic projections, and further below projections in oil importers than in oil exporters. Over 2022-24, growth in investment in MNA is expected to about match the region's longer-run (2000-21) average rate, with investment failing to catch up with its pre-pandemic trend.

Investment needs remain significant in MNA—especially among oil importers and economies suffering fragility and conflict—including in infrastructure, climate change adaptation and mitigation, and addressing the legacy of the pandemic. But infrastructure needs vary widely across the region, from countries with some of the highest scores in the world for infrastructure quality—United Arab Emirates is ranked fourth globally— to ones with some of the lowest (Yemen, Lebanon). The region also needs to invest in preparing for a warmer and more volatile climate and a decarbonized future. A focus on green economic growth—promoting clean energy and ecofriendly investment—would yield greater economic returns by creating more jobs and avoiding environmental degradation. To meet these investment needs, governments can implement policies that decrease the size of the state, support new industries to diversify production and exports, incentivize

the private sector appropriately through improvements in governance and investor protections, and efficiently price fossil fuels.

8.2 Evolution of regional investment

Over the last two decades, economic activity and investor sentiment in MNA have been weighed down by armed conflicts in several countries, far-reaching political changes, the oil price plunge of 2014-16, and lately the pandemic and war in Ukraine. As growth prospects dimmed, especially among oil-exporting countries, investment growth slowed sharply, from an annual average of 8.6 percent in 2000-10 to 0.5 percent a year in 2011-21. Foreign direct investment inflows halved to 1 percent of GDP on average during 2011-20, the lowest among EMDE regions. Investment contracted in four of the six years 2016-21. At the height of the COVID-19 pandemic, in 2020, investment declined by 6.5 percent, before rebounding by 5.3 percent average in 2021-22. Investment in 2022 is expected to be still about 12 percent below its pre-pandemic projections, and below pre-pandemic forecasts in four-fifths of the region's economies. While the causes of the slowdown in investment in the past decade differ between oil importers and exporters—the former battling external factors and the latter domestic policy uncertainty—the outcome has been anemic investment growth in both groups.

8.2.1 Investment in oil-exporting MNA economies

Investment growth in oil-exporting MNA economies—where oil and gas account, on average, for four-tenths of output, and most of fiscal revenues and goods exports—has evolved broadly in line with oil prices, which collapsed in 2014 and remained below averages for the 2010s until late 2021. The war in Ukraine in 2022 raised oil prices again. While investment rebounded strongly in the first half of 2022 the future path of investment in the sector is unclear, given longer-term trends away from fossil fuels and high volatility and uncertainty in the oil market.

When the steep oil price decline began in mid-2014, governments in the oil-exporting economies initially responded with fiscal stimulus, often in the form of public investment. As a result, investment growth rose by over 7 percentage points in 2014 to 7.4 percent. But the collapse in oil prices proved enduring and led to sustained oil revenue losses, and the resulting fiscal constraints contributed to declines in investment over 2015-19 averaging -1.5 percent a year, with investment contracting in three of the four largest oil exporters—the Islamic Republic of Iran, the United Arab Emirates, and Saudi Arabia. The average terms of trade of the oil exporters only recently returned to pre-2014 levels[9].

The COVID-19 pandemic further depressed investment in these economies as they were hit by simultaneous shocks to both oil sectors and, because of mobility restrictions, non-

[9] Panel regression estimates suggest that the terms-of-trade shock accounted for nearly all of the slowdown in investment growth during the initial oil price decline in 2014.

oil economic activity. In Saudi Arabia, investment collapsed by 10.4 percent in 2020, compared with the 4.5 percent average decline among oil exporters as a whole.

The fall in investment in 2020 was followed by growth averaging 5.8 percent across 2021 and 2022. Investment in 2022 is estimated to have surpassed its 2019 level but to have been 4 percent below pre-pandemic projections.

8.2.2 Investment in oil-importing MNA economies

Among oil-importing countries, investment contracted by 14 percent in 2020 following a decade of weak growth stemming from political tensions, starting with the Arab Spring in 2011; spillovers from the euro area financial crisis of 2010-11; and domestic macroeconomic instability. During the 2010s, the only year of strong growth was 2016, when Egypt and Morocco, the two largest net oil-importing economies in the region, both ramped up infrastructure investment.

Since 2017, the public sector in Egypt has aggressively expanded investment, including in education and training: gross capital formation grew by 36 percent between 2017 and 2020. The increase in public investment has been part of a structural reform agenda, only partially completed, aimed at restoring macroeconomic stability and promoting sustainable economic growth. Reforms have included the introduction of a more flexible exchange rate; fiscal reforms, including reductions in energy subsidies and improvements in public finance management; improvements to the monetary policy framework; a new law to streamline customs and reduce non-tariff barriers; a new banking law; and increased freedom for the private sector to participate in more sectors of the economy (IMF 2021a). These reforms were aimed partly at improving the environment for private investment. A sharp decline in private investment in 2020 was partly offset by increased public investment as part of a response to the pandemic.

Oil-importer investment growth of 2.9 percent in 2021 was anemic given the 14 percent COVID-induced collapse in 2020. It was also too little to lift investment above its 2019 level, which is expected to be surpassed only in 2023. Investment in 2022 is now estimated to have been almost 30 percent below pre-pandemic forecasts.

8.3 Regional investment needs

A ramping up of infrastructure investment is needed across MNA and could support the economic recovery from the pandemic (figure 14). Investment outlays would likely be most beneficial if they were directed at addressing the consequences of the pandemic; meeting infrastructure needs; diversifying economies; and mitigating, and adapting to, climate change. A main focus on green economic growth—promoting clean energy and ecofriendly investment—could yield the largest economic returns, by creating more jobs and avoiding environmental degradation (Batini et al. 2021). Environmental degradation of skies (air pollution) and seas (plastics) costs the region 2 percent of GDP a year on average (Heger et al. 2022). Upgrading infrastructure can also save lives and livelihoods, with an estimated 5.5 percent of GDP lost annually in the region due to poor roads and related

accidents (Um 2020). Just as the region's challenges are diverse and complex, so are investment needs in infrastructure, education, health, and green technology.

Responding to the pandemic. The COVID-19 pandemic has highlighted inadequacies in the health and education sectors in MNA, and the urgent need to invest in them. Most MNA economies were ill-prepared for the pandemic, with public officials overconfident about health system capabilities (World Bank 2021e). Even prior to the pandemic, achieving universal healthcare coverage would have required countries globally to increase spending on primary healthcare by at least 1 percent of GDP (WHO 2019). Despite significant progress in MNA over the last two decades toward achieving universal healthcare—meaning access to health services, when and where needed, without financial hardship—the region still ranks below other EMDE regions and the advanced economies in this regard. In some of the region's economies, public spending on healthcare, per capita, is among the lowest in the world, resulting in limited access and large out-of-pocket expenses for citizens. Insufficient investment in health services, particularly in non-Gulf Cooperation Council (GCC) economies means inadequate numbers of health workers, insufficient hospital beds per capita, and limited ability to provide essential health services

The World Bank's Human Capital Index has risen over the past decade in almost 80 percent of MNA economies with much of this gain coming from educational improvements.[10] Nonetheless, a child born in MNA in 2020 was expected to achieve only 56 percent of its future productivity on average based on the Human Capital Index. The pandemic has reversed some of the gains to education with pandemic-related school closures averaging 48 weeks in 2020-21 in MNA, above the global average of 38 weeks. The resulting outsized damage to human capital accumulation could significantly impair the lifetime earnings of many (Azevedo et al. 2021). Returns to education are also the lowest of any EMDE region, reflecting in part the low quality of education (Montenegro and Patrinos 2014). Anemic economic growth and job creation in the region have also contributed to high rates of youth unemployment, and the lack of work experience for many is a further set back for human capital (Kheyfets et al. 2019).

Responding to climate change. MNA has already been feeling the effects of climate change, with natural disasters, including heatwaves and floods, becoming more frequent (IMF 2022b; World Bank 2014). Rising risks to lives and livelihoods highlight the urgent need to invest in climate change mitigation and adaptation and to ensure that the recovery from the pandemic is green and inclusive (Acerbi et al. 2021; IMF 2022b). Risks are particularly acute among economies dependent on agriculture: rising temperatures are expected to reduce growing areas and crop yields and exacerbate water scarcity, which will undermine food security, force migration, lower labor productivity, and raise the likelihood of conflict. In Morocco, for example, where droughts already constitute a major source of macroeconomic vulnerability, a continuation of recent trends could result in a

[10] The Human Capital Index measures the amount of human capital (that is, the level of productivity) a child born today could expect to attain by the age of 18, based on the risks to health and education that child is expected to face.

rationing of water to various sectors of the economy that could cause the loss of up to 6.5 percent of GDP by 2050 (only partially offset by new infrastructure and improved efficiency) and prompt the migration of up to 1.9 million people, or 5.4 percent of the population (World Bank 2022i). For the region, crop yields could decline by up to 30 percent if temperatures were to rise by 1.5-2 degrees Celsius relative to pre-industrial times (World Bank 2014).

Estimates of the costs of adapting to climate change are larger when the indirect costs of action needed for climate resilience are taken into account. They are also dependent on assumptions about the climate outlook and therefore vary widely. One World Bank study estimated the cost to the region at around 7.3 percent of GDP on average per year from 2015 to 2030 (World Bank 2014). The IMF has estimated individual country costs to be as low as 0.1 percent of GDP in Bahrain, Jordan, and Saudi Arabia, but as high as 2 percent of GDP in Iraq over the next ten years.[11] Given the abundance of sunshine (radiant energy), much of the region can benefit from a shift to solar energy with rapidly decreasing costs (IMF 2022b). Current generation capacity from renewables is only about one-tenth of total installed energy generation capacity in MNA (Um 2020).

Broader infrastructure needs. Investment needs in the region go beyond addressing climate change and the repercussions of the pandemic. Infrastructure needs are also important, although they vary widely across MNA. Infrastructure spending can create the foundation for strong private-sector-led growth and provide access to opportunities for citizens. Infrastructure investment in the region averaged 3 percent of GDP over the last decade, financed mainly by the public sector (Um 2020). This rate of investment will not be enough to meet infrastructure needs in the coming decade. If all MNA economies increased spending on roads by 1 percent of GDP per year, the share of the rural populations within reach of a primary or secondary road would still increase to only about one-half by 2030. Estimates suggest that infrastructure investment of about 7 percent of GDP will be needed to meet the sustainable development goals by 2030 (fig 19A). Increased investment in infrastructure could also help improve labor market conditions in MNA. One study estimated that each $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).

In oil-importing and non-GCC oil-exporting countries there is significant underinvestment in transport—in particular, roads—and electricity. According to the G20's Global Infrastructure Outlook, Egypt will need to spend an average of 5.2 percent of GDP per year over the next decade to meet infrastructure needs mainly in energy and telecommunications (Oxford Economics and Global Infrastructure Hub 2017). Egypt's energy sector could benefit from expanding and diversifying energy supply, a shift toward renewable sources, and the modernization of the oil and gas sector (World Bank 2018e).

[11] These estimates only cover adaptation to floods, storms, and sea level rise and do not address rising temperatures or droughts, an important risk for the region.

Over 2001-17, Morocco had one of the highest investment rates globally, varying between 25 and 38 percent of GDP. Most of this represented public sector investment in infrastructure. In the latest (2017) survey, the country ranked 42nd in quality of infrastructure, having risen more than 20 spots in a decade. Despite this achievement, infrastructure investment needs remain large owing to growth in demand for infrastructure services arising from population growth and urbanization (World Bank 2020d). Over the next decade the country will need average infrastructure investment of 6.2 percent of GDP annually, mainly in the energy and transport sector (Oxford Economics and Global Infrastructure Hub 2017).

Lebanon faces significant infrastructure deficiencies, including a dysfunctional electricity sector, water shortages, and inadequate waste and wastewater management (Harake and Kostopoulos 2018; Le Borgne and Jacobs 2016). The port explosion in Beirut in 2020 and the country's ongoing economic crisis have highlighted the need for infrastructure investment. The explosion is estimated to have caused damage equivalent to 15-19 percent of 2020 GDP (World Bank, European Union, and United Nations 2020). Large numbers of Syrian refugees in Lebanon (and Jordan) have added to strains on the provision of public goods.

Countries involved in armed conflict risk the large-scale destruction of physical capital. In Syria, the war that began in 2011 has devastated the economy: in 2019, income per head was no higher than in the early 1990s (World Bank 2022j). The cost of rebuilding infrastructure damaged or destroyed by the conflict has been estimated to be in the range of $100-200 billion in 2015 prices, the lower bound being about ten times the country's 2015 GDP (Gobat and Kostial 2016). Iraq also faces large infrastructure investment needs, increased by conflict. It has been estimated that some $200 billion in 2018 prices would be needed to restore "hard" infrastructure to pre-ISIS levels, almost equal to Iraq's 2018 GDP (Gunter 2018). In Yemen, recovery and reconstruction costs are estimated at $20-25 billion, equivalent to 1.1-1.3 times its 2020 GDP (World Bank 2020a).

GCC countries also have infrastructure needs, predominantly in electricity generation, although the pandemic has highlighted the need to invest also in digital infrastructure. Saudi Arabia's infrastructure investment needs over the next decade are estimated at 2.8 percent of GDP, mainly in energy and road transport. With higher income levels, these countries' plans for public spending on infrastructure in the medium term generally track their needs.

8.4 Regional policy priorities

Policy priorities differ across the region. In most of MNA, policy priorities include addressing low-quality education, reducing youth unemployment, improving governance, and decreasing the state's economic footprint. In agriculture-dependent economies and those with large populations along the coast, adaptation to climate change is a priority. In economies that have faced conflict, a priority is to restore essential services and

infrastructure. Among oil-dependent economies, priorities include diversification of production and exports and empowering the private sector.

Increasing public and private investment. Across the region, the scaling back of subsidies since 2014 has created some space for increased public spending on investment in infrastructure, health, and education, but more is needed (Parry, Black, and Vernon 2021). Several policies can raise the volume and efficiency of public and private investment. Countries with insufficient fiscal space to raise public investment to meet their needs could focus on incentivizing the private sector and increasing the efficiency of existing public spending. Improving the business climate by reforming governance and regulatory frameworks and enhancing investor protection could promote private sector investment, as could increase use of public-private partnerships (as, for example, in Morocco; EBRD 2015). In 2010-21, MNA accounted for only 2 percent of EMDEs' infrastructure projects with private participation. Public-private partnerships can improve the efficiency of investment, facilitate technology and skills transfer, and reduce the burden on public budgets (OECD 2019c).

Increasing the role of the private sector in economic activity is vital for most MNA economies. In some oil importers, the electricity sector would benefit from additional privatization (Lebanon) or a larger private sector contribution to electricity generation (Egypt). In Egypt, laws have helpfully been amended to allow the private sector to participate in infrastructure, public services, and public utility projects. Improved security conditions in the region are also essential for a sustained pickup in private investment.

Restoring macroeconomic stability should also be prioritized in economies with large external and domestic imbalances. The weakening of investment growth among oil importers in the past decade was primarily due to fiscal crises in several economies, which originated in poor economic management. To promote macroeconomic stability, countries could act to improve monetary policy frameworks, introduce fiscal rules to decrease the procyclicality of government spending, implement measures to improve debt management, and undertake rigorous public spending reviews to promote more productive outcomes.

Addressing education weaknesses. The region has the lowest share of human capital in total wealth globally, and returns to education are also the lowest of any EMDE region, reflecting in part low-quality education (Lange, Wodon, and Carey 2018; Montenegro and Patrinos 2014; World Bank 2018f). Policies to address weak educational outcomes include updating stagnant education systems to meet the needs of the 21st century—by adopting suitable technology, modernizing teaching methods, introducing vocational training for teachers, increasing learning assessments, and promoting the education of girls.

Addressing healthcare issues. Regarding healthcare, sub-national governments responsible for service provision need predictable transfers from national governments, while effective spending reviews are needed to reprioritize spending and accurately model the impact of spending choices on human capital outcomes. Pro-health taxation (for example, sugar taxes) could raise funding to meet growing needs and help reduce morbidity (Kurowski et

al. 2021). In 2021, the region had the second highest prevalence of diabetes among EMDE regions, only slightly behind SAR, at 12.3 percent of the adult population.

Climate policies. Environmental degradation in the region remains a concern, with low environmental standards, subsidies that promote pollution, and the lack of comprehensive management plans including for waste management and coastal assets (Heger et al. 2022). Green initiatives, such as rationalizing energy subsidies and introducing carbon taxes, can help address these problems, while also improving fiscal positions. Egypt was the first country in the region to issue a green bond in 2020 to unlock finance for climate-smart projects, an initiative that, if adopted more broadly, could unlock significant sustainable finance. Empowering the broader public with information could be an important catalyst for change. Thus, governments could improve access to data on localized pollution, climate risk and vulnerability, to improve decision-making and investment design (World Bank 2021f).

9. South Asia

9.1 Introduction

South Asia (SAR) accounted for 8 percent of EMDE investment, on average, over 2011-21. Annual average growth of investment was 7.4 percent in 2000-21, above the EMDE average.

Rapid investment growth in the early 2000s was followed by two periods of weakness in the 2010s that reflected weak output growth, excess manufacturing capacity in the face of sluggish external demand, and policy uncertainty in several countries. Then, in 2020, investment fell by about 10 percent as measures to restrict the spread of COVID-19 and reduced in-person interaction led to a collapse in economic activity and increased uncertainty. Fiscal support boosted public investment, but not by enough to offset the drop in investment in the private sector. In 2021, investment rebounded by 15 percent as the roll-out of vaccines and a surge in goods demand boosted activity. Thus investment growth slowed from about 9 percent a year, on average, in 2000-10 to just over half that rate in 2011-21. Much of that slowdown was due to the private sector, which accounted for four-fifths of total investment in the region on average during 2000-21. The steepest slowdown in investment growth over the two decades to 2021 occurred in India, while in Nepal investment growth increased.

The rebound of investment growth in SAR in 2021 continued in 2022 at 8.4 percent. Nevertheless, investment in 2022 remained 7 percent below pre-pandemic projections. The outlook for investment growth in SAR is highly uncertain, with risks to the downside because of soaring inflation, rapid increases in interest rates, several economies in crisis, and rising risks of a global recession.

Investment needs in SAR were large before the pandemic and have only increased since. They include addressing poor healthcare coverage, raising still-low rates of school completion and improving poor-quality education, addressing mounting infrastructure

needs to increase the integration of the region's economies into the global economy and to provide for the region's quarter of the world's population, addressing shortcomings highlighted and damage done by the pandemic, and adjusting to, and contributing to the alleviation of, climate change. Governments can help directly by increasing public investment, but limited fiscal space may make this challenging. Governments have other options, including increasing the efficiency of public investment, mobilizing private sector funds by boosting public-private partnerships, and improving the general business climate to promote private investment. Infrastructure investment can play an important role in improving the environment for business, raising labor productivity, and improving household incomes, as underscored by the recent launch of rapid transit systems in Pakistan and broader productivity gains made in the region (Bizimana et al 2021; Mehar 2020).

9.2 Evolution of regional investment

Despite the strong average pace of investment growth in the region in the two decades to 2021, there have been two recent periods of weakness. In the more recent one, related to the COVID-19 pandemic, fixed investment contracted by about 10 percent in 2020. This setback was not recovered even by the strong rebound of 2021-22: in 2022, investment was still 7 percent below what it was forecast to be before the pandemic (figure 15). Investment shortfalls from pre-pandemic projections were particularly large in 2022 in Nepal and Sri Lanka.

The earlier period of weak investment growth was in 2012-14 and reflected a slowing of SAR's consumption-driven expansion. Investment growth slowed sharply from 13 percent in 2010 and remained weak in the following few years; it was barely 3 percent in 2014. The slowdown reflected weakening growth in India (which accounts for more than three-quarters of the region's total investment), only partially offset by pickups in Bhutan, Nepal, and Pakistan.

In India, structural bottlenecks, including unreliable power, poor road and rail networks, and arduous administrative requirements on business have been barriers to investment over the past decade, along with banking sector weaknesses that have constrained investment finance. The recent government investment drive recognizes the need to accelerate infrastructure development and unblock impediments to private sector-led growth. Investment growth in India slowed from 10.5 percent average annual growth in 2000-10 to 5.7 percent in 2011-21. In FY2013/14, private investment, which accounted for nine-tenths of total investment, stagnated as global financial conditions tightened rapidly and capital outflows accelerated. Subsequent years saw continued muted investment growth relative to the preceding decade. The slowdown has been attributed to a range of factors, including excess capacity in manufacturing following the 2009 global recession, policy uncertainty, and reforms implemented by the Reserve Bank to address financial sector weaknesses, particularly among state-owned banks (Tokuoka 2012; World Bank 2016c). Stress in the financial sector came to the fore again a few years later and resulted in an abrupt slowdown in private fixed investment in FY2019/20.

COVID-19 led to a 10.4 percent contraction in fixed investment in India in FY2020/21, but a robust recovery followed, assisted by the government's investment drive. Thus in FY2021/22, investment rebounded by 15.8 percent, making the shortfall from the pre-pandemic trend among the smallest in SAR. Public investment in the 2022/23 budget is expected to expand by one-third, and there is also an incentive program to boost private investment. By boosting public investment during years of private sector weakness (2013-16, 2020) the government played an important countercyclical role.

In Bangladesh, the region's second largest economy, investment growth was robust in 2000-21, at an annual average rate of 8.3 percent, without any slowing trend—unlike in India. This robust growth reflects strong underlying GDP growth, fed partly by rapid urbanization; a rapidly growing, export-oriented ready-made garment sector; a high domestic saving rate; and high public investment—at 6.5 percent of GDP in 2011-20, the ratio of public investment to GDP in Bangladesh was double that in India. Also, COVID-19 had a limited economic impact: investment slowed, rather than contracted, growing by 4 percent in the fiscal year ended June 2020, with stagnating private investment offset by a rapid expansion of infrastructure-related public investment. Thus, in the three fiscal years to June 2022, public investment grew by 45 percent.

In Pakistan, investment has been subject to pronounced boom-bust cycles over the past two decades, with growth averaging only 3.1 percent a year in 2000-21, among the lowest average growth rates in SAR. In 2011-21, investment growth peaked in FY2014/15 at close to 16 percent and remained high for several years. The 2015 surge mainly reflected the China-Pakistan Economic Partnership infrastructure project and the construction of a gas pipeline from the Islamic Republic of Iran. The former project is part of China's "One Belt, One Road" initiative, and consists of a network of highways, railways, and pipelines to connect Western China to the Arabian Sea through the Gwadar Port in Pakistan. Largely reflecting the impact of the pandemic, investment contracted by 17 percent in the two fiscal years to end-June 2020, and the recovery since then has been anemic. Government estimates for FY2021/22 suggest that investment was still 11 percent below its FY2017/18 peak. Severe flooding in 2022 is forecast to set fixed investment back even further in the next two years.

In Sri Lanka, investment growth averaged about 5 percent a year in 2000-21, with expanding infrastructure investment partly financed by rising external debt. A balance of payments crisis erupted in mid-2022, and with international reserves down to a quarter of their pre-pandemic (end-2019) level, the country abandoned its exchange rate peg and ceased external debt repayments. With the currency depreciating rapidly, inflation surged. Recurring electricity blackouts and an inability to import sufficient essentials, including food and energy, added to the country's challenges. Debt restructuring will be necessary to start the process of fiscal rehabilitation and macroeconomic stabilization. The crisis has significantly impaired the outlook for investment, which is expected in 2023 to have fallen back to levels last seen over a decade ago.

9.3 Regional investment needs

South Asia is the second most densely populated region in the world, behind East Asia and the Pacific, with large and pressing infrastructure investment needs (figure 16). Progress in meeting these needs can promote inclusive, sustainable economic growth and private sector activity. Investment needs have increased as a result of the effects of the COVID-19 pandemic, the food and energy security concerns that have arisen from the war in Ukraine, and the challenges of climate change. There is an interplay between recovery from the pandemic and action on climate change, in that investments promoting economic recovery from the pandemic and preparing for future pandemics can be aligned with better climate outcomes and help to decouple future growth from fossil fuels. This is particularly important given the region's high emissions intensity and susceptibility to extreme weather events.

Responding to the pandemic. The pandemic has cost lives, raised morbidity, and reduced educational opportunities for millions of children. A robust investment response is required to reverse many of the pandemic's effects. For example, one estimate suggests that because of the pandemic, average additional (public and private) spending of 2.5 percent of GDP a year through 2030 is needed to meet several sustainable development goals (SDGs; Benedek et al. 2021).

Pandemic-related school closures in SAR averaged 70 weeks through March 2022— much higher than the global average of 41 weeks—and kept nearly 400 million children out of school for significant periods (UNESCO and UNICEF 2021). The loss in educational opportunities will tend to undermine poverty reduction, significantly impair the lifetime earnings of those affected, and reduce social mobility across generations (UNESCO, UNICEF, and World Bank 2021; World Bank 2021g, 2022j). The impact of the pandemic was especially severe for the informally employed, who made up 59 percent of the region's total employment, on average, in 2010-18, significantly more than in other EMDE regions (Ohnsorge and Yu 2021). Income losses were severe given widespread informality in the services sector and the limited ability of informal firms to access government support (Apedo-Amah et al. 2020; World Bank 2020e). South Asia's informal labor force consists predominantly of low-skilled, rural, female, or young workers.

The education crisis caused by the pandemic calls for an urgent response to ensure that learning environments are safe, and learners marginalized by the pandemic are identified and enabled to catch up. To achieve these objectives, investment could focus on providing adequate infrastructure to ensure access to clean water, sanitation, and hygiene facilities; improving communication and information sharing between health and education authorities; and establishing infrastructure, including data and technology, to identify, target, and empower marginalized learners (UNESCO and UNICEF 2021; Van Cappelle et al. 2021; Van Cappelle, Chopra, and Ackers 2021).

By late 2022, the pandemic had officially led to over 600,000 deaths in SAR (about one-tenth of COVID-19 deaths globally); undermined people's ability to work, study, and care for families; and stretched healthcare capacity. The region entered the pandemic with underfunded healthcare systems: the median public health expenditure-to-income ratio

was less than half the average for all EMDEs, and there were only 0.6 hospital beds per 1,000 people, the lowest of all EMDE regions. Along with these challenges, medical and personal protective equipment, and testing and tracing infrastructure, remain inadequate. While many countries in SAR had emergency response plans in place before the pandemic, many were designed to address natural disasters. Investing in adequate preparedness, both in fixed investment and beyond, for future pandemics remains vital.

Addressing climate change. The region is one of the most vulnerable to climate-change-induced increases in poverty, disease, child mortality, and food prices, with half its population living in areas expected to become climate hot spots (Amarnath et al. 2017; Hallegatte et al. 2016; Jafino et al. 2020; Mani et al. 2018). Projected losses from climate change for SAR economies are above the global average—as high as 18 percent of GDP per capita for Bhutan (Kahn et al. 2021). Elevated vulnerability, combined with continuing high global greenhouse gas emissions, make investing in mitigation and adaptation key to ensuring long-term sustainable growth (Agarwal et al 2021; World Bank 2022k).[12] The International Finance Corporation in 2017 identified $3.4 trillion in 'climate-smart' investment opportunities in SAR from 2018 to 2030, including in energy-efficient buildings, electric vehicles, and green transport infrastructure (IFC 2017).

While the investment needed to achieve climate goals can be difficult to quantify precisely, the areas of investment needs are clear. Rising temperatures and increasingly erratic rainfall will exacerbate food and water shortages, lower agricultural productivity, and increase food price volatility. Agriculture is the sector most vulnerable to climate change, and it accounts for 40 percent of employment and 20 percent of output in SAR. To counter the climate risks to the sector, the region could focus on investing in more efficient growing methods, shifting to climate-smart agriculture to reduce water use and greenhouse gas emissions, and increasing spending on agricultural research and development (Fuglie et al. 2020). In addition, forest restoration can act as a carbon sink to help offset emissions and create jobs, and such policies as water and energy subsidies and grain price guarantees could be adjusted to improve resource allocation.

Air pollution from burning fossil fuels remains a significant cause of climate change and is estimated to have contributed to over 1 million premature deaths in SAR in 2018 (Myllyvirta 2020). Fossil fuels also form a large part of the region's import bill. Greater investment in renewable energy sources would reduce air pollution leading to lower public health burdens, increase energy security, and minimize energy import dependence.

SAR's rapid rate of urbanization—the second-fastest among EMDE regions, into cities that are among the most exposed to climate risk—calls for investment in climate change adaptation. This includes improvements in land-use and zoning policies, investment in resilient transport and building infrastructure and enhanced service delivery, and improved disaster preparedness.

[12] South Asia accounted for about 9 percent of global greenhouse gases in 2018 (Friedlingstein et al. 2022).

Infrastructure investment needs. Despite significant progress in expanding infrastructure in many SAR economies, both the quality and quantity of infrastructure in the region are still lower than in other EMDE regions (Bizimana et al. 2021). SAR is also one of the least economically integrated regions in the world, with inadequate transport and power infrastructure partly to blame (ADB 2009; World Bank 2016d). Rozenberg and Fay (2019) estimate that the average annual investment needed in South Asia to meet infrastructure-related SDGs by 2030 is 7.5 percent of GDP—the second highest among EMDE regions. The ADB has estimated that this rises to 8.8 percent of GDP if climate needs are included (ADB 2017).

In India, the National Infrastructure Pipeline task force identified in 2020 plans for investments amounting to the equivalent of about half of the country's FY2021 GDP on infrastructure projects between FY2019-FY2025. The investments are in roads, railways, air and seaports, energy, and other infrastructure. Investment in the power sector is needed to meet growing energy demands, with total installed capacity expected to increase by two-thirds by 2025. Investment is also needed to shift energy production to renewable sources, improve access, and increase the efficiency of the sector. Electricity distribution loss is 19 percent in India, more than double the global average.

Bangladesh's infrastructure needs various improvements. Poor logistics currently hinder investment and international trade (World Bank 2021h). Logistic costs have been estimated to add 5-48 percent to production costs across sectors owing to congestion, poor reliability, poor quality, and widespread informality (World Bank 2021h). While investment in the power sector has effectively met capacity needs over the last decade, further investment is needed to connect households to energy providers, diversify sources of power, and meet future needs (Government of Bangladesh 2020). To meet demand for electricity through 2030, investment equivalent to 15 percent of FY2022 GDP is estimated to be needed in the coming years (Government of Bangladesh 2020). In the transport sector, the road network remains inadequate, although investment in other modes of transport could reduce need. The 8th Five Year Plan estimates that to achieve its goals, investment would need to increase by 5 percent of GDP between FY2020 to FY2025, mainly in the private sector and through foreign direct investment.

Investment in human capital. Investment needs in health and education go beyond addressing the damage inflicted by the pandemic. Many countries in the region perform poorly on achieving universal health coverage. The region suffers from too few healthcare professionals, low spending on public health—only 2 percent of GDP, below all other EMDE regions—and shortages of healthcare equipment (World Bank 2021g). The lack of adequate healthcare, together with high poverty levels and inadequate nutrition, means that about one-third of children in the region are stunted and four percent do not live past the age of five. In education, learning gaps remain wide, indicating a need for additional resources to empower teachers, address geographic inequalities, and adopt new methods of teaching. Thus, countries in the region generally fall short in enabling citizens to meet their productive potential. A child born in SAR is expected to attain only 48 percent of his or her productive potential, the second worst performance among EMDE

regions. Sizable additional outlays on human capital investment could alleviate poverty and increase the productive potential of millions of citizens (Estache and Garsous 2012; Romer 2016).

9.4 Regional policy priorities

With limited fiscal space in the region, meeting investment needs will be challenging. It will require reforms that reduce longstanding obstacles to the growth of productivity and investment, and more efficient spending. A targeted, multi-pronged, policy strategy is needed that encourages investment by increasing returns on capital, and by expanding sources of financing (Henckel and Mckibbin, 2017; Nataraj 2007).

Public investment promoting private investment. Under the right conditions, public investment can crowd-in private investment (World Bank 2016c).[13] For example, private firms may be able to reap the benefits of scale if public infrastructure facilitates market access (Calderón, Moral-Benitob, and Servéna 2010). Literature on India appears to suggest a positive crowding-in effect (Bahal, Raissi, and Tulin 2015; Jesintha and Sathanapriya 2011; World Bank 2006).

Efficiency of public investment. On average, countries lose about one-third of public investment expenditures through inefficiencies, and the rate is highest among Asian economies (Baum, Mogues, and Verdier 2020). One way to boost the efficiency of public investment would be to reform weak public investment management practices (Vu, Bizimana, and Nozaki 2020). Reforms could include improving project appraisal (with better technical, economic, and financial analysis), improving project selection (by centralizing project review and increasing transparency), improving maintenance funding throughout the project's life, and creating up-to-date and efficient registries to monitor public assets.

Financing. Financing for public and private investment can be expanded in several ways to help meet investment needs (ADB 2009, 2012, 2022; Andres, Biller, and Dappe 2014; Dobbs et al. 2013). First, public-private partnerships may offer gains in efficiency and cost-effectiveness (for example, by limiting the increase in public debt), raise economic growth, and at the same time alleviate fiscal pressures (Anadon and Surana 2015; Bizimana et al. 2021; Lee et al. 2018; Nataraj 2007). Such partnerships can draw private funding and expertise into socially desirable projects that would not be undertaken by the private sector alone because of low private rates of return; the provision of water services and sanitation projects are good examples. Between 2010 and 2021, one-fifth of EMDE infrastructure projects with private participation were in South Asia.

Second, domestic savings can be better mobilized both by improving access to the financial system (for example, encouraging pension funds) and by broadening and raising government revenue collection. Goods and services taxes implemented in India in 2017,

[13] Public investment could also lead to crowding-out of private investment, for example in Pakistan (World Bank 2016e).

for example, doubled India's tax base in four years. Other tax reforms could increase tax revenue by 3-4 percentage points of GDP and thus provide additional funding for investment (ADB 2022).

Third, banks' lending capacity can be increased through action to strengthen their balance sheets, and the efficiency of capital allocation can be improved by increasing the commercial orientation of banks, including through privatization and governance reforms.

Fourth, increasing the commercial orientation of state-owned enterprises, through better regulation, privatization, or concessions to private investors, could raise efficiency and increase investment.

Fifth, asset-liability mismatches in government accounts can be reduced by tapping capital markets (for example, by issuing infrastructure bonds) rather than relying on bank lending for infrastructure-related projects.

Finally, foreign direct investment (FDI) in infrastructure can be encouraged by removing regulatory obstacles to conducting business in restricted sectors (Kirkpatrick, Parker, and Zhang 2006; World Bank 2000). Scope for raising FDI inflows in SAR is indicated by the fact that they averaged only 1.5 percent of GDP in 2000-21, tied with the Middle East and North Africa for the lowest among EMDE regions.

Reforms to foster an enabling environment for private investment. SAR's business climate ranks just ahead of Sub-Saharan Africa, but behind other EMDE regions (Lopez, Acevedo, Medvedev, and Palmade 2016; World Bank 2016f). In Bangladesh, India, and Pakistan, entry and administrative barriers have hampered investment in construction, finance, retail and wholesale trade, telecommunications, and health care. In India, the burden of regulatory compliance, delays in utility connections, difficulties in obtaining permits to start and operate a business, high taxes, and rigid labor markets raise the cost of doing business and discourage investment (Pachouri and Sharma 2016; Shirke and Srija 2014). Also in India, investors point to restrictive labor laws, which limit employment opportunities for women and discourage the adoption of new technologies. as factors reducing productivity in manufacturing. During 2019-20, India consolidated, rationalized, and simplified several labor laws.

Reforms that promote international competitiveness and reduce barriers to international trade can encourage investment in export-oriented and import-competing sectors (Alfaro and Chari 2014). More generally, reforms to reduce regulations that are unnecessarily cumbersome (for example, in certain aspects of land acquisition and environmental impact assessments) and to strengthen public-private partnership legislation (for example, consistent regulations, transparent bidding procedures) can foster investment. Strengthening public investment management processes, integrating infrastructure projects into budget cycles, and curbing corruption in infrastructure projects will not only improve the quality of infrastructure, but also improve the efficiency of government spending (Ali 2009; KPMG 2015). In several countries, stalled reforms on land acquisition,

including in relation to compensation and environmental clearances remain an impediment to infrastructure-related private investment.

Reforms to enhance the efficiency of labor markets—encouraging greater female labor market participation, facilitating hiring and redundancy procedures, promoting training and retraining, and reducing taxes on low-paid workers—would increase the mobility and flexibility of the workforce (Shirke and Srija 2014). Should profits and household incomes subsequently rise, businesses will be incentivized to expand operations.

Regional integration. Trade within the SAR region is less than a third of its potential, limiting inflows of FDI as well as gains from trade (Kathuria, Yatawara, and Zhu 2021). Security challenges and geopolitical tensions remain an obstacle to a more conducive investment climate, especially for cross-border projects that could increase regional economic integration (Dash, Nafaraj, and Sahoo 2014). To create an environment more conducive to higher investment, the region could relax restrictive and opaque outward FDI regimes. Decreasing dispute resolution times would also help, as would rationalizing land ownership and sector-specific restrictions. Economies could also facilitate and promote inward FDI by improving cross-border networks and information sharing. This might lift intraregional inward FDI, which currently makes up less than 1 percent of total inward FDI. Finally, bringing down trade costs, averaging the equivalent of 134 percent tariffs in SAR and the highest among EMDE regions, could be achieved partly through digitalization, streamlining border and customs procedures, investing in ports and connectivity, and promoting regional trade agreements (Ohnsorge, Quaglietti, and Rastogi 2021).

10. Sub-Saharan Africa

10.1 Introduction

Sub-Saharan Africa (SSA) accounted for about 3 percent of EMDE investment during 2011-21, with average annual investment growth of 3.3 percent. Following the commodity price collapse of 2014-16, SSA suffered the sharpest investment growth slowdown among EMDE regions, from an average of 5.9 percent a year in 2011-14 to a decline of 0.3 percent a year in 2015-17, well below the long-term (2000-21) average annual growth rate of 4.6 percent. Investment growth picked up to 6.3 percent a year during 2018-19, before being halted by the COVID-19 pandemic. This triggered a 5.8 percent drop in investment in the region in 2020, much larger than the 1.5 percent decline in EMDEs as a whole. The subsequent recovery has been tepid.

Much of the slowdown in investment growth in SSA since 2014 is accounted for by weakness in South Africa and the oil exporters, especially Angola and, to a lesser extent, Nigeria. Even by late 2021, investment in Nigeria and South Africa, the region's two largest economies, was 3 percent and 20 percent lower, respectively, than in 2014. Investment declined in South Africa every year between 2016 and 2020 against the backdrop of a major deterioration in the country's economic performance. In 2011, South Africa accounted for almost a quarter of all investment spending in SSA; by 2020, its

share had fallen to about 16 percent. Elsewhere in SSA, investment growth slowed in commodity-dependent economies in the wake of the declines in commodity prices in 2014-16. For the region as a whole, investment growth slowdowns reflected not only a sharp terms of trade deterioration but also domestic political tensions and fiscal consolidation in several countries to stabilize public debt-to-GDP ratios. Such increased fiscal stringency was a necessary reaction to the prior buildup of economic imbalances and vulnerabilities, particularly rising public debt and current account deficits, during the rapid growth of the early 2010s, which had been generated partly by debt-financed public investment booms.

Since 2020, public investment has been constrained by a rapid buildup of government debt because of the COVID-19 pandemic, renewed fiscal pressures arising from weaker revenue growth and the repercussions of Russia's invasion of Ukraine, and the tightening of global financing conditions. Although investment growth is expected to be close to its long-term trend rate in 2022-23, this will be insufficient to meet investment needs. For example, the region's infrastructure investment needs are the largest among EMDE regions and are estimated to be roughly four times recent infrastructure spending. SSA needs a substantial acceleration in investment, not only in infrastructure but also in agriculture, health and education, and social protection. An acceleration in investment would also reinvigorate economic growth and reverse pandemic-induced increases in poverty and inequality. Given fiscal constraints, it has become urgent to mobilize alternative sources of funding, including from the domestic private sector— private sector participation in infrastructure projects in the region is growing but remains limited—and the international donor community.

To boost both public and private investment, SSA governments need to take action on a wide range of policies. These include efforts to improve tax collection to generate revenue for public investment, improve spending efficiency, enhance private-public partnership (PPP) frameworks to encourage more private sector involvement in infrastructure projects, strengthen the governance and efficiency of state-owned enterprises, advance efforts to deepen regional integration to open opportunities for growth-enhancing intraregional infrastructure projects, and improve the business environment to encourage private enterprise and private investment growth.

10.2 Evolution of regional investment

Extractive industries—minerals, metals, oil, and gas—play an important role in many resource-intensive economies in SSA. The resulting exposure to fluctuations in the global prices of these commodities, combined with the lumpiness of the large capital outlays intrinsic to the exploration-to-production cycles in extractive industries, makes economic growth and investment particularly volatile across the region, especially in SSA's less diversified economies. Foreign direct investment (FDI) inflows into the region tend to be pro-cyclical and concentrated in extractive sectors, with limited technology transfers or growth spillovers to non-resource sectors. Extractive industries are also a major source of fiscal revenues for many SSA governments, which often struggle to collect tax revenue

from non-resource sectors. Public investment surges, often debt- financed during periods of booming commodity prices, tend to fizzle out quickly when external conditions deteriorate.

For SSA as a whole, investment growth averaged 3.3 percent a year in 2011-21—almost half of its annual average in 2000-08 (figure 17.A). Rapid public investment growth cooled after 2014, and private investment decelerated sharply. For example, investment growth in Ethiopia averaged almost 28 percent a year in 2008-14, driven by exceptionally rapid public infrastructure investment (World Bank 2015). However, investment growth slowed sharply to just 9.3 percent in 2015-21 because of elevated public sector debt, unfavorable external environment, and rising insecurity. Severe economic slowdowns in the region's two largest economies, Nigeria and South Africa, had adverse spillovers on investment across the region as well. In 2021, investment growth was below its 2000-21 average in almost half of SSA countries, and negative in about 16 percent of countries (figure 17.B).

Investment fell by 0.7 percent per year, on average, in South Africa in 2011-21, compared with over 9 percent average annual growth in 2000-08, reflecting a sharp deterioration in the country's economic fundamentals stemming from the lack of policies to tackle underlying structural constraints, including substantial inefficiencies in state-owned enterprises (SOEs), high unemployment, and the energy crisis triggered by worsening power cuts. Investment by SOEs has played a major role in South Africa, representing almost 45 percent of all public sector capital expenditure in 2014-20, although this share has declined over time. Much of the recent weakness in public investment spending can be attributed to Eskom, a public utility supplying electricity, which has had significant governance and profitability problems, although it still accounts for about a half of all capital expenditure by SOEs (Statistics South Africa 2021).

Among oil exporters, investment growth also slowed significantly after 2014 in Angola, Chad, and Nigeria, and turned negative in Equatorial Guinea, where oil production fell by nearly 60 percent from 2014 to 2021. The effects of the sharp decline in oil prices in the mid-2010s were exacerbated by combinations of weak business environments, new capital and foreign exchange controls (Angola, Nigeria), austerity measures to offset falling commodity revenues (Angola, Chad, Nigeria), and deteriorating security situations (Nigeria, Chad). Together, these weighed heavily on investor sentiment. Falling capital spending in the SSA oil sector also reflected a secular decline in oil production because of aging oil fields and increasing production costs; investment was further depressed in 2020 by pandemic-related stoppages, supply chain problems, and maintenance delays (Cherif and Matsumoto 2021). Fiscal space also diminished considerably for many of the region's oil producers, with sharp declines in tax revenues from the oil sector, which constrained public investment. Even so, in some countries (Cameroon, Gabon) large infrastructure investment programs continued, boosting investment growth despite declining oil industry investment.

As in SSA oil exporters, investment growth in other commodity-exporting countries slowed sharply in 2015-17. Strong economic growth during 2011-14 had been accompanied

by rapidly rising economic imbalances, including increasing private and public sector indebtedness and widening current account deficits. Pressures arising from these imbalances contributed to a broad-based investment growth slowdown when commodity prices fell during 2015-17. Other contributory factors included a weak economic recovery in the European Union (EU), slowing growth in China, tightening global financial conditions, and a weakening of SSA currencies. The EU, the United States, and China are the region's main sources of foreign investment, which cooled appreciably over the period and accelerated the decline in capital spending. Namibia, which relies on exports of such commodities as gold, copper, and uranium, illustrates these trends. In the early 2010s, investment accelerated amid a boom in mining and expansionary fiscal policy. But investment declined in every year between 2015 and 2021, as the government pursued fiscal consolidation to stabilize its debt-to-GDP ratio and as the growth of credit to the private sector slowed sharply (IMF 2019). As a result, investment in Namibia fell from about 36 percent of GDP in 2014 to just 14 percent of GDP in 2021.

Private investment in SSA was also held back by weakening FDI inflows to the region. FDI inflows to SSA excluding South Africa increased from 1.8 percent of GDP on average in 1990-99 to almost 3.0 percent of GDP in 2000-15 but then fell back to 2.1 percent of GDP in 2016-20 as commodity prices declined. After falling sharply in 2020, FDI inflows recovered somewhat in 2021 on higher commodity prices and muted global risk aversion, but in relation to GDP they remained at their lowest level in almost two decades. In US dollar terms, FDI inflows to SSA excluding South Africa in 2021 were still nearly 30 percent lower than in 2015 (figure 17.C).

In addition to the unfavorable external environment, the slowdown in investment growth after 2014 also reflected weakening domestic macroeconomic fundamentals and policies, and uncertainties related to poor institutional and legal frameworks in some countries. Deteriorating fiscal and external current account positions across the region limited the ability of policy makers in some countries to conduct countercyclical policies to support economic activity. In parallel, rising vulnerabilities weighed on capital inflows. Large current account deficits and falling capital inflows put pressure on exchange rates, and increases in inflation, reflecting deep currency depreciations in some cases, prompted central banks in several commodity exporters to tighten policy, making it more costly for firms to invest.

In many countries, particularly among resource-rich economies, there has been a failure to implement basic reforms to improve the business environment and rule of law. Uncertainty about the enforcement of contracts and property rights, and the direction of policies, has added to weak capacity for investment planning and execution. These factors have played a significant role in depressing investment across the region.

On the fiscal side, debt-financed public investment spending failed to sustain investment growth momentum when commodity prices collapsed. In the early 2010s, a favorable external environment, increased financial market access, and growing bilateral lending by China encouraged many SSA governments to scale up public investment to help close

large infrastructure gaps. These public investment booms temporarily supported growth in many countries but also resulted in sharp increases in public debt. Indeed, after declining significantly following the IMF and World Bank's Heavily Indebted Poor Countries Initiative and the IMF's Multilateral Debt Relief Initiative, public debt in SSA began to rise again in 2013 (figure 17.D). As countries shifted towards non- concessional borrowing, debt servicing costs rose and currencies depreciated; in some countries, official development assistance declined (Agou et al. 2019).

The COVID-19 pandemic subsequently saw public debt-to-GDP ratios again rise sharply across the region, with many governments prioritizing current spending over public investment. In 2020, general government gross debt in SSA increased by over 10 percent of GDP, on average, to 72 percent of GDP, higher than the 64 percent of GDP reached in 2020 by other EMDEs. Surging food, fertilizer, and fuel prices, partly owing to Russia's invasion of Ukraine, have heightened fiscal pressures in many countries, constraining the ability of governments to increase public investment. More recently, rising global borrowing costs coupled with a drop in bilateral lending from China have tightened access to external finance, posing further headwinds to investment (figure 17.E). Indeed, in 2022, international bond issuance by SSA countries fell by over 60 percent (figure 17.F). Although this mirrors the overall trend of weak EMDE bond issuance, the decline was the second steepest among EMDE regions, after the Middle East and North Africa.

10.3 Regional investment needs

SSA's strategic priority objectives—to reinvigorate economic growth and reduce poverty—will require investments in agriculture, infrastructure, health and education, and social protection (World Bank 2022k). The COVID-19 pandemic has dealt a serious blow to SSA's progress in poverty reduction and income convergence with advanced economies, hitting the region's low-income countries (LICs) particularly hard. Additional financing equivalent to 27-37 percent of SSA's 2022 GDP may be needed by 2025 to return SSA to its pre-pandemic income convergence path (IMF 2021b).

In *agriculture*, which provides a livelihood for almost two-thirds of SSA's population, investment in both physical capital and technology is needed to raise labor productivity. Increasing investment in agricultural R&D is not only essential for boosting growth in the region but also for accelerating the transformation of farming in SSA toward more productive and resilient food systems (Fuglie et al. 2020). Infrastructure investment is also needed to support agricultural productivity growth and export diversification. This includes investment to build or improve irrigation, road, and storage infrastructure, and to develop higher value chains in agriculture.

Infrastructure investment more broadly is a key driver of growth in SSA. It has been estimated to account for over half of the improvements in economic growth in SSA in the last decade (AfDB 2020). Several countries in the region have made progress in improving their infrastructure. Ethiopia and Tanzania, for example, increased public spending on

large infrastructure projects and improved the quality of existing infrastructure assets, which contributed to their strong pre-pandemic growth performance.

Across the region, advances in *infrastructure for information and communication technology (ICT)* and connectivity, primarily reflecting an unprecedented increase in mobile phone subscriptions, have helped move millions of households out of extreme poverty, particularly in rural areas (Bahia et al. 2020; World Bank 2021i).

By contrast, progress in *power infrastructure* has been far more limited, with power shortages and blackouts continuing to constrain economic activity across the region, especially in South Africa. Only about one-half of households have access to electricity in SSA compared to over 90 percent worldwide. Deterioration in the quantity and quality of power infrastructure has increased the need for investment in renewable energies. These have the potential to improve access to electricity while addressing climate change challenges.

Transport infrastructure development has also been limited. In many countries, only a small proportion of the road network is paved, and railway development is broadly inadequate. Higher-quality transportation infrastructure will be key to boosting intra-Africa trade, fostering the development of regional supply chains, and enhancing SSA's integration into the global economy. The African Continental Free Trade Agreement (AfCFTA) could catalyze the modernization of SSA transportation networks and facilitate cross-country cooperation on large intra-regional transportation projects. For example, the implementation of AfCFTA could increase demand for intra-Africa freight by more than a quarter, which would require substantial improvement to road and rail connectivity in SSA (UNECA 2022).

The region's annual infrastructure investment needs are estimated at over 9 percent of GDP—the largest among all EMDE regions and nearly four times estimated current infrastructure spending in SSA (figure 18.A; Fay et al. 2019; Rozenberg and Fay 2019). The gap between needed and actual investment reflects insufficient funding for new projects, limited private sector participation, and inefficient spending on the operation and maintenance of infrastructure assets.

Many of the region's economies rely on official external funding sources—multilateral and bilateral—to help finance investment in infrastructure. 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 has also emerged as a major bilateral source of infrastructure finance, increasingly so in the energy sector, particularly hydropower.

Private sector participation in infrastructure investment has also increased recently following a large decline in the mid-2010s. Private participation in 2020 accounted for nearly one fourth of infrastructure funding commitments compared to just 3 percent on average in 2016-17, with a large share of the investments going to the telecom, energy, and transport sectors (ICA 2022).

However, despite improved access to infrastructure financing in the late 2010s, bolstered by increased private sector participation, substantial infrastructure financing gaps remain (ICA 2018). The pandemic has widened these gaps further, while rising global fiscal pressures have seen multilateral and bilateral lending to SSA decline. Lending from China has also weakened substantially on growing concerns about mounting public debt and increasing credit risks in SSA.

Across the region, investments are needed to raise the quality of *education and skills*, improve the *health* of populations, and expand access to basic public services, notably sanitation. Despite recent progress, SSA is behind other regions in human capital accumulation, partly because of insufficient investment spending on education and health (Figure 18.C.D).

Finally, the COVID-19 pandemic has illustrated the importance of *social safety* nets as an effective tool to respond to crises. Investments in social protection could improve economic resilience, reduce poverty, and decrease income inequality across the region. Many SSA governments have achieved some progress in building more responsive, efficient, and inclusive social safety nets. However, population coverage remains low, partly because of the high prevalence of informality, leaving many vulnerable populations exposed to income and consumptions shocks, such as, for example, during the recent surge in food and fuel prices.

10.4 Regional policy priorities

The COVID-19 pandemic and recent deterioration in the growth outlook for many SSA economies have created formidable challenges to the aim of strengthening the growth of investment, and particularly to the financing of infrastructure investment, in the region. In 2020, many countries diverted already limited public resources from infrastructure projects to emergency spending on health and support for demand. Lockdowns, travel restrictions, supply chain disruptions, and higher input costs resulted in delays in project preparation and implementation. Since 2021, tightening global financing conditions and investment rating downgrades have raised borrowing costs and complicated access to international financial markets. As a result, funding commitments for infrastructure investment in SSA, after exceeding $100 billion in 2018 for the first time, have declined, leaving many untapped opportunities, including in renewable energy, climate resilience, digitalization, and agriculture, as well as other areas that can support private sector development.

On a positive note, innovative financing solutions for infrastructure investment that mitigate key risk factors have been spreading rapidly in SSA. 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 (AfDB 2022).

Nevertheless, financing investment projects remains challenging. Private investment has become more significant in a broad range of countries, albeit mainly in ICT. Despite the

rising importance of private finance (with private funding commitments for infrastructure investment having reached $19 billion in 2020, its highest ever level) and external finance, public sector budgets remain the primary source of funding for infrastructure investment in the region, accounting for over 41 percent of all infrastructure spending commitments in 2020 (ICA 2022). Countries across the region finance about 65 percent of their infrastructure expenditures with domestic resources. In many countries, the fiscal space created by debt relief for heavily indebted poor countries, together with high commodity prices, facilitated these expenditures in the early 2010s. Other countries took advantage of improved access to markets and low interest rates to issue eurobonds to finance infrastructure in the late 2010s. However, fiscal space has since diminished substantially across the region, both because of the rapid public debt build-up during the COVID-19 pandemic and more recently due to tightening global financing conditions and budgetary pressures to offset surging living costs, especially in LICs.

The capacity of countries in the region to use resources effectively for infrastructure investment remains a critical issue as well. The efficiency of public investment in SSA lags that in other EMDEs, reflecting poor project selection; weak enforcement of procurement procedures; failure to complete more impactful long-term projects; inadequate infrastructure-policy frameworks; and weak capacity to assess key technical, financial, and fiscal risks associated with large-scale projects. These weaknesses point to a need to increase the capacity to scale up investment in public infrastructure in the region.

SSA's infrastructure development faces major geographic and physical challenges, reflecting the region's low population density, low urbanization, large number of landlocked countries, and substantial vulnerability to climate change (Rigaud et al. 2018). Also, in the sizable number of small countries, it is difficult to exploit economies of scale. Adding to the challenges are inadequate trade logistics, which lag other EMDE regions. That said, large gains may still be possible through deeper regional integration of transportation and customs infrastructure, including simplification and standardization of regulations and procedures.

There are several policy areas where reforms can help address investment needs and ensure sustainable financing:

- *Sustaining public investment.* Domestic fiscal resources—tax and nontax revenues— are likely to remain the dominant source of financing for infrastructure investment. However, the median ratio of tax revenues to GDP is just 12 percent in SSA compared to 17 percent in other EMDEs. Enhancing domestic revenue mobilization would provide the most sustainable way of financing infrastructure investment. This would require improving tax collection as well as cost recovery. Without enhanced fiscal revenues, scaling up public investment spending will entail challenging tradeoffs to maintain debt sustainability, especially given that in many SSA countries public debt has increased over the past decade and that access to international borrowing has recently tightened substantially.

- *Encouraging greater private sector participation in infrastructure investment.* In 2021, investment commitments in infrastructure with private participation stood at just 0.3 percent of GDP in SSA compared to almost 0.5 percent of GDP in Europe and Central Asia and Latin America and the Caribbean (World Bank 2021j). Considering SSA's substantial infrastructure gaps, many countries need to expand the pipeline of projects that can attract private investors. Innovative funding and deal structures that utilize novel guarantees and risk-sharing mechanisms can be developed. Blended finance instruments can leverage private sector development financing. Public-private partnerships (PPPs) are a tested strategy that can be applied to numerous sectors. However, SSA has one of the lowest average scores across many dimensions of PPP preparation, management, and enabling laws and regulations (World Bank 2018g). The terms of partnerships need to be monitored carefully to ensure PPPs deliver competitive returns, and to prevent abuse of market power where natural monopolies are the best way to deliver infrastructure services. Governments can establish autonomous regulatory agencies to oversee private agents accordingly.
- *Strengthening public investment management systems.* Increased capacity in public financial management is critical for scaling up infrastructure investment. Countries can strengthen technical capacity for project selection and appraisal, and enhance the monitoring of project execution to minimize inefficiencies and overspending. The fiscal implications of public investment projects, including PPP, are often not adequately addressed. Contingent liabilities linked to public investments need to be incorporated into fiscal expenditure frameworks. Failure to do so could raise concerns about the sustainability of public debt. Operation and maintenance expenditures for existing infrastructure can be fully integrated into a medium-term expenditure framework to ensure adequate budgetary resources. Long-term credible national infrastructure strategies can provide signals that lead to improved financing and supply chain capacity, improving delivery prospects. Regrettably, in some countries, policy uncertainties still lead to the selection of low-impact infrastructure projects because of short political cycles.
- *Promoting regional integration of infrastructure.* A regional approach to the provision of infrastructure services is needed to help overcome the region's geographic and physical challenges, which are often amplified by poor transport infrastructure and nontariff barriers to trade (Gammadigbe 2021). This will require fostering effective regional institutions, setting shared regional investment priorities, harmonizing regulatory frameworks and administrative procedures, and facilitating cross-border infrastructure projects (Coulibaly, Kassa, and Zeufack 2022; World Bank 2020f). Further reductions in barriers to intra-regional trade—both tariff and non-tariff as is intended by the establishment of the African Continental Free Trade Area—can help facilitate intra-Africa trade and incentivize stronger cooperation on large intra- SSA infrastructure projects (World Bank 2020g).

11. Conclusion

In East Asia and the Pacific, After several decades of strong growth, investment in slowed significantly in 2011-21 mainly on account of China. Investment growth fell sharply in 2020, during the COVID-19 pandemic outbreak, but remained positive, unlike in other EMDE regions. It rebounded in 2021-22 thanks to pandemic-related stimulus spending. Investment in China is expected to resume its structural deceleration when policy support is withdrawn. In the region excluding China, investment growth, which was negative in 2020, is expected to continue its recovery in 2022-23, but at rates that will be insufficient to prevent a further widening of the gap between investment and its pre-pandemic trend. The prospect of weak investment growth in EAP over the medium term raises concerns about the region's potential output growth. Given the importance of investment in generating productivity and per capita income gains, it is important that impediments to productive investment growth, including financial impediments, be reduced.

Investment growth in Europe and Central Asia weakened from an average annual rate of 7.3 percent in 2000-10 to 3.1 percent a year in 2011-21. The slowdown resulted from overlapping crises and structural headwinds. Current and prospective investment needs are sizable across ECA. They are within reach in the European Union member states, while Ukraine's reconstruction challenges will be enormous. More broadly, increased investment is needed to support the green and digital transitions, improve social protection, foster private sector development, and close gaps in living standards between ECA and the EU.

Over 2000-21, investment growth in Latin America and the Caribbean averaged 2.7 percent a year but was volatile, buffeted by commodity price swings and financial cycles. The average investment-to-GDP ratio was the lowest among EMDE regions, with a falling ratio of public investment to GDP, despite substantial unmet needs—shown, for example, in mediocre logistics networks and high levels of urban congestion. The region spends proportionally more on human capital formation—education and healthcare—than its peers, but the value derived does not seem to have been commensurate, suggesting room for improved efficiency. Many policies could help raise physical and human capital investment and improve outcomes in terms of output and welfare. More public spending could be allocated to investment, while capacity for project preparation and delivery could be upgraded. On the private investment side, regulatory and competition frameworks could be improved, while investment-friendly reforms to tax frameworks could be considered. The region could harness significant green investment dividends from renewable energy and related electrification, but transitioning sustainably and equitably will be crucial. More fundamentally, without achieving higher domestic saving, LAC is unlikely to consistently reach the levels of investment needed to narrow substantially the income gap with advanced economies.

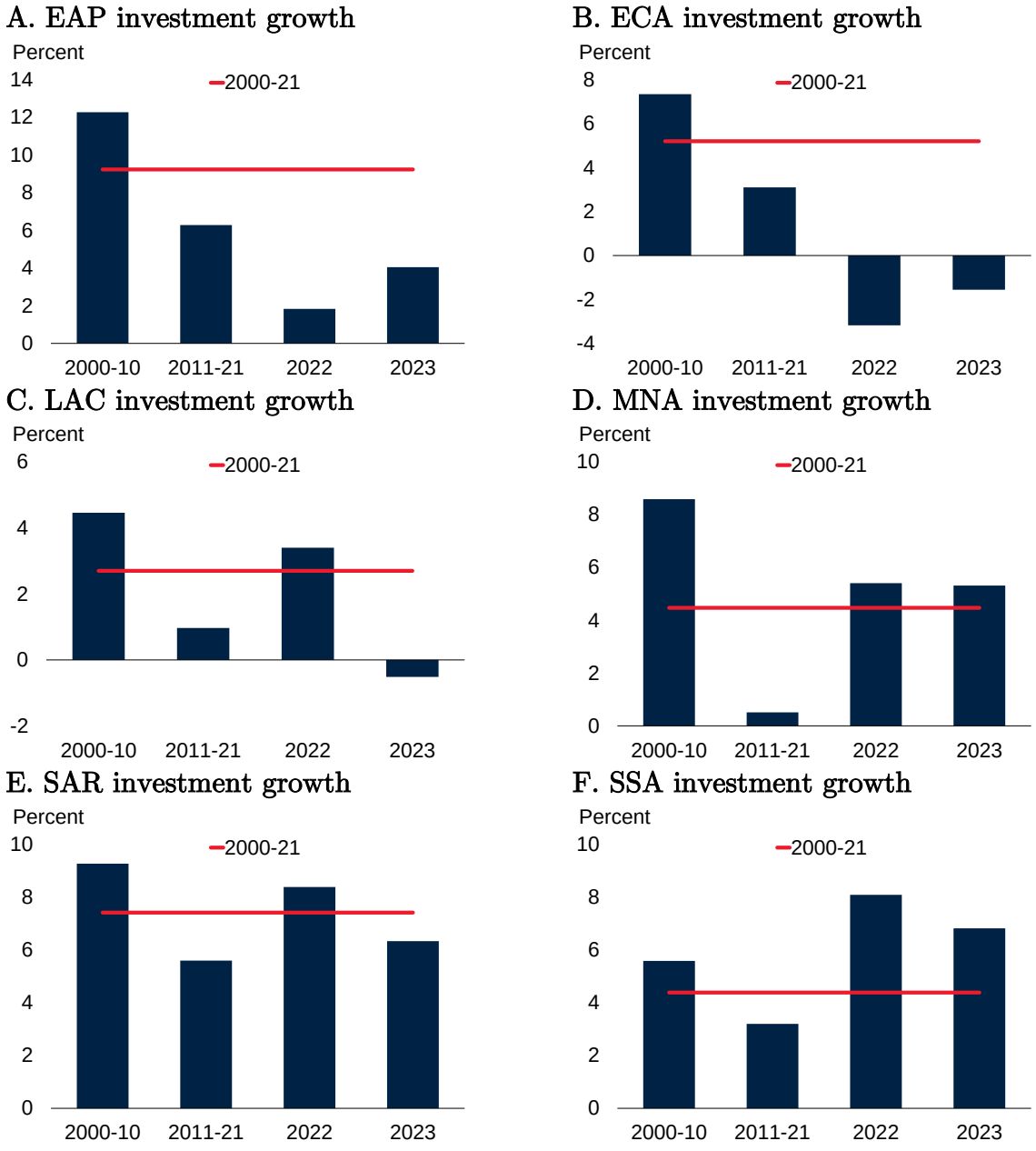
Investment growth has been anemic in the Middle East and North Africa in recent years. It was negative in six of the 11 years from 2011-21. Investment has been constrained by periods of declining oil prices, armed conflicts, political upheaval, and weak governance. Investment needs, while varying substantially between the wealthier countries of the Gulf

Cooperation Council and the countries marred by fragility and violence, remain generally sizeable, especially in the transport and energy sectors. The COVID-19 pandemic and climate change call for immediate investment to avoid losses to lives and livelihoods. Policies to encourage investment include rationalizing the role of the state in economic activity, incentivizing the private sector, and diversifying fossil fuel-reliant economies so that they are better positioned for the future.

Over 2000-21, investment in South Asia grew at the strong average rate of 8.0 percent a year, and the region's infrastructure gaps narrowed. But since 2020, investment growth has been dented by the COVID-19 pandemic and war in Ukraine. The demands of a rapidly growing population, often weak education standards, poor healthcare coverage, and high vulnerability to climate change indicate the need for a resumption of sustained, rapid investment growth. Given the limited fiscal space to increase public investment, policies that incentivize the private sector, increase social as well as private returns to investment, and promote greener growth would make filling these investment needs easier.

Many countries in Sub-Saharan Africa experienced a sharp deceleration in investment following the commodity price collapse of 2014-16. The subsequent rebound in 2018-19 was halted by the COVID-19 shock, which caused a significant decline in investment in 2020. The subsequent recovery has been tepid. SSA countries have some of the largest investment needs among EMDEs. The region needs to close infrastructure gaps, reverse the damage inflicted by the pandemic and the repercussions of the war in Ukraine, reduce vulnerabilities to climate change, and enhance food security. But without meaningful reforms and stronger international support, the prospects for stronger investment growth will remain very challenging amid increasing public debt and tightening access to external financing.

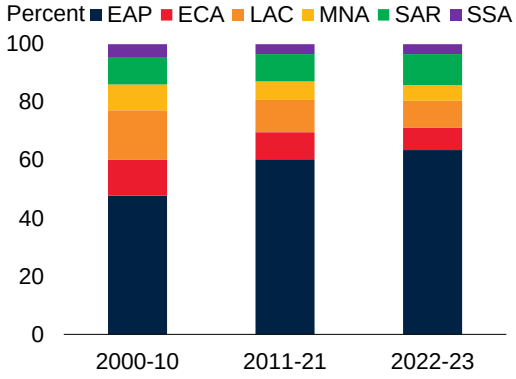
Figure 1: Average investment growth, by EMDE region



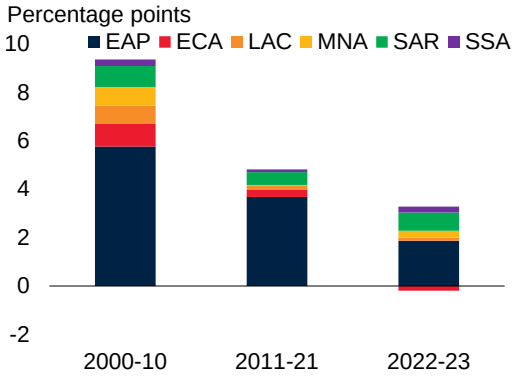
Sources: Haver Analytics; World Bank, World Development Indicators database; World Bank.
Notes: EMDEs = emerging market and developing economies; EAP = East Asia and Pacific; ECA = Europe and Central Asia; LAC =Latin America and the Caribbean; MNA = Middle East and North Africa; SAR = South Asia; SSA = Sub-Saharan Africa.
A.-F. Investment growth rates are estimates for 2022 and forecasts for 2023. Regional investment growth rates are calculated using real annual fixed investment in constant U.S. dollars as weights. Growth rates for 2000-10, 2011-21, and 2000-21 are geometric averages of regional annual investment growth. Sample includes 11 EAP, 13 ECA, 20 LAC, 11 MNA, 5 SAR, and 38 SSA economies.

Figure 2: Regional contributions to EMDE investment and investment growth

A. Share of EMDE investment



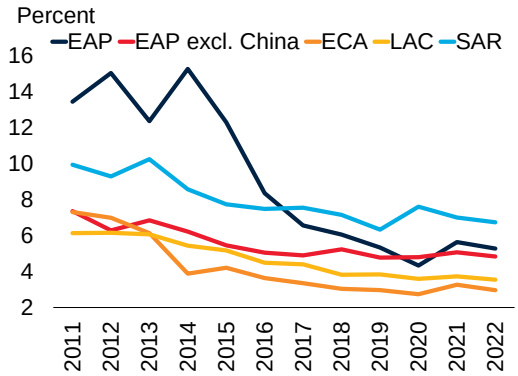
B. Contribution to EMDE investment growth



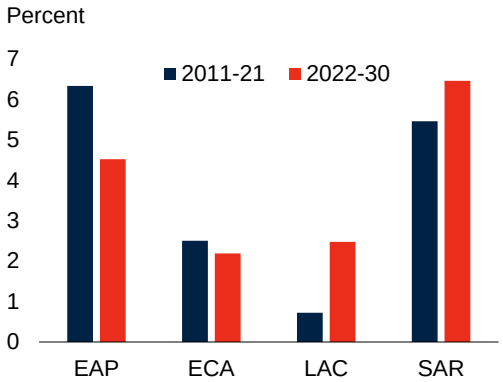
Sources: Haver Analytics; World Bank, World Development Indicators database; World Bank.
Note: EMDEs = emerging market and developing economies; EAP = East Asia and Pacific; ECA = Europe and Central Asia;
LAC = Latin America and the Caribbean; MNA = Middle East and North Africa; SAR = South Asia; SSA = Sub-Saharan Africa. 2022-23 indicates forecast.
A.B. Investment growth rates are estimates for 2022 and forecasts for 2023. Investment is real annual fixed investment in constant U.S. dollars as weights. Shares for 2000-10, 2011-21, and 2022-23 are simple averages of regional annual investment growth. Sample includes 11 EAP, 13 ECA, 20 LAC, 11 MNA, 5 SAR, and 38 SSA economies.

Figure 3: Regional investment growth prospects

A. Five-year ahead investment growth forecasts



B. Actual and forecast investment growth



Sources: Consensus Economics; World Bank.

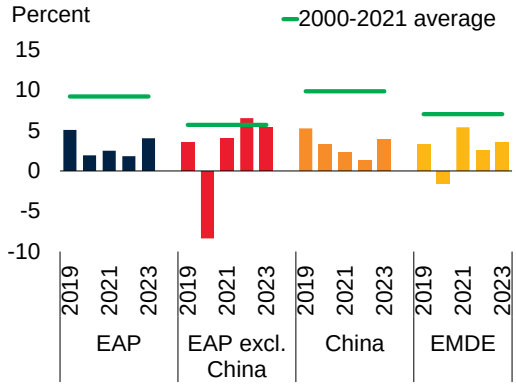
Note: EMDEs = emerging market and developing economies; EAP = East Asia and Pacific; ECA = Europe and Central Asia;
LAC = Latin America and the Caribbean; SAR = South Asia.

A. Figure shows the five-year-ahead forecasts for investment growth as of the year shown on the x-axis. Sample includes data for six economies in EAP (China, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam), seven in ECA (Bulgaria, Croatia, Hungary, Poland, Romania, Russia, and Ukraine), six in LAC (Argentina, Brazil, Chile, Colombia, Mexico, and Peru) and one in SAR (India).

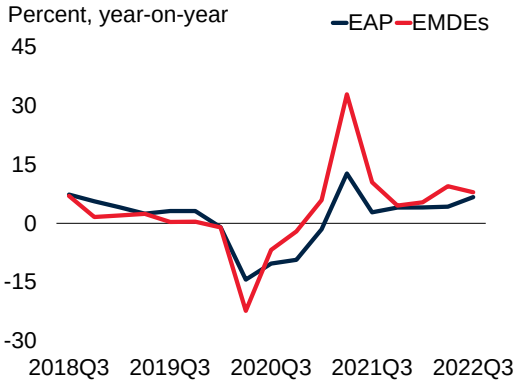
B. Geometric mean of actual investment growth in 2011-21 and of current-year to eight-year-ahead consensus forecasts for investment growth for 2022-30, as of September 2022. Includes 6 economies each in EAP, ECA, and LAC and 1 economy in SAR.

Figure 4: EAP: Investment growth

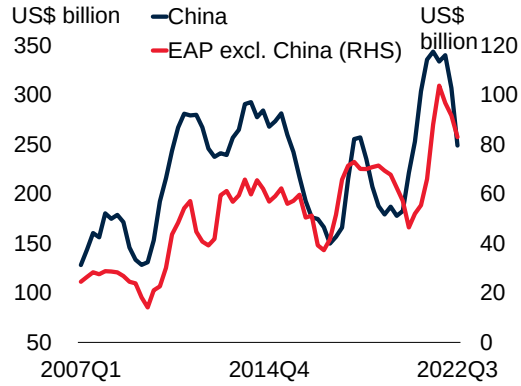
A. Investment growth



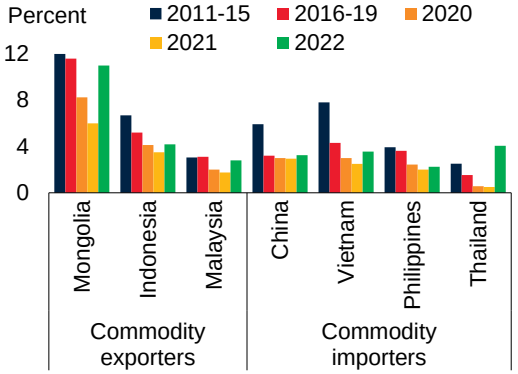
B. Investment growth from four quarters earlier



C. Foreign direct investment inflows



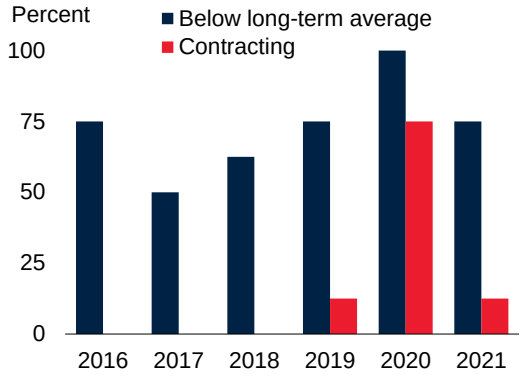
D. Monetary policy interest rates



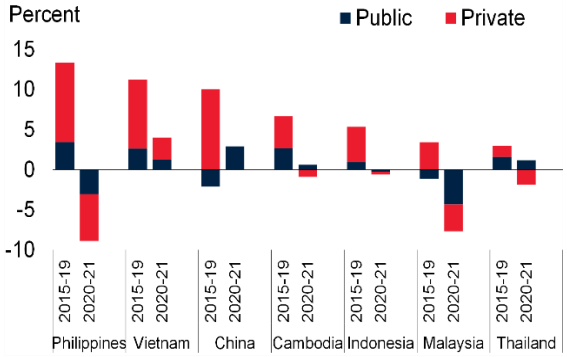
Sources: Haver Analytics; International Monetary Fund; United Nations Conference on Trade and Development; World Bank, World Development Indicators database; World Bank.
Note: EMDEs = emerging market and developing economies.
A. GDP-weighted averages. 2023 indicates forecast.
B. Includes 68 EMDEs, of which 7 are EAP.
C. EAP excl. China includes Indonesia, Cambodia, Lao PDR, Malaysia, Mongolia, the Philippines, Thailand, and Vietnam.
D. Policy rates are the average of end-of-period data. Last observation is September 2022.

Figure 5: EAP: Investment growth slowdown and investment needs

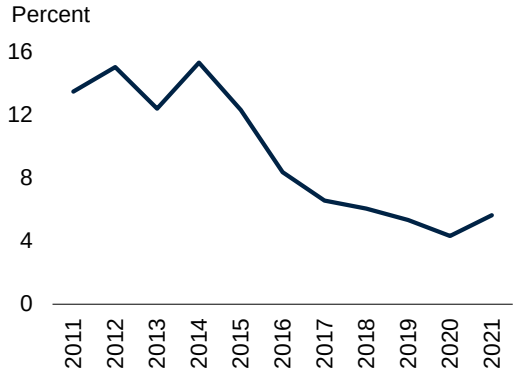
A. Share of countries with weak or negative investment growth



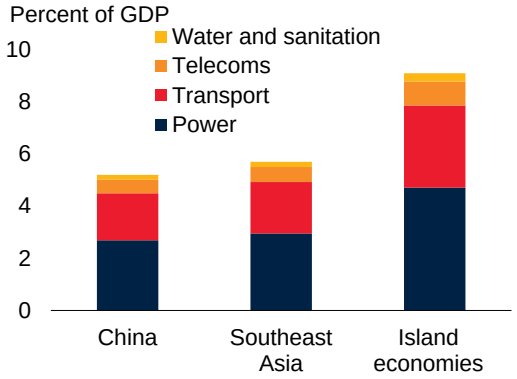
B. Contributions to investment growth



C. Five-year-ahead investment growth forecasts



D. Infrastructure investment needs



Sources: ADB (2017); Bhattacharya (2012); China Economic and Industry Data Database; Consensus Economics; General Statistics Office of Vietnam; Haver Analytics; Inderst (2016); International Monetary Fund, Investment and Capital Stock database; Rozenberg and Fay (2019); World Bank.

A. Share of countries in EAP region with investment growth below the long-term (2000-19) average or negative investment growth ("contracting").

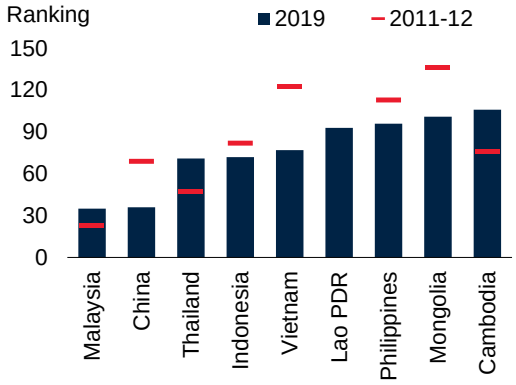
B. Weighted averages of gross fixed capital formation growth rates in the public and private sectors, respectively, in constant 2005 U.S. dollars. The sample includes nine EAP economies.

C. Five-year ahead Consensus Economic forecasts made in the year denoted. Weighted average.

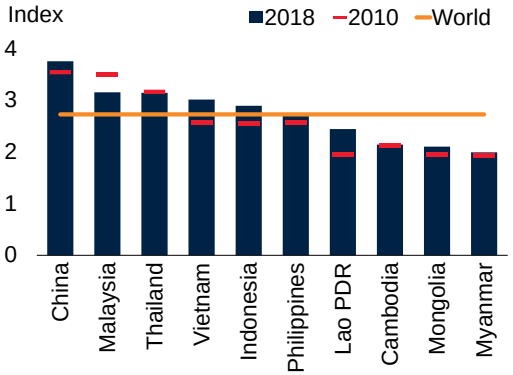
D. Climate-adjusted estimated infrastructure investment needs.

Figure 6: EAP: Infrastructure, environment, health, and education indicators

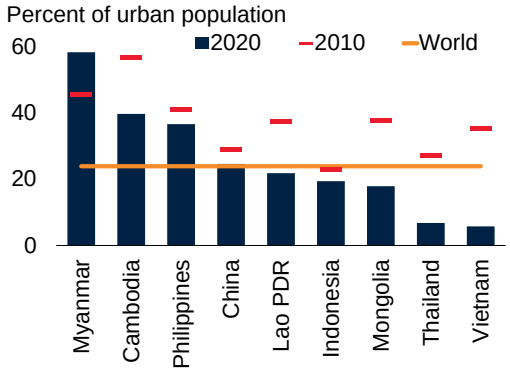
A. Ranking of overall infrastructure



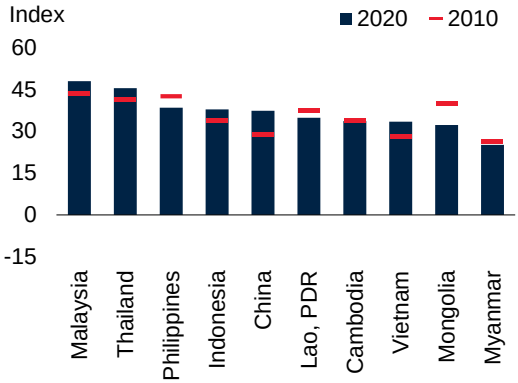
B. Quality of trade and transport-related infrastructure



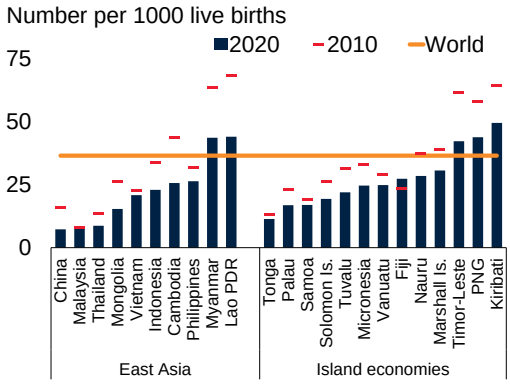
C. Share of urban population living in slums



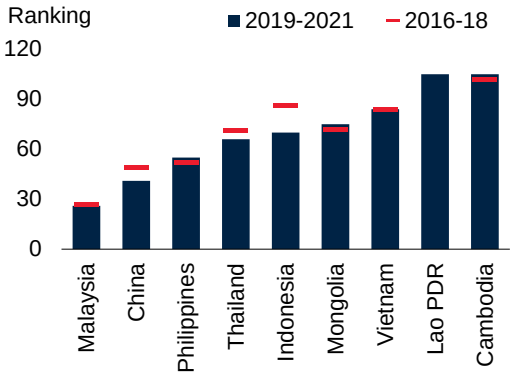
D. Environmental performance



E. Under-5 mortality rate



F. Ranking of capacity to retain or attract talent



Sources: Environmental Performance Index; World Economic Forum; World Bank, World Development Indicators database.

A. World Economic Forum ranking of 140 countries according to the quality of their infrastructure. 1= best, 140 = worst.

B. Logistic Performance Index Surveys conducted by World Bank and Turku School of Economics. 1 = extremely underdeveloped by international standards; 7 = well developed and efficient by international standards.

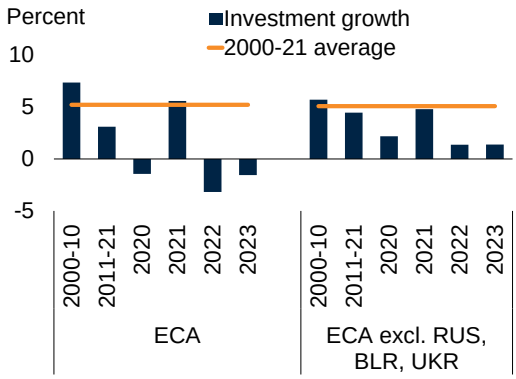
D. The Environmental Performance Index is constructed through the calculation and aggregation of 20 indicators reflecting national level environmental data, including child mortality, wastewater treatment, access to drinking water, access to sanitation, and air pollution (average exposure to PM2.5). These indicators use a "proximity-to-target" methodology, which assesses how close a particular country is to an identified policy target. Scores are then converted to a scale of 0 to 100, with 0 being the farthest from the target (worst observed value) and 100 being closest to the target (best observed value).

E. Probability of dying between birth and exactly five years of age expressed per 1000 live birth. Latest data are for 2020.

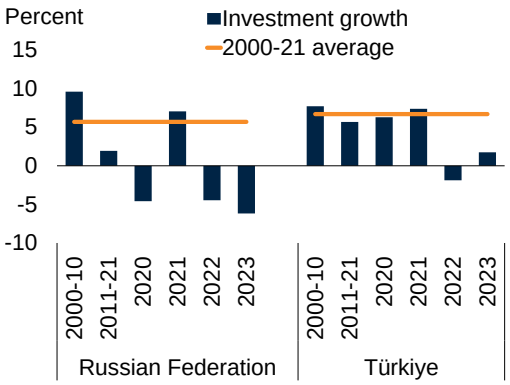
F. Ranking of Global Talent Competitiveness Index conducted by INSEAD. 1=best, 134=worst.

Figure 7: ECA: Investment growth and needs

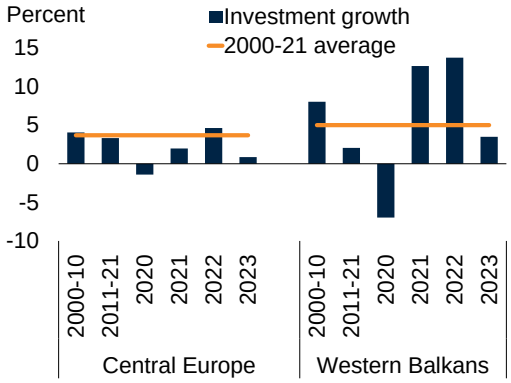
A. Investment growth in ECA



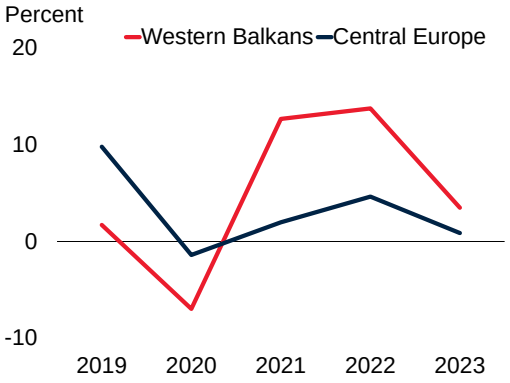
B. Investment growth in the Russian Federation and Türkiye



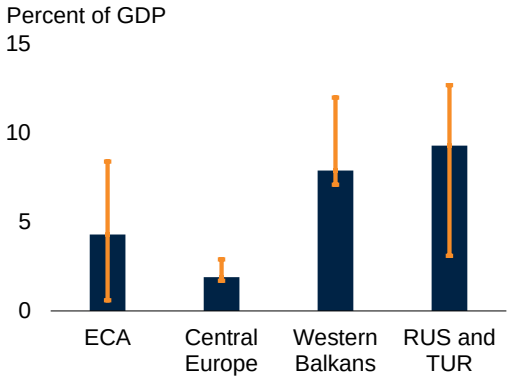
C. Investment growth in Central Europe and the Western Balkans



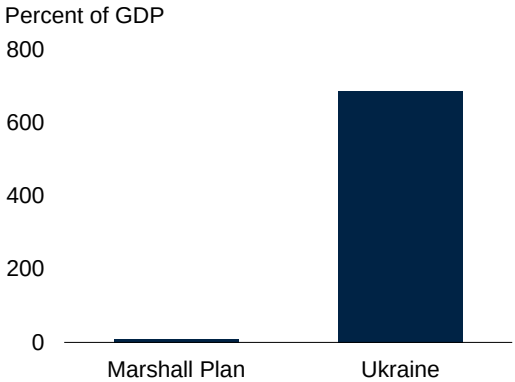
D. Investment growth in Central Europe and the Western Balkans



E. Estimated annual infrastructure investment to halve gap with euro area by 2030



F. Estimated reconstruction costs in Ukraine versus post-WWII Marshall Plan for Europe

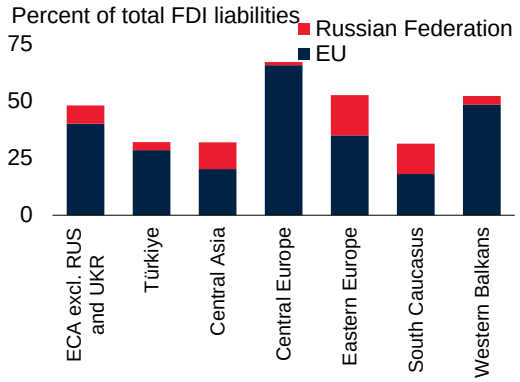


Sources: Board of Governors of the Federal Reserve; European Investment Bank; Global Infrastructure Hub; International Monetary Fund; Kyiv School of Economics; Three Seas Initiative; Ukraine Government; U.S. Bureau of Economic Analysis; World Bank.

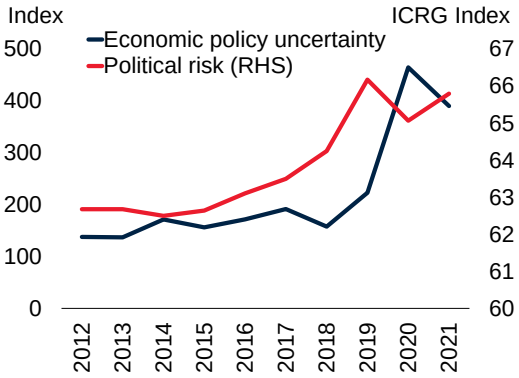
Note: BLR = Belarus; CE = Central Europe; RUS = Russian Federation; TUR = Türkiye; UKR = Ukraine; WBK = Western Balkans.
2023 indicates forecast.
A. C. D. Sample includes 13 ECA countries (A) or 2 Western Balkans and 4 Central Europe economies (C,D).
E. Estimates of infrastructure investment needed to halve the infrastructure gap with the euro area by 2030. Estimates for ECA are from Global Infrastructure Hub, IMF (2020), Rozenberg and Fay (2019), and the Three Seas Initiative. Central Europe, the Western Balkans, and Russia and Türkiye are as estimated by IMF (2020). Bars show median, and orange whiskers show minimum and maximum range.
F. Reconstruction costs are converted into real 2015 U.S. dollars using the U.S. Bureau of Economic Analysis GDP deflator series. Ukraine costs are based on July 2022 estimates by the European Investment Bank, Kyiv School of Economics, and Ukraine Government. Under the Marshall Plan, the U.S. provided about $13.3 billion in aid, or close to $1.1 trillion in real 2015 U.S. dollars, with 16 economies signing up for assistance.

Figure 8: ECA: Investment prospects

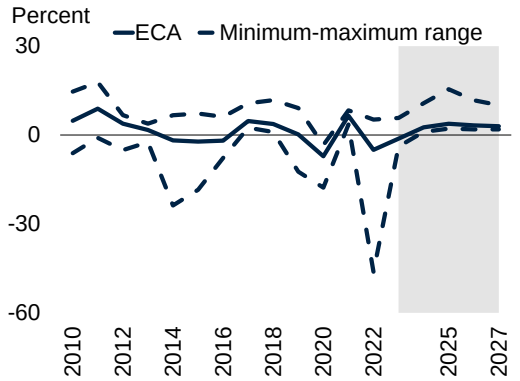
A. Foreign direct investment liabilities, by source, 2019-20



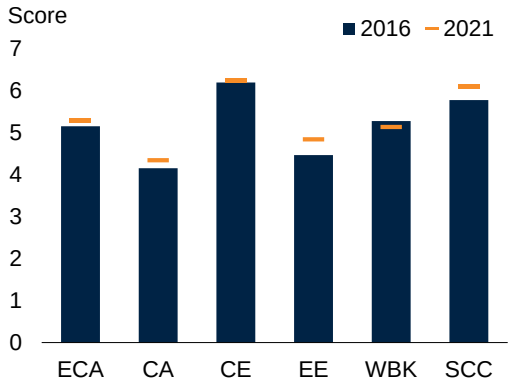
B. Political risk in 15 ECA countries and policy uncertainty in Russia and Poland



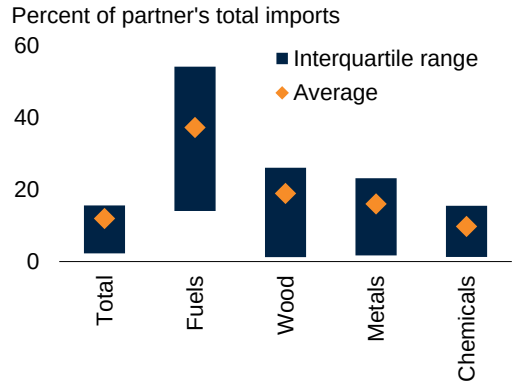
C. Investment growth, 2010-21, and 2022 forecasts for 2022-27



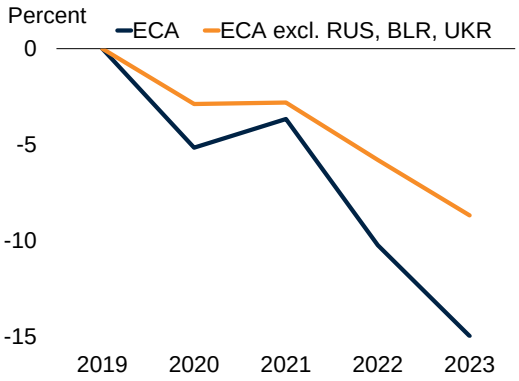
D. 'Well-governed transition' indicator (EBRD assessment)



E. ECA countries' dependence on imports from Russia



F. Deviation of investment from pre-pandemic projections



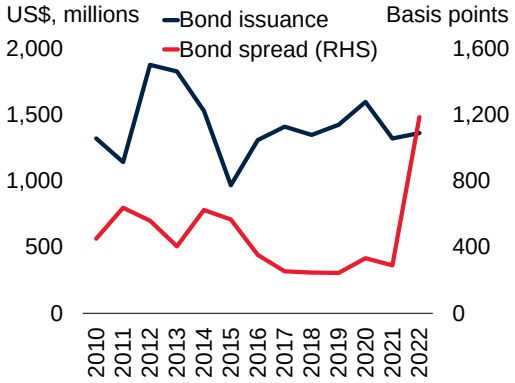
Sources: Baker, Bloom, and Davis (2016); Consensus Economics; EBRD; Haver Analytics; International Country Risk Guide (ICRG); International Monetary Fund; national sources; Winkler, Wuester, and Knight (2022); World Bank.

Note: BLR = Belarus; CA = Central Asia; CE = Central Europe; EE = Eastern Europe; FDI = foreign direct investment; ICRG =

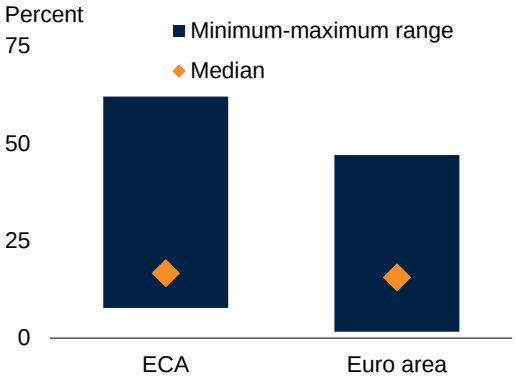
International Country Risk Guide; RUS = Russian Federation; SCC = South Caucasus; UKR = Ukraine; WBK = Western Balkans.
A. Unweighted 2019-20 averages.
B. Unweighted averages. Higher values indicate greater political stability risk and/or economic policy uncertainty. Political stability risk includes 15 ECA economies, as measured by ICRG. Economic policy uncertainty for ECA is an average of Russian Federation and Poland, as measured by national sources and Baker, Bloom, and Davis (2016).
C. Long-term investment prospects refer to 6- to 10-year-ahead forecasts, as in the latest Consensus Economics survey. Data prior to 2022 reflects actual investment growth. Shaded areas based on January 2023 survey. Sample includes 7 ECA countries. Solid line uses 2019 real U.S. GDP weights. Dashed line shows the minimum and maximum range.
D. EBRD's well-governed transition' indicator, measuring the quality of institutions and the processes that they support. Scores range from 1 to 10, where 10 represents a synthetic frontier corresponding to the standards of a sustainable market economy.
F. Lines show the percent deviation between the latest projections and forecasts released in the January 2020 edition of the *Global Economic Prospects* report (World Bank 2020c). For 2023, the January 2020 baseline is extended using projected growth for 2022.

Figure 9: ECA: Financing needs and constraints

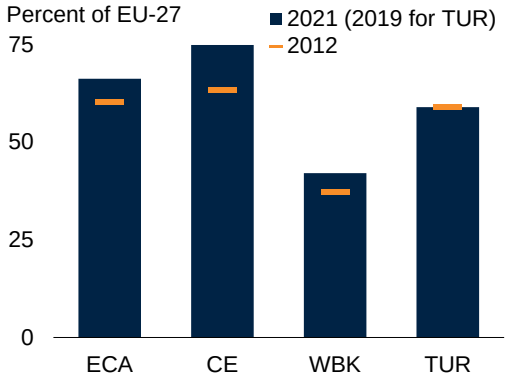
A. Bond issuance and yield spreads



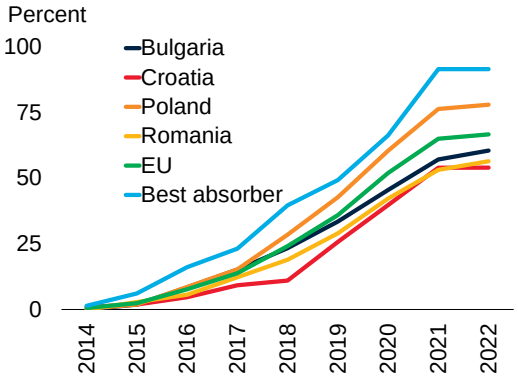
B. Efficiency gaps in public infrastructure investment



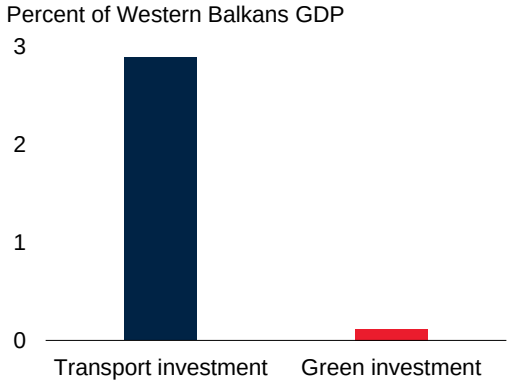
C. GDP per capita relative to EU-27



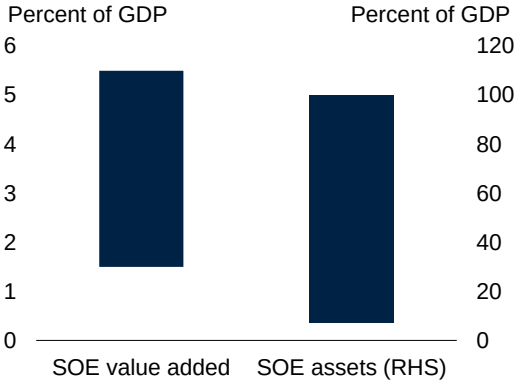
D. Cumulative absorption rates, 2014-20 EU spending program



E. Planned EU investments in transport and green projects in the Western Balkans



F. State-owned enterprise activity and assets , 2014-16



Sources: Bartlett, Bonomi, and Uvalic (2022); Dealogic; European Bank for Reconstruction and Development (2020); Eurostat; IMF (2021); World Bank.

Note: CE = Central Europe; SOE = state-owned enterprise; TUR = Türkiye; WBK = Western Balkans.

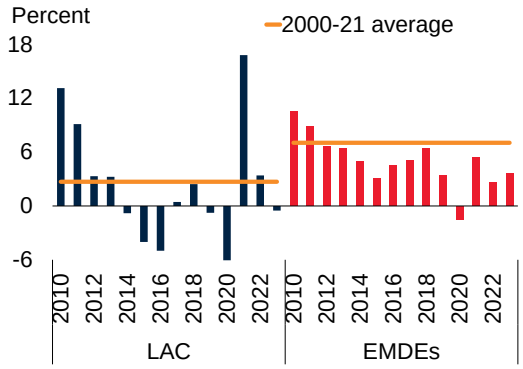
A. Unweighted average for an unbalanced sample of 16 ECA economies for bond issuance and 11 ECA economies for bond spreads.

B. Efficiency gap is the percent difference between a country's spending efficiency and that of the best performers. Higher values indicate greater inefficiency. Infrastructure spending efficiency is calculated using the volume and quality of infrastructure as the output

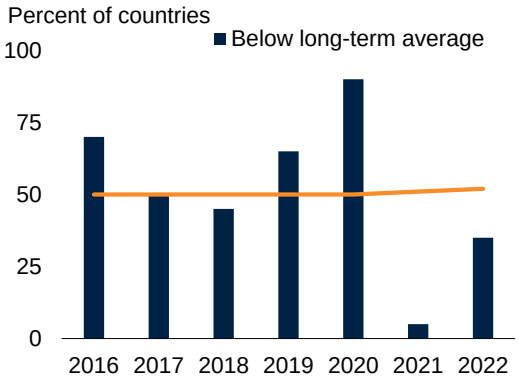
and public capital stock and GDP per capita as the input, as estimated in IMF (2021). Orange diamonds indicate medians, and bars show the minimum-maximum range. Sample size includes 15 ECA and 16 euro area economies.
C. GDP per capita at current market prices in percent of EU-27 total per capita (based on purchasing power standards). Aggregates calculated using real U.S. dollar GDP at average 2010-19 prices and market exchange rates. Sample size includes 8 ECA economies.
D. Absorption rates of EU funds reflect the total net payments divided by planned EU spending for the 2014-20 EU spending program. "Best absorber" indicates the EU-27 country that achieved the highest absorption rate of EU funds.
E. Investments in transport and green projects in percent of Western Balkans GDP.

Figure 10: LAC: Investment growth

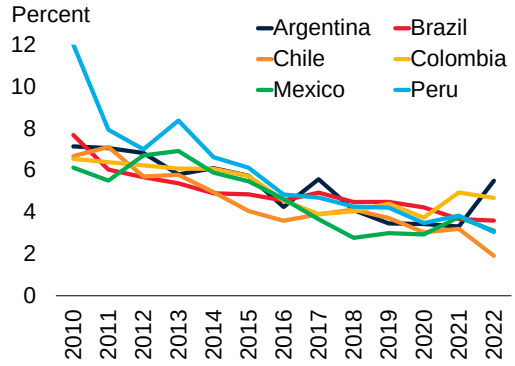
A. Investment growth



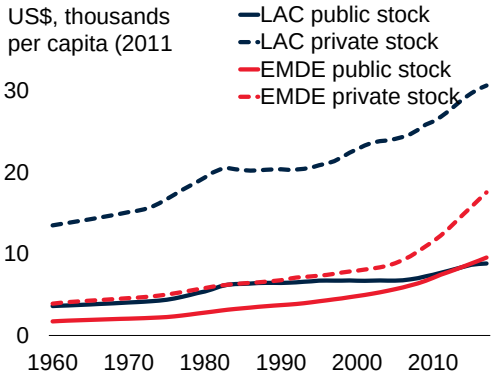
B. Countries with investment growth below its long-term average



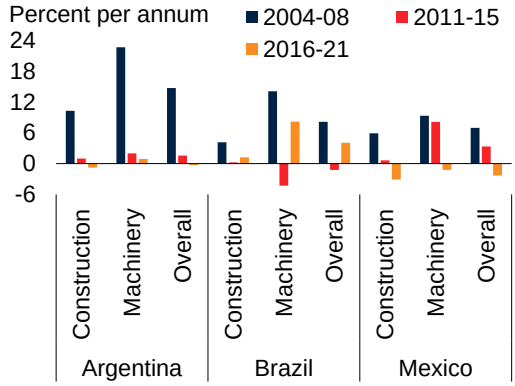
C. Five-year-ahead investment growth forecasts



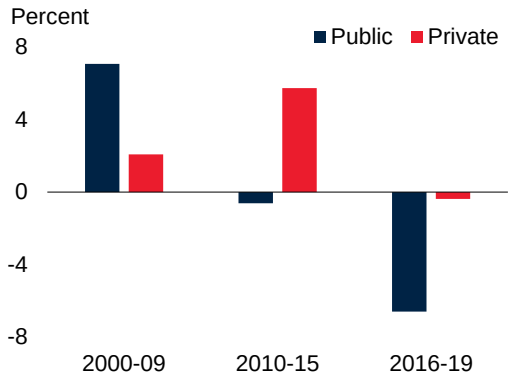
D. Public and private capital stocks per head



E. Investment growth by sector



F. Public and private investment growth

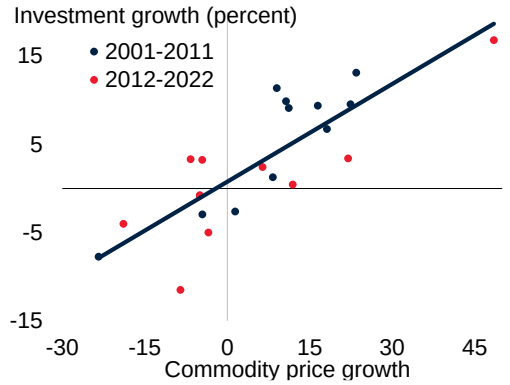


Sources: Consensus Economics, Haver Analytics; International Monetary Fund; national sources; World Bank.
Note: EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean.
A. Average growth rates weighted by investment levels. Includes 98 EMDEs, of which 20 are in LAC.
B. Economy coverage is the same as for panel A. Share of countries in LAC region with investment growth below the long-term (2000-21) average.
C. Five-year ahead consensus forecasts for investment growth.
E. For Argentina, 2004 is excluded. For Brazil, construction and machinery investment are derived using gross fixed capital formation indicators from the Instituto de Pesquisa Econômica Aplicada as proxies.

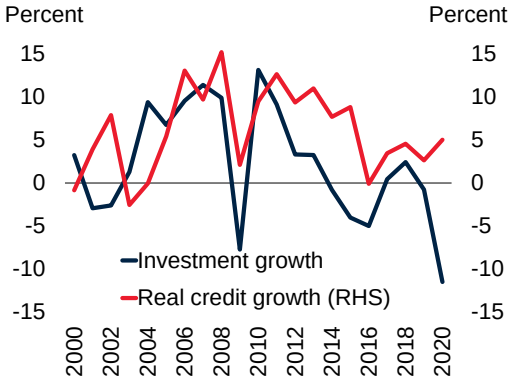
F. Annual average growth rates of real gross fixed capital formation in specified time periods, weighted by private and public investment levels. Sample contains 19 EMDEs in LAC. Private investment includes investment through public-private partnerships.

Figure 11: LAC: Correlates of investment growth

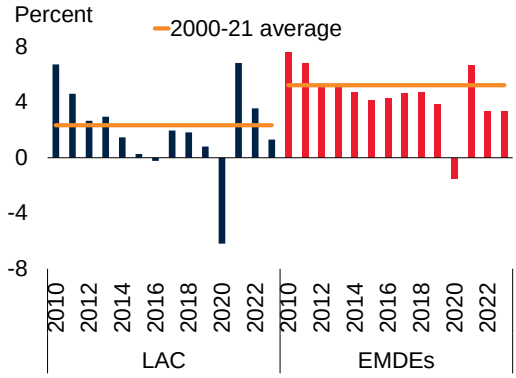
A. Investment growth and commodity price movements



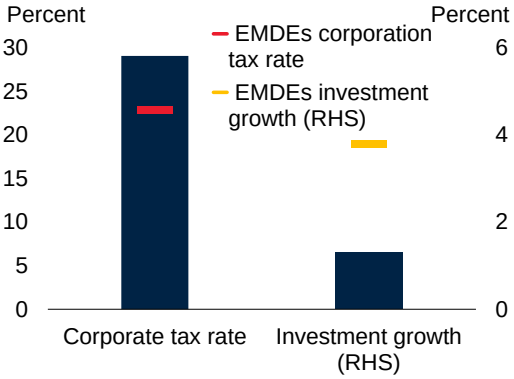
B. Growth of investment and credit



C. GDP growth



D. Corporate tax and investment growth in LAC



Sources: Haver Analytics; International Monetary Fund; Organisation for Economic Cooperation and Development; World Bank.

Note: EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean.

A. Annual commodity price growth is a simple average of annual changes in the prices, in US dollars, of energy, metals (excluding precious metals), and agricultural commodities.

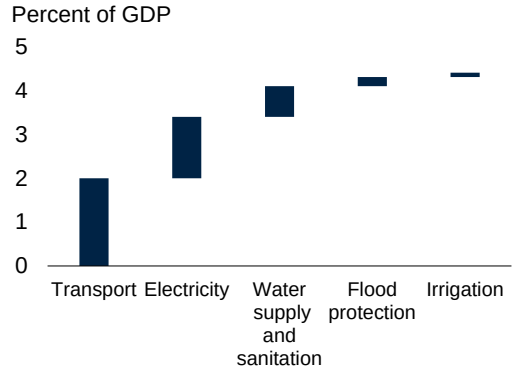
B. Last observation is 2020. Investment-weighted average growth rates.

C. GDP-weighted average growth rates.

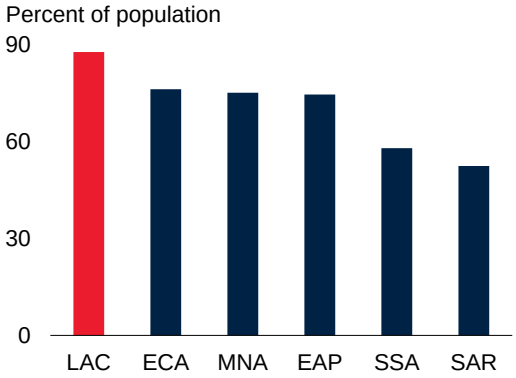
D. Corporation tax is average effective corporation tax from 2017-19. Investment growth is average annual investment growth from 2017-21. Sample contains 27 EMDEs (horizontal lines), with 7 countries from LAC (vertical bars).

Figure 12: LAC: Investment needs

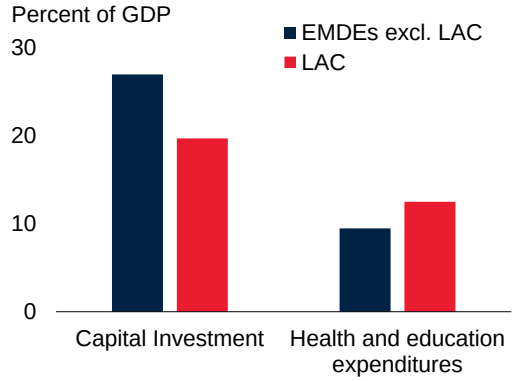
A. Annual infrastructure investment needs



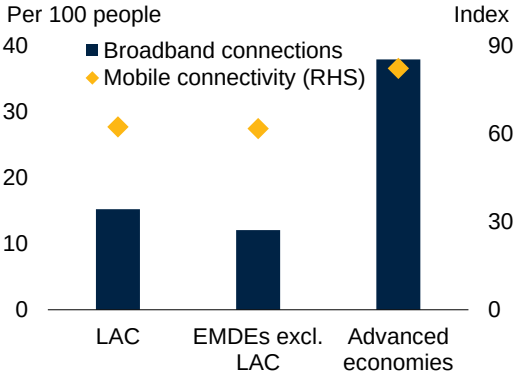
B. Projected urban population share in 2050



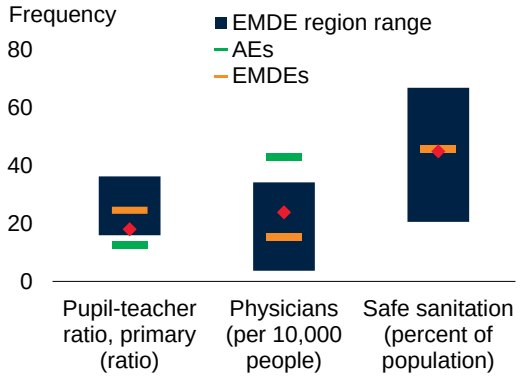
C. Fixed investment, and health and education spending



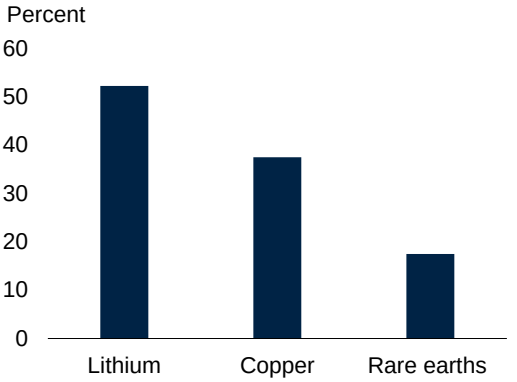
D. Broadband and mobile connectivity



E. Selected health and education indicators



F. Proportion of global commodity reserves in LAC



Sources: GSMA Mobile Connectivity Index; Rozenberg and Fay (2019); UN Population Division; USGS (2021a-c); World Bank.

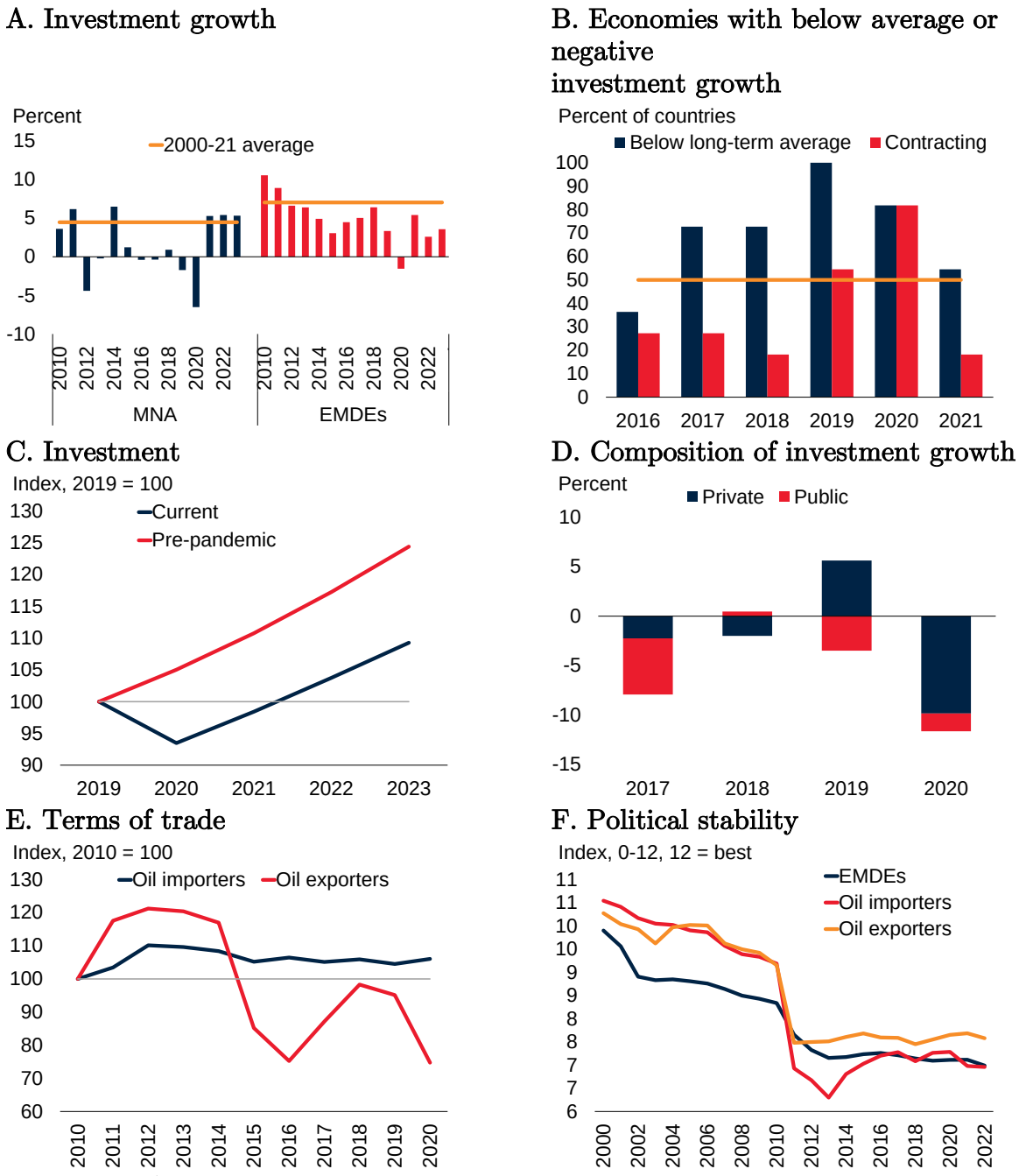
Note: AE = advanced economies; EMDEs = emerging and developing economies; LAC = Latin America and the Caribbean.

A. Bars depict investment needs in LAC according to the preferred investment scenario ("ambitious goals, high efficiency") from Rozenberg and Fay (2019).

B. Projections by the United Nations Population Division.

C. Capital investment is gross fixed capital formation. Health spending is current health expenditure. Education spending is general government expenditure on education. Values are a weighted average for LAC from 2015-19, and average of weighted averages for other regions from 2015-19.
D. All values are population-weighted averages. Broadband connections are 2020 values. Mobile access is the 2021 average of Infrastructure and Affordability enabler scores within the GSMA Mobile Connectivity Index.
E. AE, EMDE and LAC values are simple averages of the latest available data across countries, excluding years before 2017. Sample contains: for pupil-teacher ratio 26 AEs, 109 EMDEs (23 in LAC); for physicians 31 AEs, 99 EMDEs (29 in LAC); for sanitation 36 AEs, 80 EMDEs (11 in LAC). Safe sanitation means sanitation facilities not shared with other households and with safe disposal.
F. Values are LAC proportions of total world reserves in 2022. Lithium includes Argentina, Brazil, and Chile. Copper includes Chile, Mexico, and Peru. Rare earths include Brazil. Data availability limitations may result in slight underestimates.

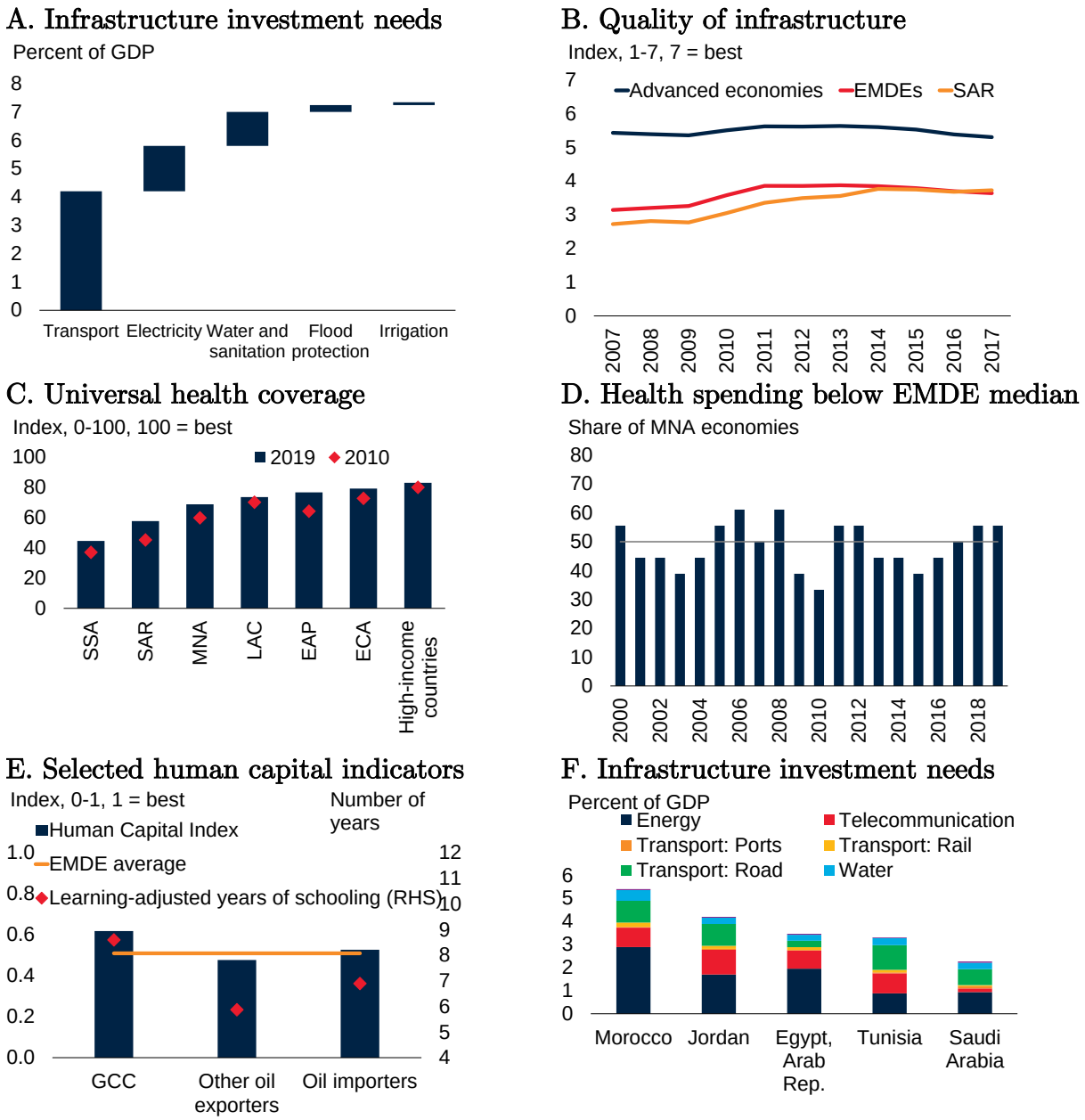
Figure 13: MNA: Investment growth and correlates



Sources: Haver Analytics;PRS Group; World Bank.
Note: EMDEs = emerging market and developing economies; MNA = Middle East and North Africa.
A. Averages weighted by investment levels. Sample includes 98 EMDEs and 11 from MNA.
B. Economy coverage is the same as for panel A. Share of countries in MNA region with investment growth below the long-term (2000-21) average or negative investment growth ("contracting").
C. Investment level based on data and projections in the January 2020 and January 2023 Global Economic Prospects reports. 2023 indicates forecast.
D. Based on data from Bahrain, the Arab Republic of Egypt, the Islamic Republic of Iran, and Saudi Arabia. In Egypt, nominal
investment is deflated using the gross capital formation deflator.
E. Net barter terms of trade indexes. 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.

F. Based on the "Government Stability" sub-index of the International Country Risk Guide. Unweighted average of 102 EMDEs, including 10 MNA oil exporters and 6 MNA oil importers.

Figure 14: MNA: Infrastructure, health, and education indicators



Sources: Rozenberg and Fay (2019); Global Infrastructure Outlook; World Economic Forum Global Competitiveness Index; World Health Organization; World Bank.

Note: EMDEs = emerging market and developing economies; EAP = East Asia and Pacific, ECA = Europe and Central Asia, LAC = Latin America and the Caribbean, MNA = Middle East and North Africa, SAR = South Asia, SSA = Sub-Saharan Africa; GCC = Gulf Cooperation Council.

A. Investment needs in a preferred scenario as defined in Rozenberg and Fay (2019).

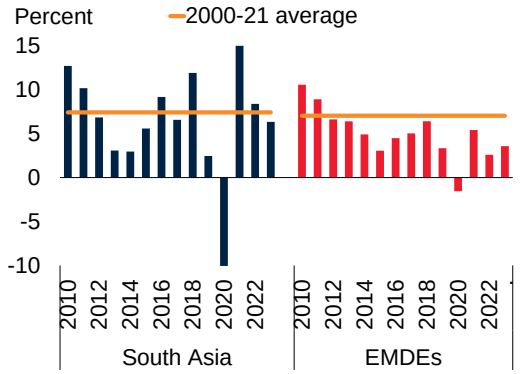
B. Unweighted averages of survey data from the World Economic Forum Global Competitiveness Index. Data was collected using the question: "How would you assess general infrastructure (e.g., transport, telephony, energy) in your country? (1 = extremely underdeveloped—among the worst in the world; 7 = extensive and efficient—among the best in the world)." Oil importers include Egypt, Jordan, Lebanon, Morocco, and Tunisia. Non-GCC oil exporters include Algeria, the Islamic Republic of Iran, Libya, and the Republic of Yemen. GCC countries include Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

C. Unweighted average. Based on Universal health coverage services coverage index.

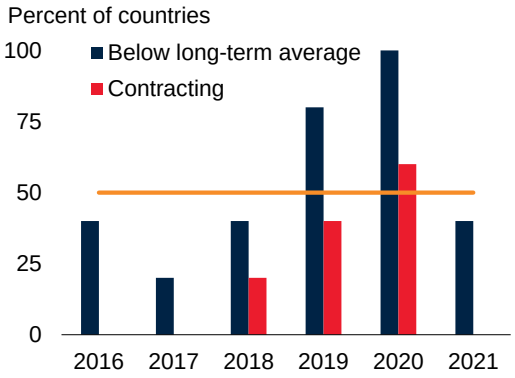
D. Based on domestic general government health expenditure as percentage of GDP. Sample includes 152 EMDEs (18 from MNA).
E. Unweighted average. Sample includes 138 EMDEs (16 from MNA).
F. Based on Global Infrastructure Outlook.

Figure 15: SAR: Investment growth and correlates

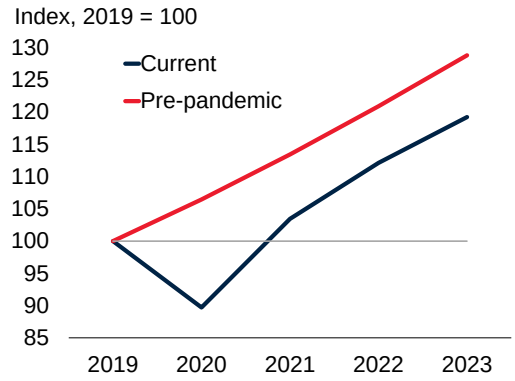
A. Investment growth



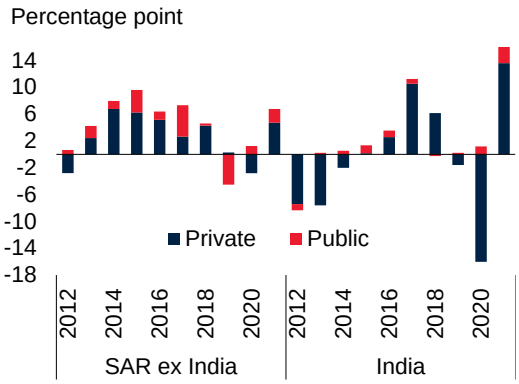
B. Share of SAR countries with weak investment growth



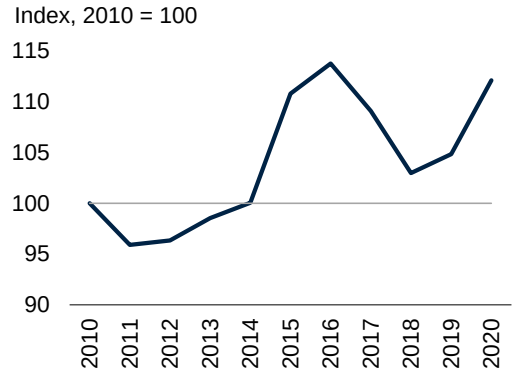
C. Investment



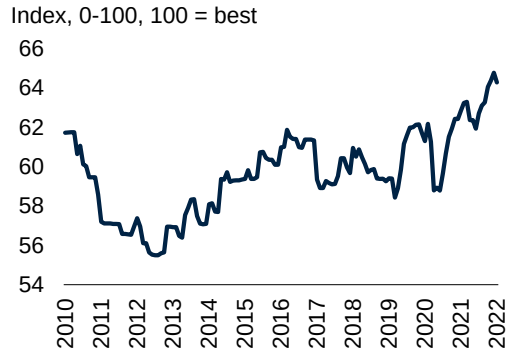
D. Contribution to investment growth



E. Terms of trade

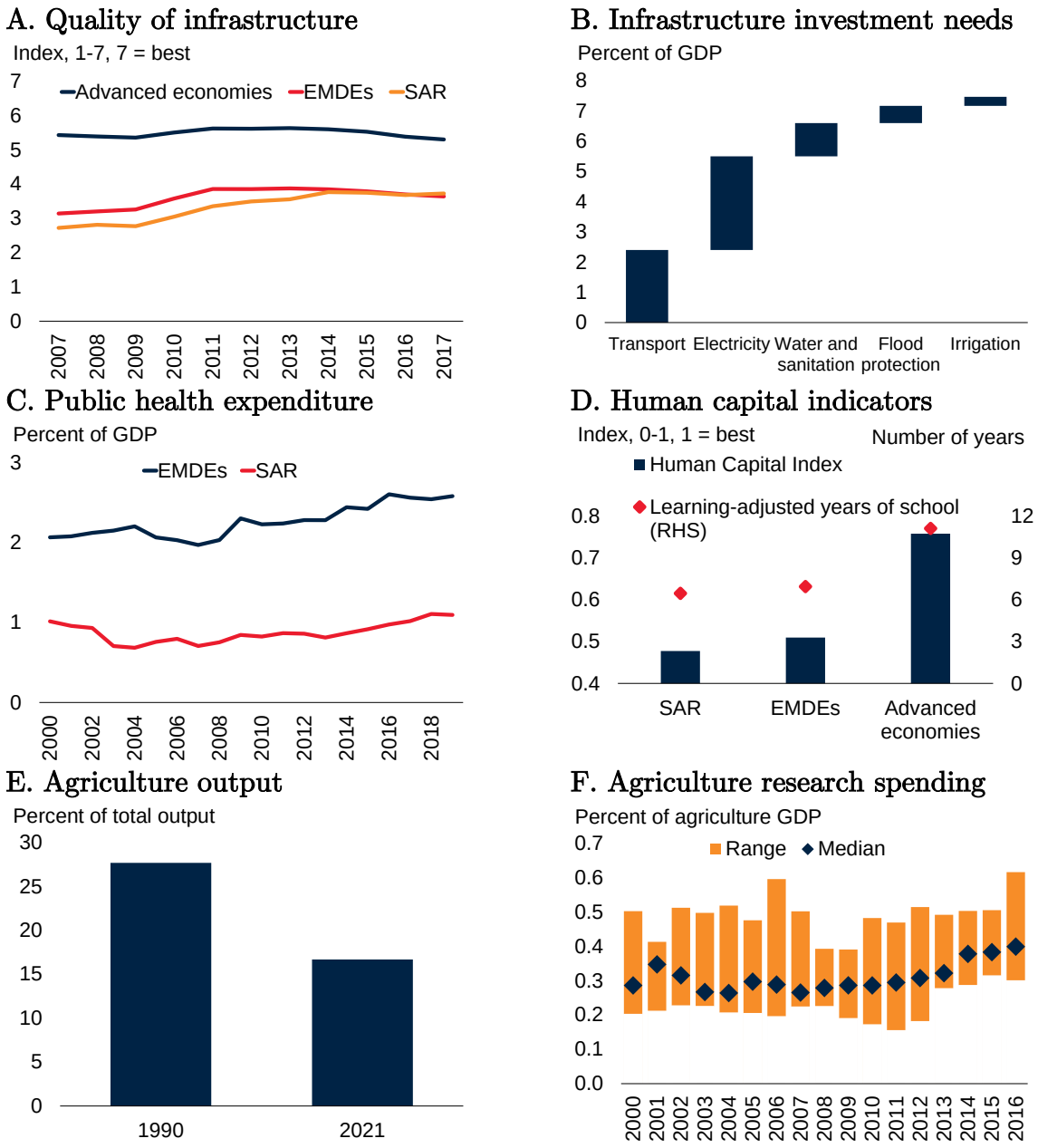


F. Political stability



Sources: Haver Analytics; PRS Group; Ministry of Finance of Sri Lanka; Reserve Bank of India; World Bank.
Note: EMDEs = emerging market and developing economies; SAR = South Asia.
A. Weighted averages. Sample includes 98 EMDEs and 5 from SAR.
B. Share of SAR economies with investment growth below its long-term average or negative. Long-term averages are country specific and refer to available data over 2000-21.
C. Based on projections in the January 2020 and January 2023 Global Economic Prospects reports. 2023 indicates forecast.
D. "SAR ex India" is weighted average for Bangladesh, Nepal, and Pakistan.
E. Investment-weighted averages.
F. Investment-weighted average of ICRG index of Political Risk. An increase denotes greater political stability.

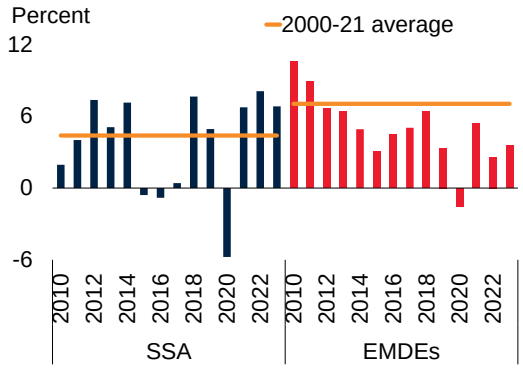
Figure 16: SAR: Investment needs



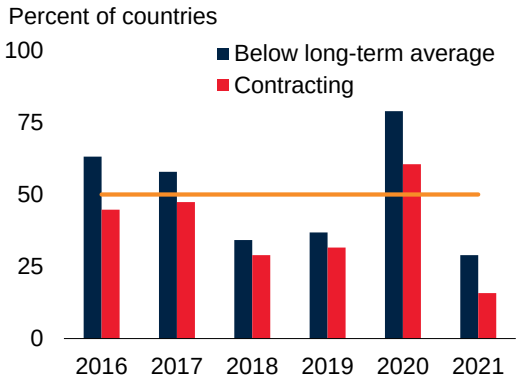
Sources: Agricultural Science and Technology Indicators; Haver Analytics; Rozenberg and Fay (2019); World Bank; World Health Organization.
Note: EMDEs = emerging market and developing economies; SAR = South Asia.
B. Based on the preferred scenario in Rozenberg and Fay (2019).
C. Sample includes 152 EMDEs and 8 from SAR.
D. Sample includes 138 EMDEs, 7 from SAR, and 35 advanced economies
F. Based on data for Bangladesh, India, Nepal, Pakistan, and Sri Lanka. "Range" reflect minimum and maximum values.

Figure 17: SSA: Investment growth slowdown

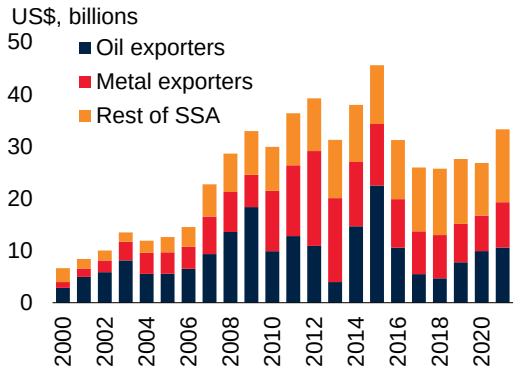
A. Investment growth



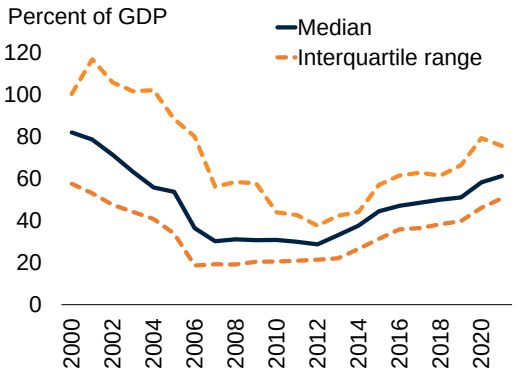
B. Share of SSA EMDEs with weak investment growth



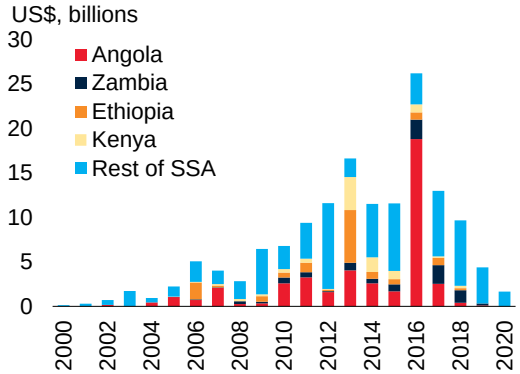
C. Gross foreign direct investment inflows to SSA, excluding South Africa



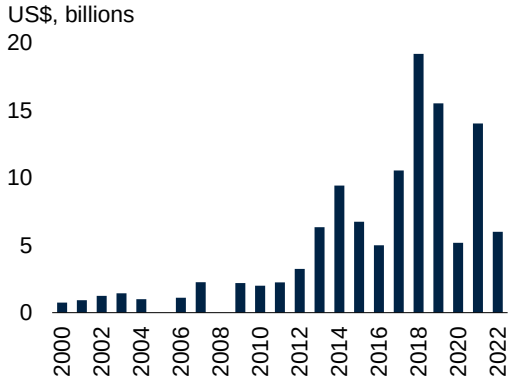
D. General government debt in SSA



E. Chinese loans to SSA economies

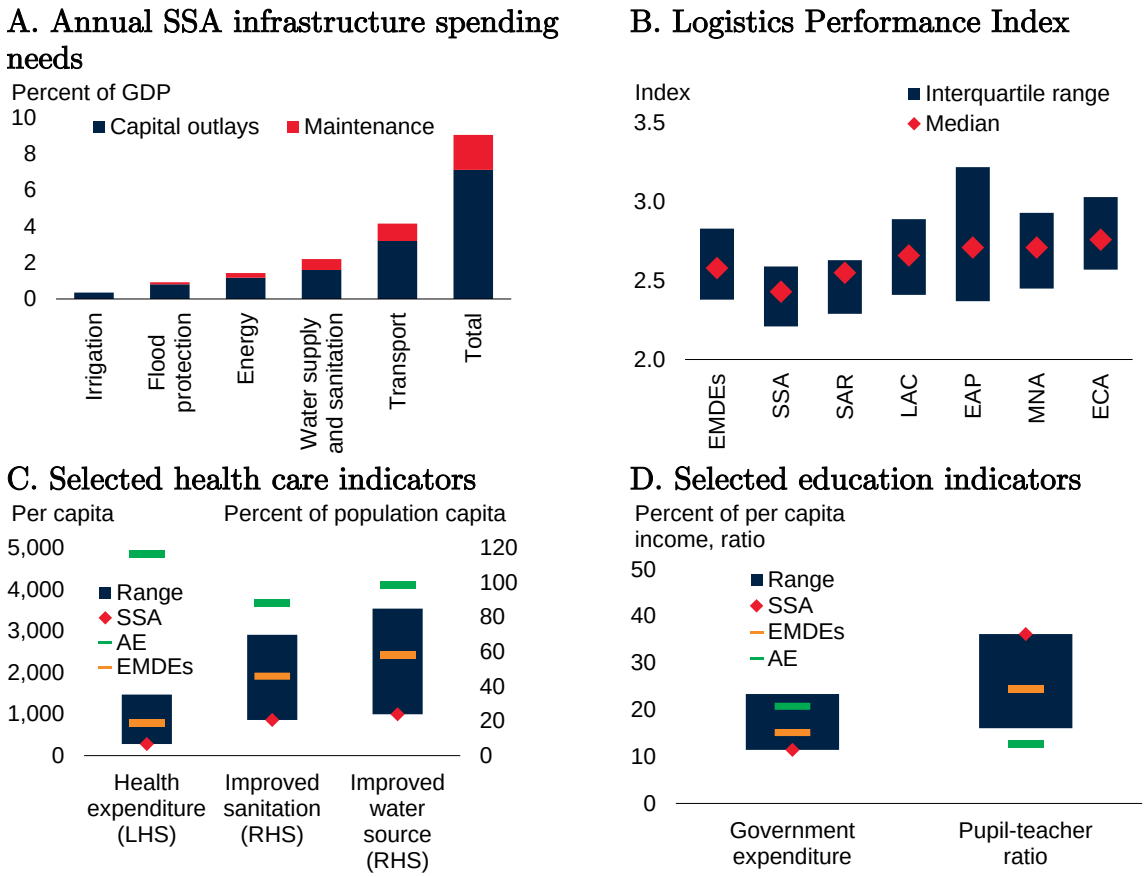


F. International bond issuance by SSA governments



Sources: Dealogic; Haver Analytics; Global Development Policy Center (Boston University); International Monetary Fund; World Bank; United Nations Conference on Trade and Development.
Note: EMDEs = emerging market and developing economies; SSA = Sub-Saharan Africa.
A. Weighted averages. Includes 98 EMDEs, of which 38 are SSA.
D. Median values. Dotted lines indicate interquartile range.
E. Loan commitments to SSA governments and state-owned enterprises from Chinese commercial banks, government entities, companies, and other financing sources.
F. Last observation is July 2022.

Figure 18: SSA: Investment needs



Sources: Haver Analytics; International Monetary Fund; Rozenberg and Fay (2019); World Bank.
Note: AEs = advanced economies; EMDEs = emerging market and developing economies; SSA = Sub-Saharan Africa.
A. Average annual cost of investment in the "preferred scenario", 2015-30 (Rozenberg and Fay 2019).
B. Median; bars indicate interquartile range. Logistics Performance Index (LPI) measures the performance of trade logistics and is a weighted average of country scores on six key dimensions: customs performance, infrastructure quality, ease of arranging shipments, logistics services quality, consignments tracking and tracing, and timeliness of shipments. A higher value indicates better performance; for example, Germany's LPI (top performer) is 4.2.
C. Blue bars denote range of unweighted regional averages across EMDE regions. Health expenditure per capita in purchasing power parity terms, unweighted averages of 199 EMDEs, 34 AEs, and 47 SSA economies. Access to improved sanitation facilities (in percent of population), unweighted averages for 150 EMDEs, 33 AEs, and 47 SSA economies. Access to improved water sources (in percent of population), unweighted averages for 148 EMDEs, 34 AEs, and 47 SSA economies. Latest data available during 2011-15.
D. Blue bars denote range of unweighted regional averages across EMDE regions. Government expenditure per primary student (in percent of per capita income), unweighted averages of 87 EMDEs, 32 AEs, and 29 SSA economies. Pupil-teacher ratio in primary education (headcount basis), unweighted averages for 165 EMDEs, 31 AEs, and 44 SSA economies. Latest data available during 2011-15.

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