

# The Past and Future of Regional Potential Growth

## Hopes, Fears, and Realities

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## Abstract

Potential growth slowed in most emerging market and developing economy (EMDE) regions in the past decade. The steepest slowdown occurred in the Middle East and North Africa (MNA), followed by East Asia and the Pacific (EAP), although potential growth in EAP remained one of the two highest among EMDE regions, the other being South Asia (SAR), where potential growth remained broadly unchanged. Projections of the fundamental drivers of growth suggest that, without reforms, potential growth in EMDEs will continue to weaken over the remainder of this decade. The slowdown will be most pronounced in

EAP and Europe and Central Asia because of slowing labor force growth and weak investment, and least pronounced in Sub-Saharan Africa where the multiple adverse shocks over the past decade are assumed to dissipate going forward. Potential growth in Latin America and the Caribbean, MNA, and SAR is expected to be broadly steady as slowing population growth is offset by strengthening productivity. The projected declines in potential growth are not inevitable. Many EMDEs could lift potential growth by implementing reforms, with policy priorities varying across regions.

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# The Past and Future of Regional Potential Growth: Hopes, Fears, and Realities

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## 1. Introduction

The global economy has suffered two major adverse shocks to start the 2020s—the COVID-19 pandemic and Russia’s invasion of Ukraine.<sup>2</sup> After a strong rebound in 2021 from the pandemic-induced recession of 2020, global growth in 2022 slowed precipitously (figure 1). The war in Ukraine has disrupted activity and trade, pent-up demand in the wake of COVID-19 lockdowns has faded, and macroeconomic policy support for demand is being withdrawn amid high inflation.

While the growth slowdown in EMDEs in 2022 was partly cyclical, it also reflected underlying, structural weakness. Potential growth—the rate of increase of potential output, or the level of output an economy would sustain at full capacity utilization and full employment—slowed in the past decade (2011-21) relative to the preceding one in a wide swath of EMDEs and in almost all EMDE regions (Kilic Celik, Kose, Ohnsorge, and Ruch, 2023). If the drivers of current trends do not undergo major reversals, potential growth is expected to continue slowing down over the remainder of this decade.

Yet, there have been wide differences in these trends, as well as in prospects for long-term growth, across EMDE regions and these have implications for regional policy priorities. This paper examines differences across the World Bank’s six EMDE regions by addressing the following questions for each region.

- How have potential growth and its drivers evolved since the turn of the century?
- What are the prospects for potential growth?
- Which policies would lift potential growth?

**Contributions.** Drawing on a rich body of region-specific studies and using the comprehensive new database introduced in Kilic Celik, Kose, Ohnsorge, and Ruch (2023), this paper is the first study to systematically analyze potential growth in all six EMDE regions in a consistent manner. Other major cross-country studies of potential growth have largely focused on advanced economies (Dabla-Norris et al. 2015; IMF 2015; OECD 2014) or Asian economies (ADB 2016). This paper examines data for up to 6 EMDEs in EAP, 9 in ECA, 16 in LAC, 5 in MNA, 3 in SAR, and 14 in SSA over the past two decades (2000-21) and considers prospects for the remainder of this decade (2022-30).

The estimates of potential growth that the paper primarily utilizes are based on the production function approach to estimating potential growth, described in Kilic Celik, Kose, Ohnsorge and Ruch (2023). Briefly, the production function approach utilizes a Cobb-Douglas production function where:

- Potential capital stock is assumed to match the actual capital stock.

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<sup>2</sup> For the purposes of this paper, the 2000s are assumed to cover the period 2000-10, the 2010s the period 2011-21, and the 2020s the period 2022-30. The 2000s and 2010s are selected to ensure that the averages include both the global recession and the subsequent rebound. The 2020s are selected to cover projections. Data for 2022-23 and 2022-30 are forecasts.

- Potential labor supply is estimated as the population-weighted aggregate of predicted values of age- and gender-specific labor force participation rates from regressions on policy outcomes and cohort characteristics, business cycles, and country effects.
- Potential TFP growth is estimated as the predicted value of a parsimonious panel regression of five-year averages of trend TFP growth on lagged per capita income relative to the advanced-economy average (to proxy convergence-related productivity catchup), education and demographic indicators, and trend investment.

These production function estimates are also contextualized with estimates derived by several other techniques, including univariate and multivariate filters, and long-term growth forecasts from Consensus Economics, and the IMF’s World Economic Outlook database. More detail regarding these estimation approaches and their relative pros and cons can also be found in Kilic Celik, Kose, Ohnsorge, and Ruch (2023).

In addition to analyzing the recent history and prospects for potential growth in EMDEs, the paper estimates the impacts of several illustrative policy reform scenarios, and of more frequent climate-related disasters, on potential growth. The parameters of these scenarios are summarized below, with more detail on their construction available in Kilic Celik, Kose, and Ohnsorge (2023).

An upside scenario is presented wherein investment growth in each economy is assumed to rise over the course of 2022-30 by the most that it increased in any ten-year period during 2000-21. Educational outcome indicators—secondary and tertiary enrollment and completion rates—are also assumed to rise in each country by the largest improvement seen in any ten-year period during 2000-21, except that enrollment rates are capped at 100 percent and completion rates are capped at the highest levels observed in advanced economies in 2019, the latest available data point. Life expectancy is assumed to rise in each country by the largest increase in any ten-year period during 2000-21, but not above the median advanced-economy life expectancy in 2019. In addition, for each age group in each country, the female labor force participation rate is assumed to rise by the largest increase over any ten-year period during 2000-2021, but not to exceed the male labor force participation rate in the same age group. Separately, a social benefit reform with labor market implications is modelled. For each gender and each country, labor force participation rates for workers in age groups 55-59, 60-64, and 65 years or older are assumed to rise to the participation rates of age groups that are five years younger, i.e., those of age groups 50-54, 55-59, and 60-64 years, respectively. The increase is assumed to occur gradually over 20 years for each gender in each country.

The estimation of the damage to potential growth from more frequent climate-related disasters is based on Dieppe, Kilic Celik, and Okou (2020). It considers the effects of climate disasters on TFP growth in EMDEs. The disasters scenario in this paper assumes that the number of climate disasters in 2022-30 will be higher than in 2011-21 in each country by the same amount as the increase between 2000-10 and 2011-21, then scales

the effect on TFP growth accordingly. On the other hand, the paper considers a climate-related investment push to adapt to, and mitigate, climate change. This is based on estimates in Rosenberg and Fay (2019) for the level of investment needed by region to meet climate goals in the area of renewable power generation, and flood protection needs.

**Findings.** The paper documents a rich array of regional differences in the evolution of potential growth. First, the potential growth slowdown in the past decade (2011-21) from the preceding decade (2000-10) was steepest in the Middle East and North Africa (MNA), followed by East Asia and the Pacific (EAP) although potential growth in EAP remained higher than in all other regions except South Asia (SAR). Europe and Central Asia (ECA) and Latin America and the Caribbean (LAC) experienced less pronounced slowdowns but potential growth in LAC remained the lowest among all EMDE regions. In SAR, potential growth remained almost unchanged, at the highest rate among EMDE regions and, in Sub-Saharan Africa (SSA), potential growth weakened only moderately and remained one of the lowest among EMDE regions, at around half the average for SAR.

Second, looking ahead, EAP is expected to be the EMDE region with the sharpest decline in both aggregate and per capita potential growth during 2022-30—about 1.6 percentage points a year on average—mainly reflecting slower capital accumulation and TFP growth in China. The second largest decline in potential growth in 2022-30 is projected for ECA, resulting in part from the fallout from the war in Ukraine but also from the continued weakness in labor force growth. In SSA, potential growth is projected to decline moderately as strengthening TFP growth is expected to partially offset weakening investment and slowing population growth. Elsewhere, potential growth is projected to be broadly unchanged (in LAC and SAR) or even rise (in MNA) in 2022-30 as strengthening TFP growth offsets demographic headwinds to potential growth.

Third, particularly weak TFP growth in LAC, MNA, and SSA makes policy action to raise productivity growth especially important for these regions. There is also considerable room to strengthen flagging labor force growth, in MNA and SAR, by encouraging female labor force participation, and, in EAP and ECA, by raising labor force participation among older workers. Prospects for investment growth in LAC and SSA are particularly weak, and a wide range of measures are likely to be required to reignite it. A climate-related investment push could catalyze a boost to potential growth in all EMDE regions.

## 2. Regional potential growth in the rear-view mirror

Potential growth weakened broadly across EMDEs in the past decade (2011-21) relative to the preceding one (2000-10). In the past decade, potential growth in EMDEs averaged 5 percent a year, 1.0 percentage point below its average in the preceding one.<sup>3</sup> Per capita

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<sup>3</sup> Unless otherwise noted, and in keeping with the long-term focus of this paper, potential growth is estimated

using the production function approach, which takes into account movements in labor supply and capital accumulation, and which provides estimates of total factor productivity growth based on various assumptions (for example, that factors of production are paid their marginal products).

potential growth also slowed. Potential growth slowed in more than half of EMDEs and in all but one EMDE region (SAR). This finding is robust to the approach to measuring potential growth (figure 2).

Weakening potential growth is cause for worry. First, the slowdown in potential growth raises concerns about the prospects for per capita income growth, poverty reduction, and convergence of per capita incomes with advanced economies. In some EMDE regions, especially MNA, EAP, and ECA, per capita income convergence with advanced economies was significantly slower in 2011-21 than in 2000-10. Declining potential growth is likely to impede the ability of EMDEs to meet their development goals, including poverty reduction.<sup>4</sup> Second, a weakening of potential growth erodes countries' ability to service their debt. This is a serious ongoing concern, with government debt relative to GDP at multi-decade highs in all EMDE regions except SSA.

The weakening of potential growth in EMDEs in the past decade was broad-based, with all of its drivers—total factor productivity (TFP) growth, labor force growth, and capital accumulation—fading (Kilic Celik, Kose, Ohnsorge, and Ruch, 2023). Developments across regions nonetheless varied. The MNA region experienced the steepest decline in potential growth, by 2.4 percentage points a year on average. Capital accumulation plunged due to the sharp drop in oil prices from mid-2014 to early 2016, policy uncertainty increased in some parts of the region, and capital was destroyed by conflicts in certain countries.

Potential growth fell almost 1.4 percentage points a year on average in EAP although, at around 6.2 percent a year, it remained higher there than in all other regions except SAR. The slowdown in EAP is largely due to developments in China—rebalancing of growth away from investment, together with slower growth of both TFP and the working-age population. Potential growth in the rest of the region strengthened by 0.6 percentage point a year, reflecting rebounds in capital accumulation following the downturn originating in the 1997-98 Asian financial crisis, amid generally supportive demographic trends.

In ECA, LAC, and SSA, potential growth fell more moderately in 2011-21, by 0.6, 0.5, and 0.2 percentage points a year on average, respectively, but from lower rates in 2000-10 than in EAP and SAR. The decline in ECA reflected diminishing productivity catch-up with Western Europe following two decades of rapid integration into its production networks, labor markets, and institutions, and a slowdown in labor force growth as working-age population growth slowed and, in some cases, turned negative. Potential growth in LAC remained the lowest among EMDE regions. It was dampened by slowing labor force growth and a continued decline in TFP growth, as a series of shocks, including plunging commodity prices, debt distress, and bouts of political instability, hit the region. In SSA, buoyant labor force growth and rising capital accumulation were more than offset by a sharp slowdown in TFP growth. Capital accumulation in SSA was supported by

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<sup>4</sup> Research suggests that two-thirds of cross-country differences in growth of the poorest households' income is attributable to differences in average income growth (Barro 2000; Dollar, Kleineberg, and Kraay 2016).

investment in natural resource sectors and infrastructure.

In contrast to the other EMDE regions, potential growth in SAR was virtually unchanged in 2011-21 and became, together with EAP, the strongest among EMDE regions. All the drivers of growth remained broadly steady, with demographic trends remaining supportive and investment weakness and lower TFP growth in India offset by robust investment growth and solid TFP growth elsewhere.

### **3. Prospects for regional potential growth**

In the absence of reforms, potential growth in EMDEs is projected to decline further in the remainder of the 2020s (figure 3). The pandemic-induced shock in 2020 is expected to have lasting effects on long-term growth across EMDEs, and many of these effects will be exacerbated by the fallout from the war in Ukraine. The adverse effects of the two shocks on human capital, investor confidence, fixed capital formation, and supply chains will weigh on long-term growth prospects.

Current projections of the fundamental drivers of potential growth in EMDEs suggest that it will slow by a further 0.9 percentage point a year on average in the remainder of this decade (2022-30) to 4.0 percent a year.<sup>5</sup> The slowdown is expected to be broad-based, reflecting declining contributions from all the fundamental drivers of growth, but especially from capital accumulation, which accounts for more than half of the slowdown. Decelerating TFP growth and slowing labor supply growth are each expected to account for one-quarter of the slowdown.

Of the six EMDE regions, EAP is expected to experience the sharpest decline in potential growth during 2022-30—about 1.6 percentage points a year on average. This is primarily due to reduced capital accumulation and slower TFP growth, especially in China. The country's policy efforts to rein in credit growth are expected to resume once economic activity recovers from pandemic disruptions. After a decade of resilience, potential growth elsewhere in the region is also expected to moderate somewhat (by 0.1 percentage point a year on average) as labor force growth eases.

In ECA and SSA, potential growth is projected to slow somewhat. Investment weakness and diminishing demographic dividends in the rest of the decade are expected to be only partially offset by a moderate pick-up of TFP growth as the adverse shocks of the past decade subside. In ECA, the slowdown in potential growth also reflects the fallout from the war in Ukraine that will depress investment in the region for several years.

In SAR, LAC, and MNA, potential growth is projected to be broadly unchanged in 2022-30. SAR benefited from demographic tailwinds over the past decade, but these are expected to fade in the remainder of the 2020s; this is expected to be offset by a recovery in TFP growth. Labor force growth is expected to continue declining in LAC, but this

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<sup>5</sup> Throughout this paper, potential growth projections for 2022-30 are predicated on population size and composition in line with the medium fertility scenario of the UN Population Projections, trend improvements in education and health outcomes, and investment growth constant at its long-term average.



too should be counteracted by modestly quicker TFP growth, assuming political and social stability do not deteriorate. In MNA, the effect of slowing working-age population growth is expected to outweigh the recovery in TFP growth as adverse shocks that dampened TFP growth over the past decade (war, political uncertainty, and commodity price shocks) do not recur.

In per capita terms, potential growth is expected to slow fastest in EAP between 2011-21 and 2022-30, while staying stable in ECA. In LAC, SAR, and SSA, potential growth is expected to inch up in per capita terms. In MNA potential growth in per capita terms is expected to strengthen by 0.5 percentage point between 2011-21 and 2022-30.

There is substantial uncertainty about potential growth prospects but, on balance, risks to the baseline projections are tilted to the downside. The main downside risks are related to the possibility of a prolonged war in Ukraine or geopolitical tensions elsewhere and their impact on global trade, value chains, and commodity prices. A prolonged war or other geopolitical tensions that disrupt global markets and networks would weigh on both TFP growth and capital accumulation. In addition, a sharper-than-assumed tightening of global financial conditions, possibly in response to persistently high inflation, could trigger global financial stress and stall investment. Future epidemics could lead to further learning losses and thus hold back human capital accumulation, especially among the most vulnerable. This would deepen inequality within and across EMDEs (World Bank 2022a).

In some regions, specific factors could improve potential growth prospects relative to the baseline forecasts. These include an acceleration of technological innovation after the pandemic (particularly in EAP and SAR), easing of labor supply constraints in countries hosting refugees and displaced people from war zones, especially Ukraine, and possibly higher global demand for inputs needed to achieve the energy transition away from fossil fuels (particularly in LAC).

#### **4. Regional reform priorities**

The prospect of a further weakening of potential growth in EMDEs is unfortunate, but not inevitable. Reforms, especially those tailored to specific regions or countries, can lift potential growth. Reforms could target any of a range of shortcomings: unfilled investment needs, poor human capital accumulation (such as low school enrollment or completion rates and poor health indicators), weak labor force growth (such as increasingly challenging demographic conditions and low female labor force participation), and weak productivity (such as product and labor market distortions or high rates of informality).

Particularly weak TFP growth in LAC, MNA, and SSA makes policy action to raise productivity growth especially important for these regions. In LAC, such actions could include improvements in transport infrastructure, harmonization of regulatory standards to deepen regional and global trade, improved access to education for poor households, and measures to incentivize more research and development (R&D). In MNA, priorities include further efforts to diversify economies away from energy production, measures to reduce the role of the state and level the playing field for the private sector, and improvements in education. In SSA, priorities include measures to improve agricultural

productivity; expand access to markets, finance, and inputs; strengthen education outcomes and the quality of schools; and improve business climates. Still-robust working-age population growth may provide SSA with an opportunity for higher potential growth—as long as job creation can keep pace with labor force growth to ensure productive employment.<sup>6</sup>

Even in the regions with the strongest TFP growth—EAP and SAR—measures to raise it further are available. In SAR, tackling high levels of informality, improving regional integration, and boosting participation in global value chains could all strengthen productivity growth. In EAP, productivity growth could be boosted by spurring innovation and technology adaptation through higher spending on R&D and increased foreign direct investment, which can be an important source of technology transfer. In China and other upper-middle-income economies in the region, the effectiveness of R&D spending could be improved, and measures could also be taken to raise productivity in the service sectors, by reducing barriers to competition.

In MNA and SAR, in particular, there is significant room to strengthen flagging labor force growth. Female labor force participation in these regions is around one-half the EMDE average, and if measures were taken to raise it to the EMDE average, potential growth in the remainder of the decade could be boosted by 1.2 percentage points a year. In other regions, especially EAP and ECA, population aging will be a heavy drag on potential growth unless measures are taken to extend healthy lives and increase working opportunities for older people.

Prospects for investment growth in LAC and SSA are particularly weak. Efforts to improve the stability of policy frameworks and the macroeconomy could generate important growth dividends in many economies, as could improvements to business climates and security.

In LAC, strengthening investment growth would require structural reforms to increase domestic saving, boost private investment returns, and prioritize productive public investment over unproductive government spending. Such measures could help upgrade infrastructure to raise international competitiveness and to improve adaptation to more frequent natural disasters.

In SSA, reforms to improve the efficiency of state-owned enterprises could free up capital for other firms to invest. Economic diversification to non-resource sectors and productivity increases in agriculture could also draw investment into these sectors. Additionally, greater openness to trade, technological readiness, security, and policy stability may improve investment prospects. Lowering non-tariff trade barriers may help boost intra-African trade and, thus, increase market size and attract investment. Many SSA countries have large investment gaps, while public investment spending is severely constrained by

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<sup>6</sup> To the extent that younger cohorts have greater labor force participation rates and are better educated than older cohorts, working age population growth would also boost potential growth per capita.

limited fiscal space and high debt. Joint efforts from national governments, international partners, and the private sector are needed to finance growth-enhancing investment projects, especially in infrastructure, health care, and education.

Mitigation and adaptation policies to limit carbon emissions and the impact of climate change are key to lifting potential growth in all EMDE regions. Incentives for green investment can raise capital accumulation and productivity growth while helping meet nationally determined contributions to climate change-related goals. Similarly, improving infrastructure (for example, installing better draining systems for flood protection) and planning for extreme weather events (including higher temperatures) could reduce economic losses and preserve capital stocks and productivity (EAP, SSA).

The pandemic has also highlighted the dividends that can be obtained by boosting digital infrastructure investment. Policies supporting automation and adoption of digital technologies can enhance productivity and potential growth (EAP, ECA, and SSA).

The remainder of this paper discusses the recent evolution of, and prospects for, potential growth in each of the six EMDE regions. Each section examines the drivers of the region's potential growth and presents region-specific policy options for lifting it.

## **5. East Asia and the Pacific**

### **5.1. Introduction**

Since the 1997-98 Asian financial crisis, output growth in the East Asia and Pacific region (EAP) has been nearly twice as high as in the median EMDE (figure 4). However, the region's growth slowed between 2011-21, reflecting both cyclical downturns and a weakening of the region's potential growth, most notably in China, which accounts for 84 percent of the region's GDP. Elsewhere in the region, potential growth strengthened somewhat in 2011-21, particularly in Indonesia, Malaysia, and the Philippines, in part reflecting reforms implemented to rebuild economies devastated by the 1997-98 financial crisis amid favorable demographic trends.

The COVID-19 pandemic has caused major economic disruptions in the region, including a plunge in fixed capital investment and a sharp decline in labor supply in 2020. The subsequent recovery has been uneven across EAP countries and investment remains below pre-pandemic levels in many economies. The worst affected and the slowest to recover are Myanmar and several Pacific Island countries. The pandemic is expected to have an enduring impact on business investment because of increased uncertainty. Weaker educational attainments, especially in countries that were the most heavily impacted by the shock (Cambodia, Myanmar, the Philippines, Thailand, and many Pacific Island economies), is expected to have a lasting effect on labor markets. Weaker human and physical capital will weigh on medium- and long-term growth prospects in the region and exacerbate the current slowdown.

In the remainder of the current decade (2022-30), potential output growth in EAP is projected to slow to 4.6 percent a year on average, from 6.2 percent a year in 2011-21. China's potential growth will continue to decelerate on diminishing returns to capital

investment and slowing TFP growth. Potential growth in the rest of the region is also expected to decline somewhat because of slowing labor force growth. The external environment is expected to be less supportive than before owing to slowing global growth and trade; tighter financing conditions; high volatility of commodity prices and uncertainty related to the outlook for supply chains, trade, technology transfer, and investment amid the war in Ukraine and the lingering geopolitical tensions.

Policy efforts in several areas could boost potential growth, support poverty reduction, and help several middle-income economies attain high-income status. While policies may be able to stem or even reverse the projected slowing of factor inputs, policies to raise productivity growth offer the most promising path for the region's economies to improve their growth performance and speed up the convergence of their per capita incomes to advanced economy levels.

Lowering non-tariff barriers and liberalizing trade in services would help the region take advantage of shifts in the global trade landscape and will boost productivity and competitiveness. Achieving more efficient allocation of financial resources would require strengthening prudential measures and supervision. In the field of energy, policies must address energy security issues with long-term sustainable development strategies (World Bank 2022b). Encouraging investment in renewables could improve long-term energy security and reduce emissions. More climate-resilient infrastructure could also help mitigate a possible climate change-related reduction in annual potential growth resulting from increasingly frequent extreme weather events that damage capital stocks and erode labor productivity.

## 5.2. Evolution and drivers of potential growth in EAP

At an average annual rate of 6.2 percent over 2011-21, potential output growth in EAP was nearly twice as high as in the median EMDE, but it was still below its 7.6 percent average rate in 2000-10.<sup>7</sup> The slowdown of potential growth is mostly attributable to China, where potential growth is estimated to have fallen from 8.3 percent a year in 2000-10 to 6.6 percent a year in 2011-21. Following efforts to prop up growth through credit-fueled investment, the Chinese government initiated policies in 2012 to make growth more sustainable and less dependent on investment and exports (World Bank 2017a). By 2019, China's growth had converged to its potential rate, but significant financial vulnerabilities that had accumulated remained unresolved (World Bank 2021a).

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<sup>7</sup> Estimates of potential growth can vary depending on the methodology used. However, other studies have obtained results similar to those described here, and the slowdown of China's potential growth, in particular, is clear and undisputed. For instance, Anand et al. (2014) report that China's potential GDP growth peaked around 2006-07 at 11 percent a year and declined to below 8 percent by 2013. By contrast, potential growth in ASEAN

(Association of Southeast Asian Nations) countries (for example, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam) has been stable or rising. ADB (2016) reported a gradual decline in China's potential growth since 2008. Bai and Zhang (2017), Nabar and N'Diaye (2013), Maliszewski and Zhang (2015), and Perkins and Rawski (2008) have also confirmed the slowdown of potential growth in China.

In EAP outside China, potential output growth rose to 4.5 percent in 2011-21, 0.6 percentage point higher than in 2000-10. Following the 1997 Asian financial crisis, Indonesia, Malaysia, the Philippines, and Thailand introduced policy reforms that helped investment growth rebound from its collapse during the crisis. In some countries, however, potential growth declined in 2021-21 compared to 2000-21 largely owing to unfavorable demographic trends and idiosyncratic factors. In Thailand, for example, potential growth weakened to around 3.2 percent a year in 2011-21 (from 3.5 percent in 2000-10), close to the lowest in Southeast Asia, as demographic dividends diminished, and domestic uncertainty and frequent flooding weighed on TFP growth and capital accumulation (World Bank 2020a).

The pandemic disruptions of 2020-22 are expected to have lasting negative effects on economic growth across EAP through their adverse impact on human capital and fixed capital formation. Following a significant contraction in 2020, investment in the region rebounded in 2021 but remained about 4 percentage points below its pre-pandemic trend; this gap is not expected to close over the remainder of the decade. Actual and potential output in the region was also negatively affected by pandemic-related school closures, lost working hours and job skills, and especially large declines in earnings of those working in the informal sector—a significant proportion of the workforce in some economies in the region (World Bank 2020b). The collapse in activity, investment, and trade, as well as prolonged border closures, is also estimated to have dampened TFP growth.

Of the 1.4 percentage point decline in EAP's annual potential growth rate between 2000-10 and 2011-21, falling TFP growth is estimated to account for about three-fifths, with the remaining two-fifths attributable equally to slowing labor supply growth and capital accumulation (figure 5). The shift in each of these drivers was strongly influenced by developments in China, which experienced a broad-based slowdown in all drivers of potential growth. The slowing in China's TFP growth may be attributed to several factors, including narrowing room for productivity catchup, declining returns to investment and a misallocation of resources during a prolonged investment boom, and shifts of resources from manufacturing to services (Maliszewski and Zhang 2015; Nabar and N'Diaye 2013). Nevertheless, the contribution of TFP growth to potential output growth in China in 2011-21 remained above the EMDE average (Anand et al. 2014; World Bank 2018a).

The reduced contribution of labor force growth to potential output growth reflects a sharp slowdown in China's working-age population growth related to aging. Thus, the contribution of labor force growth to China's potential output growth fell from 0.5 to 0.2 percentage point between 2000-10 and 2011-21. Finally, the reduced contribution of capital accumulation to China's potential growth in 2011-21 reflects a moderation from the stimulus-driven investment peaks of 2010-12, which had produced overcapacity in some sectors. Nevertheless, China's investment-to-GDP ratio was still as high as 60 percent, on average, in 2011-21.

Aside from China, the rest of the region relied more heavily on growth in factor inputs, particularly capital, to drive potential output growth during 2011-21. Notably, a diminished contribution from slowing labor force growth was outweighed by a larger

contribution from capital accumulation. Although TFP growth remained subdued overall, it inched up in 2011-21 in the Philippines from its post-Asian financial crisis lows. In Mongolia, domestic policy setbacks and commodity price volatility weighed on total factor productivity growth and capital accumulation.

In the five decades to around 2010, economic growth in EAP was supported by a rapidly growing working-age population (IMF 2017a; World Bank 2015). Many economies in the region reaped a “demographic dividend” as the number of workers grew faster than the number of dependents. In the region as a whole, demographic trends have since become less favorable and are expected to deteriorate further over the next decade. The deceleration in working-age population growth has been especially stark in China and Thailand, due to population aging (Bloom, Canning, and Fink 2011). Several economies in the region, however, are still enjoying a demographic dividend (Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Papua New Guinea, and the Philippines).

Several factors besides demographic developments have affected labor force growth in EAP. Labor force participation rates (and productivity) have been boosted by an increase in secondary school completion rates of 10 percentage points between 2000-10 and 2011-21, a rise in the tertiary enrollment rate of 14 percentage points, and improvements in health reflected in an extension of life expectancy by two years. China and Malaysia have made particularly large strides in improving life expectancy and education over the past two decades. Although female labor force participation rates increased in some countries between 2000-10 and 2011-21, they remain relatively low in several of the largest economies in the region (Indonesia, Malaysia).

Capital accumulation slowed in most EAP economies in the second half of 2011-21 owing to several factors. In some ASEAN economies, such as Indonesia and the Philippines, supportive monetary policy spurred investment in the first decade after the global financial crisis, but its influence subsequently waned. In Malaysia, capital accumulation increased in the aftermath of the Asian financial crisis but later moderated, reflecting the worsening of terms of trade and heightened policy uncertainty. Despite the slowdown, the contribution of capital accumulation to potential growth in EAP remained larger than in other EMDE regions, reflecting high domestic savings rates and generally sustained FDI inflows.

The region attracted half of global FDI during 2011-21, with FDI representing over 5 percent of GDP in one-third of EAP economies and playing an important role in the transfer of new technologies, the development of human capital, integration into global markets, enterprise restructuring, and improved competitiveness (Moura and Forte 2010; World Bank 2017b). The region’s relatively rapid capital accumulation helped finance infrastructure upgrades. In the Philippines, for instance, improved macroeconomic policy management and the government’s public-private partnership initiative have boosted infrastructure investment.

In most EAP countries, potential TFP growth slowed or remained relatively weak in 2011-21. The slowing has been attributed to both temporary and more persistent factors (Asian Productivity Organization 2016; World Bank 2018a). Temporary factors include

heightened policy uncertainty (Myanmar) and investment weakness in several commodity-exporting economies that were severely affected by the 2014-16 plunge in commodity prices (Mongolia, Papua New Guinea). More persistent factors include a declining scope for closing the technology gap with advanced economies (China), the maturing global value chains of some products (China, Malaysia), and slowing human capital accumulation in lower-income economies with limited fiscal space for education spending (Cambodia, Lao PDR). Slowing TFP growth due to slowing factor reallocation from agriculture to sectors with higher or faster productivity growth also has had persistent effects (China, Malaysia, Thailand).

Productivity in the region, and especially China, was boosted by rapid integration into global and regional supply chains in the wake of China's accession to the World Trade Organization in 2001. More recently, the maturing of these supply chains has caused previously surging productivity growth to wane (Constantinescu, Mattoo, and Ruta 2017; Kummritz, Taglioni, and Winkler 2017). Among the factors constraining TFP growth in EAP are weak research and development spending (Indonesia, the Philippines, Thailand, and Vietnam), inadequate infrastructure (Indonesia and Thailand), low economic complexity (Indonesia, the Philippines, Vietnam), and price distortions and stringent product market regulations (Malaysia, Thailand). Distortions of economic incentives leading to factor misallocation also appear to be holding back TFP growth in China and Vietnam (World Bank 2022b).

The COVID-19 pandemic has caused damage that is likely to be long-lasting to key drivers of EAP's potential growth. In addition to significantly disrupting economic activity, trade, and investment in 2020, the pandemic has left deep scars, including reduced physical and human capital and a retreat from global supply chains, which are likely to dampen potential growth for a prolonged period. Worsening health outcomes, food insecurity, job losses, and school closures have contributed to the erosion of human capital. COVID-19-related school disruptions have resulted in substantial learning losses in many EAP countries: it is estimated that students in EAP lost an average of two-thirds of a year of learning, with significant variations across subregions. These learning losses add to challenges that the region already faced prior to the pandemic, as a number of countries were already performing poorly on international learning assessments (ADB 2022; World Bank 2021b, 2021c).

Higher public and private indebtedness, weaker bank balance sheets, and increased uncertainty associated with the pandemic now threaten to limit public and private capital accumulation—the main driver of potential growth in much of EAP. Reduced investment, coupled with firm closures and losses of valuable intangible assets (like firm-worker relationships), have weighed on productivity. The disruption of trade and global value chains could also affect productivity by leading to a less efficient allocation of resources across sectors and firms, and by dampening the diffusion of technology.

### **5.3. Prospects for potential growth in EAP**

Potential GDP growth in EAP is projected to slow further to an average rate of 4.6 percent a year in 2022-30, down from 6.2 percent a year in 2011-21. China accounts for much of the projected slowdown, but slowing potential growth is expected to spread to the rest of the region as well. Part of the projected slowdown is due to the pandemic and the war in Ukraine, which are expected to be most severe and longest lasting in the countries that have suffered most from the collapse of global tourism and trade. Growth prospects have also deteriorated for countries that have recently suffered natural disasters, domestic policy uncertainty, and terms of trade shocks.

In terms of the production function framework, each of the three main drivers of potential output growth is expected to contribute to the worsening outlook, with weaker capital accumulation accounting for most of the slowdown followed by falling TFP growth and labor supply growth. Capital accumulation is projected to slow most steeply in China, where policy efforts to rein in credit growth have recently resumed. In contrast, in the Philippines, investment is expected to pick up from depressed levels and boost potential output growth. Heightened geopolitical tensions may weaken investment in the region through higher interest rates, reduced business confidence, and heightened uncertainty.

TFP growth in EAP is expected to be dampened further by maturing electronics technologies and the slowing expansion of global value chains. Geopolitical tensions may also weaken gains from increasing international division of labor and diffusion of technology.

Demographic trends that are already slowing labor force growth are expected to continue, putting the region at risk of growing old before becoming rich (figure 6). The largest decline in the share of working-age population is expected in China. In contrast, for some countries, including Cambodia, Lao PDR, and Papua New Guinea increases in working-age populations are expected, and these countries could continue to reap demographic dividends if they generate sufficient jobs.

Risks to the baseline projection for potential output growth are predominantly on the downside. Downside risks include a worsening of the conflict between Russia and Ukraine, persistent geopolitical tensions, and associated trade disruptions. Worsening geopolitical tensions could further destabilize global economic activity and, in the longer term, cause global trade, investment, technology transfer, and financial networks to fragment (World Bank 2022c). The drag on activity from persistent trade and supply disruptions and high commodity prices could also cause the global economy to become mired in stagflation, with inflationary pressures requiring substantially more monetary tightening than currently assumed.

### **5.4. Policy options to lift potential growth in EAP**

The baseline projection for 2022-30 shows a further slowdown in EAP's potential output growth, which will also result in a slower convergence with per capita incomes of advanced



economies. However, this can be avoided if countries in the region implement growth-enhancing reforms. To illustrate, in a scenario in which the largest 10-year improvements in investment growth, educational outcomes, life expectancy, and female labor force participation during 2000-21 are assumed to be repeated in each country in EAP, it is estimated that potential growth could be raised by 0.8 percentage point a year by the end of this decade. More than half of this increase (around 0.5 percentage point a year) would come from the boost to investment growth.

The region faces the consequences of climate change, including more frequent and more severe droughts, flooding, coastal erosion, typhoons, and cyclones, as well as rising oceans. It is estimated that investment in climate change mitigation and adaptation could strengthen the region's resilience to climate change and boost annual potential growth by 0.1 percentage point by the end of this decade. Small island countries remain particularly vulnerable to risks of natural disasters, including weather-related events, losing on average about 1 percent of GDP a year to damage from such disasters (Scandurra et al. 2018). More climate-resilient infrastructure could also help mitigate a possible climate change-related reduction in annual potential growth resulting from increasingly frequent extreme weather events that damage capital stocks and erode labor productivity.

The EAP region, particularly China, is a major contributor to rising greenhouse gas emissions: its emissions tripled between 2000 and 2019, and they now account for nearly one-third of global emissions (World Bank 2021d). Early action by the region on climate change, therefore, has global as well as regional importance. A transition to less carbon-intensive growth requires fundamental and costly shifts in consumption and production patterns. Policy priorities include phasing out fossil fuel and energy subsidies; adjusting carbon prices; fostering green public investment in low carbon and resilient infrastructure and innovation; and undertaking low-carbon policy reforms in key sectors, such as energy, transport, agriculture, land use, and urban planning. The increased viability of green technologies should allow EAP countries to cut carbon emissions and preserve energy security.

A major contributor to the region's rapid growth of potential output in past decades has been the reallocation of labor and other resources from agriculture to higher-productivity sectors, a process that has encouraged urbanization. EAP has the potential for continued, rapid urban development (Baker and Gadgil 2017). Although more than 450 million people moved to cities between 2000 and 2016, the share of people in EAP living in urban centers was only 57 percent in 2020, well below the advanced economy average of 80 percent.<sup>8</sup> In China, the urbanization rate in 2020 was 65 percent, with only 25 percent of the population living in urban agglomerations, compared to 45.3 percent in the United States. With a large share of the EAP workforce still engaged in agriculture, there is still scope for substantial productivity gains from resource reallocation, particularly in Cambodia, Indonesia, the Philippines, Timor-Leste, Thailand, and Vietnam. To promote

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<sup>8</sup> Urbanization rates are particularly low in Papua New Guinea (13 percent), Cambodia (21 percent), and Myanmar and Vietnam (around 35 percent).

further urbanization, possible measures include investing in infrastructure and social services, making land more accessible on a fair and transparent basis, encouraging facilities that support recent migrants, and coordinating urban services across municipal boundaries.<sup>9</sup>

At the same time, to increase productivity in agriculture, renewed efforts are required to remove barriers and distortions that prevent a reallocation of productive resources across farms. At the same time, sustaining growth in agricultural productivity requires the adaptation of a steady stream of new farm practices and technologies by farmers, more efficient management of inputs, adoption of new crops and production systems, improvements to the quality of their products, and conservation of natural resources.

Institutional reforms—such as better corporate governance, enhanced auditing and accounting standards, and stronger regulatory frameworks—could promote competition and productivity growth (Malaysia, Thailand). Improving the business climate would also help raise productivity in some economies (Cambodia, Fiji, Lao PDR, Myanmar, Papua New Guinea, Timor-Leste, and the small Pacific Islands). Cambodia, Lao PDR, Myanmar, and Papua New Guinea rank low on the Corruption Perception Index produced by Transparency International and on other governance indicators. Enhanced transparency, strengthened accountability, and greater responsiveness of state institutions to the needs of the private sector would bolster investor confidence and invite productivity-enhancing investment (World Bank 2021c).

Several countries in the region continue to have sizable infrastructure investment needs (Vashakmadze et al. 2017). In some economies, better public infrastructure could foster connectivity and spur innovation. Financing such investment will depend on country circumstances: by broadening the tax base (Cambodia, Indonesia, Lao PDR, Malaysia, Mongolia, Papua New Guinea, the Philippines), increasing the efficiency of public investment (Indonesia, Lao PDR, Vietnam; Dabla-Norris et al. 2012), rebalancing public expenditures toward investment, or promoting public-private cooperation (Cambodia, Pacific Island countries; World Bank 2022d). Developing and implementing rigorous and transparent processes for project selection, appraisal, and procurement could make public investment more efficient and improve the operation and maintenance of assets (Ollivaud, Guillemette, and Turner 2016). Enhancing the transparency and governance of state-owned enterprises could also help to ease pressure on fiscal resources.

Over several decades, the region's openness to international trade has led to significant productivity gains (Eris and Ulasan 2013; Havrylyshyn 1990; Trejos and Barboza 2015). Increased domestic and international competition could strengthen incentives for productivity-enhancing technological innovation. However, in recent years, weaker growth in advanced economies, signs of weakened commitment to trade liberalization, and increased risks of protectionism have threatened prospects for a further trade expansion. On the other hand, the movement of some production out of China and an incipient

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<sup>9</sup> See, for instance, ADB (2016), Bryson and Nelson (2016), Creehan (2015), and World Bank and PRC (2014).

digital transformation are creating new opportunities for some economies in the region to expand their exports. Policy efforts in several key areas could help counter these risks and make the most of these opportunities.

Lowering non-tariff barriers would further expand global and regional trade, help the region take advantage of shifts in the global trade landscape, and improve the international allocation of investment, thereby boosting productivity and competitiveness. Barriers to services trade remain elevated in many countries of the region (Indonesia, Malaysia, the Philippines, Thailand; Beverelli, Fiorini, and Hoekman 2017; World Bank 2022e). Restrictions on foreign control and ownership of firms, discretionary licensing, and limits on the operations of foreign companies can all reduce trade in international services. In addition, foreign entry restrictions in some EAP countries curtail the provision of legal, accounting, engineering, and other professional services.

Participation in deep trade agreements such as the ASEAN economic community and the Regional Comprehensive Economic Partnership can catalyze domestic reforms as well as secure access to markets abroad. Growth-promoting domestic reforms may include policies that facilitate domestic labor mobility and the entry and exit of firms to allow reallocation of resources to more efficient enterprises. These partnerships can also help boost the region's resilience, as they did during the global financial crisis in 2008-09 and support the development of small and medium-sized enterprises (Estrades et al. 2022).

The ASEAN-4 countries (Indonesia, Malaysia, Thailand, and the Philippines) have begun to strengthen the quality and flexibility of domestic education systems. Many EAP countries, however, have long suffered from a learning crisis, with low levels of educational attainment partly due to the absence of policy initiatives. Extended school closures during the pandemic—with schools in the region closed for about 73 percent of instruction days between February 2020 and October 2021—led to substantial further learning losses, especially for the poor. These losses must be reversed to prevent lasting damage to student progression, human capital formation, and opportunities for productive work (ADB 2022). Reforms to improve education quality would also raise labor-force skills and promote productivity growth (World Bank 2018a). Learning losses can also be mitigated through measures to adjust school curricula and develop rapid catch-up periods now that schools have reopened. In the longer term, countries should seek to develop more resilient and inclusive education systems that can deliver learning in the event of future crises, including through remote learning. In addition, reforms that raise female secondary and tertiary enrollment and completion rates could increase female workforce participation rates.

The growth of TFP and potential output could also be boosted by policies that spur innovation and technology adaptation (Cirera and Maloney 2017). These include higher spending on research and development (R&D) and the promotion of inward FDI, which can be an important source of technology transfer. In China and other upper-middle-income economies in EAP, reducing barriers to competition could improve the effectiveness of R&D spending and raise productivity in the services sectors (Bai and Zhang 2017; World Bank and PRC 2012). Lower-middle-income countries may be able to

capitalize on FDI inflows by strengthening their capacity to adopt new technologies, the diffusion of which could boost productivity across a broad range of firms (World Bank 2022d). However, building adoptive capacity may require enhancing managerial and technical skills, and improving access to finance and digital infrastructure (Acemoglu and Restrepo 2017).

## 6. Europe and Central Asia

### 6.1. Introduction

Emerging market and developing economies (EMDEs) in Europe and Central Asia (ECA) have been hit hard by two destabilizing shocks in quick succession. The COVID-19 pandemic induced a recession in 2020, reversing recent progress in raising living standards and leaving deep economic scars among vulnerable populations. Just as regional output was edging toward its pre-pandemic trend in early 2022, the Russian Federation invaded Ukraine. The invasion has since unraveled the region's economic recovery from the pandemic-induced recession, with its effects reverberating through commodity and financial markets, trade and migration links, business and consumer confidence, and weaker external demand from the euro area—ECA's largest trading partner (Guénette, Kenworthy, and Wheeler 2022; World Bank 2022f). Regional output is forecast to shrink by about 0.3 percent in 2022 and to barely grow in 2023 (figure 7.A; World Bank 2022c, forthcoming). As a result, the regional economy faces large output losses—particularly in Russia and Ukraine (figure 7.B).

In the past, large negative shocks to economic activity have often been followed by downward revisions to long-term growth forecasts—as was the experience for the region in the 2010s after the global financial crisis and European debt crisis, as well as after the 2014-16 oil price plunge for ECA's energy exporters (figure 7.C). Once again, the region is at risk of facing another decade of disappointing growth, as the pandemic and invasion of Ukraine inflict damage to the underlying drivers of long-term growth—especially labor productivity—by weakening investment, disrupting supply chains, hindering innovation, and scarring human capital through sustained education and job losses (Dieppe 2021; Dieppe, Kilic-Celik, and Okou 2021).

Against this backdrop, potential output growth is projected to slow from an annual average pace of 3.6 percent per year over 2011-21 to 3 percent per year over 2022-30 (figure 7.D).<sup>10</sup> The projected slowdown is not broadly shared across ECA countries, however, as it largely reflects weaker growth in Türkiye and to a lesser extent Poland—the second and third largest economies in the region, respectively. Elsewhere in ECA, potential growth in the remainder of this decade is projected to be either stronger or

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<sup>10</sup> Given data limitations, estimates of potential growth and its drivers are available for nine ECA economies: Armenia, Albania, Bulgaria, Hungary, Kazakhstan, Kyrgyz Republic, Poland, Romania, and Türkiye. Central Europe is thus represented only by Bulgaria, Hungary, Poland, and Romania; Central Asia by Kazakhstan and the Kyrgyz Republic; the South Caucasus by Armenia; and the Western Balkans by Albania

broadly in line with its pace in 2011-21 (figure 7.E). In some Central European and Western Balkan economies, a pick-up in growth is expected, driven by significant spending related to the European Union (EU) and associated reforms (figure 7.F). In particular, increased research and development (R&D) spending could support the digital and green agendas in ECA EU countries and encourage the acceleration of technological innovation and total factor productivity (TFP).

The region's longstanding structural challenges have been amplified by the pandemic and invasion of Ukraine. These include deteriorating governance in some countries, lack of infrastructure in some cases in the eastern part of the region, and education systems that create skills mismatches in the labor market. With limited space for fiscal stimulus, structural reforms are needed to raise ECA economies to higher growth paths than the baseline projection, boost jobs and incomes, and strengthen resilience to shocks. These include reforms to the still-large state-owned enterprise sector, governance, and education systems, as well as efforts to achieve green and inclusive growth.

## **6.2. Evolution and drivers of potential growth in ECA**

Even prior to the invasion of Ukraine, potential output growth in ECA had fallen from 4.2 percent during 2000-10 to 3.6 percent in 2011-21. The period before the global financial crisis (GFC) was characterized by robust growth, as rapid economic transformation supported capital accumulation. Relatively strong growth partly reflected the benefits of high commodity prices for the region's commodity exporters and sweeping reforms in several countries as part of the EU accession process (EBRD 2017).

Following rapid progress toward convergence with the EU over the 2000s, the region has been hit by a series of shocks—the GFC of 2008-09, the European debt crisis of 2010-12, the 2014-16 oil price plunge, the COVID-19 pandemic that erupted in 2020, and Russia's invasion of Ukraine in early 2022—all of which have dampened growth and investment drivers and prospects. In addition to these shocks, various domestic crises, including those related to social and political unrest, have also weighed on growth prospects. As a result, per capita income growth fell from 3.8 percent per year over 2000-10 to 3.4 percent per year over 2011-21.

Capital accumulation has been the largest contributor to potential output growth in ECA over the past two decades. Average private investment growth in the region fell to about 4.9 percent per year over 2011-21, down from 7 percent per year in 2000-10. Total investment fell from 8 percent per year over 2000-10 to 4.7 percent per year over 2011-21 (figure 8.B). Capital accumulation contributed 2.4 percentage points a year to potential growth, on average, during 2011-21, broadly in line with 2000-10. Private sector and investment growth continues to struggle due to unskilled labor forces or skill mismatches, limited access to finance, and burdensome logistics and poor market integration in many ECA economies, particularly those in the eastern part of the region that are not tied to the EU-accession process. Dividends from public investment in ECA have lagged the EU, in many cases reflecting institutional quality gaps, weak public procurement processes, and constraints to administration and absorption capacity.

For most of the 2010s, investment in several ECA economies—including Albania, Armenia, Bulgaria, and Romania—failed to regain ground lost in the wake of the GFC and European debt crises. In the region’s energy exporters, investment weakened alongside the sharp fall in oil prices over 2014-16. The rise in geopolitical tensions following Russia’s annexation of Crimea in 2014 also triggered a broad decline in investor confidence. The maturing of global value chains—the expansion of which had been a major driver of productivity-enhancing investment—is also likely to have played a role in slowing capital accumulation, given ECA’s deep integration into global markets.

While demographic developments in some other EMDE regions were supportive of output growth over the past two decades, in many ECA economies a combination of aging populations, low birth rates, and emigration weighed on growth. In several ECA economies, particularly those in Central Europe, the share of the elderly in the population rose rapidly. In Poland, the increase in the share of the population aged 65 years or older exceeded 5 percentage points over the 2010s—well above the EU average of 3 percentage points (European Commission 2021). In many parts of the region, emigration added to the pressures arising from the natural drop in the population and the effect of population aging on labor-force growth (Bossavie et al. 2022). As a result, growth in working-age populations and labor supplies slowed and labor shortages in individual sectors were common (figures 8.C and 8.D). Demographic developments, however, have been uneven across ECA. Over the past two decades, half of the region’s economies saw population declines, while others, especially in Central Asia and Türkiye, reported population gains (and in some cases strongly).

Demographic pressures in many ECA countries stem from low labor force participation, especially among those living in rural and underserved areas. Precarious employment and low-quality jobs contributed to a high incidence of undeclared work in some ECA economies, including those in Central Europe where informality tends to be lower than in other parts of the region (El-Ganainy et al. 2021; Ohnsorge and Yu 2021). Employment opportunities for women, especially migrants, were more limited than those for men with similar levels of tertiary education (Frattini and Solmone 2022). This was most evident in Romania. As a result of these challenges, labor activity rates in many ECA countries have remained below those of EU peers. Because of these trends, the average contribution of labor force growth to potential output growth in ECA remained modest though stable between 2000-10 and 2011-21.

The accumulation of human and physical capital lost momentum in the last decade—weighing on potential TFP growth. Gains in both life expectancy and educational achievement leveled off, with educational reform losing momentum after the large strides of the early 2000s (Patrinos 2022). Although school enrollment rates in ECA have been high for decades and the average number of years of education is the highest among EMDE regions for both males and females, quality-adjusted years of education and PISA scores trail the EU average in many cases, with some backsliding even in the decade prior to the pandemic (figure 8.E; World Bank 2020d). The levels of basic skills in reading, mathematics, and science, as measured by PISA scores, fell between 2006 and 2018,

roughly to levels observed in 2000 (Patrinos 2022). Educational outcomes are low even in some ECA EU countries, such as Bulgaria, where almost half of teenagers lack basic reading, mathematics, and science skills (against one in five in the EU). In contrast, Poland’s educational outcomes have been high and years of quality-adjusted education have been increasing, especially in the younger cohorts, which has likely contributed to faster catch-up with the EU than among ECA peers (World Bank 2022g).

While several factors seem likely to have contributed to the apparent fall in educational attainment in ECA, insufficient investment, especially in pre-primary and primary education, has likely played a significant role. In ECA as a whole, government spending on education fell from 4.2 to 3.9 percent of GDP between 2009 and 2019. Widening income inequality among the families of students in the region may have also had an effect. Learning outcomes in many ECA countries are considerably higher for socioeconomically advantaged students than for disadvantaged students, who are often effectively segregated from high achievers (OECD 2021a).

But educational challenges not only weigh on an inclusive recovery, but also hinder the private sector and dampen long-term growth prospects.<sup>11</sup> Mismatches between labor market needs and skills form a significant constraint on potential output growth in ECA. ECA countries rank above the EU average in skill mismatches, the gaps being particularly large for Albania and Bulgaria (IMF 2021a). Across ECA, skills of graduates from vocational and higher education are often poorly aligned with needs. One result is the high proportion of young people neither employed nor in education or training (NEETs). NEET rates in 2021 were above the EU average in most ECA countries, and more than 10 percentage points higher for women than men in Bulgaria, Poland, and Romania. High NEET rates may reflect weak labor market policies and lower spending in ECA countries compared to the EU. Participation in training (based on survey data from recent years) ranged from less than 2 percent of the population aged 25-64 years in Bulgaria to 6 percent in Hungary and Türkiye. This compares with an EU average of 11 percent (European Commission 2022).

Other major drivers of TFP growth also slowed in 2011-21. After a boost from EU-accession reforms, governance reform efforts have slowed in many of the new member states and backtracked in others, weakening the business environment and likely hindering competition and innovation. Pervasive corruption and large informal sectors in some countries are major constraints on the ability of private firms to invest, innovate, and close productivity gaps with the EU. In 2018, ECA countries continued to fall short of the EU average in the public institutions component of the Global Competitiveness Index, with already sizable gaps in ethics and corruption widening in some cases. The adverse effects of such poor governance tend to be magnified by the state’s outsized footprint on the economy (figure 9.A-D). Even in ECA’s EU countries, World Bank Enterprise Survey

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<sup>11</sup> Enterprise Survey data from the World Bank indicate that an inadequately educated workforce is one of the largest constraints on firms’ ability to grow in Bulgaria, Poland, and Romania—especially in Bulgaria and Romania, where nearly a quarter of firms identified education as a constraint (World Bank 2022c).

data for 2019 indicate that institutional weakness hindered private sector activity: firms highlighted obstacles related to meeting with tax officials in Bulgaria and Romania and competition from informal firms in Bulgaria and Poland (figures 9.E and 9.F).

Another important driver of TFP growth is R&D spending, which promotes technological innovation (Hallward-Driemeier et al. 2020).<sup>12</sup> Average R&D spending in the region remained under 1 percent of GDP throughout the 2010s, whereas in the EU it rose from about 2 percent in 2010 to 2.2 percent by 2018. Thus, a deteriorating business environment, weakening governance, and sluggish R&D investment have likely all tended to slow or constrain TFP growth in the past decade, with the average contribution of TFP growth to potential output growth estimated to have declined from 1.7 percentage points in 2000-10 to less than 1 percentage point in 2011-21.

The COVID-19 pandemic and the Russian invasion of Ukraine are likely to have weakened ECA's potential growth through several channels. Fixed investment is likely to have been dampened by increased uncertainty, including about the longer-term international economic landscape and risks of deglobalization, and by reduced investor confidence.

The pandemic has also set back human capital formation. Schools in ECA were closed completely for nearly 65 days and partially for over 75 days, on average, between March 2020 and September 2021 (Donnelly and Patrinos 2021; Patrinos 2022). Survey data point to a year's worth of learning losses among students in at least 11 ECA countries (Patrinos 2022). The adverse economic effects will become more pronounced as the cohort of current children enters the labor market. Education losses from the pandemic have likely been larger in poor and vulnerable populations and underserved regions, partly owing to pre-existing challenges that include uneven digital connectivity, low public expenditure on education, and inequitable learning opportunities and outcomes. On top of that, Russia's invasion of Ukraine has triggered an influx of displaced people from Ukraine—about half of which are children—to neighboring ECA countries, which will require additional resources to meet their educational needs.

As in past crises, the pandemic triggered a rise in the share of young people who are neither employed nor in education or training. The recent increase raises concern that many of today's young people will remain out of the labor market for years to come, facing a higher likelihood of poverty and reducing actual and potential output in the countries where they live (European Commission 2022).

Prior to the invasion of Ukraine, ECA working hours had nearly returned to their pre-pandemic trend (ILO 2022a). The negative impacts of the pandemic on labor supply and markets has varied across ECA countries, partly owing to differing levels of government support for jobs and incomes, resulting in an uneven shock to country-level potential growth. In some economies, job losses were partly mitigated by employment retention

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<sup>12</sup> Innovations are typically the result of a financially demanding research processes that generates intellectual property assets. These include patented inventions or ideas for the digital setting that are protected by copyright or otherwise (Pelikánová 2019).



schemes, resulting in 2020 employment rates that were largely unchanged from 2019. This was observed, for example, in Hungary, Poland, and Romania, as well as in some Western Balkan economies, including North Macedonia and Serbia. In contrast, employment rates fell and unemployment rose sharply in 2020 in many countries in Eastern Europe, the South Caucasus, and Central Asia, where employment retention schemes were smaller or absent. In many of these countries, where informality tends to be high, increases in unemployment were somewhat stemmed by shifts from wage and salaried work to self-employment (ILO 2022a).

The labor market recovery since 2020 has been similarly uneven across and within countries, as well as across sectors. In Türkiye, Poland, and Kazakhstan—ECA’s second, third, and fourth largest economies, respectively—employment has returned to pre-pandemic rates, and in the Central European economies labor market slack has returned to or fallen below pre-pandemic levels.<sup>13</sup> In contrast, the recovery has been more sluggish in some economies in South Caucasus and Central Asia. In some cases, labor market recoveries have been shallower than unemployment data suggest because employment losses have been offset by increases in people outside the labor force—reflecting, for example, job seekers that have become discouraged from long spells of unemployment. High-frequency World Bank Household Survey data indicate persistent financial concerns among the poor and vulnerable, as pandemic-related job and income losses have disproportionately affected them, particularly in lagging regions within countries (World Bank 2022h).<sup>14</sup> As a result, the erosion of human capital from pandemic-induced unemployment has varied in ECA, which could lead to divergences in potential growth over the coming years.

The pandemic has highlighted not only the critical role of digital connectivity for the continuity of public service provision and economic activity, but also the digital divide across income groups and geographic regions. Although access to broadband internet has expanded over the past decade in ECA, with almost all households having access by 2018, a large share of the population still lacks basic digital skills and does not use digital technologies. In 2021, fewer than half of Central and Eastern Europeans had basic digital skills. This has limited the use of the internet for e-commerce and interaction with public authorities to levels much lower than in the rest of Europe.<sup>15</sup> Moreover, it has been much easier for highly skilled and high-wage workers to work remotely compared to low-skilled workers. Thus, low-skilled workers experienced a significantly larger drop in employment,

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<sup>13</sup> Labor market slack is measured by Eurostat and is defined as unemployed, inactive, unavailable, and underemployed people as a share of the labor force and potential additional labor force (that is, those inactive and unavailable).

<sup>14</sup> As measured by Eurostat’s NUTS 2 and NUTS 3 regions, which comprise Bulgaria, Hungary, Montenegro, Poland, Serbia, Romania, and Türkiye.

<sup>15</sup> In 2021, ECA countries ranked among the lowest in the EU in the European Commission’s Digital Economy and Society Index. Low rankings reflect weakness in digital connectivity (for example, in Bulgaria, where only 59 percent of households subscribe to broadband services, well below the EU average of 77 percent), online public service delivery (Bulgaria, Romania), and digital skills (for example, in Bulgaria, Poland, and Romania; only 29 percent of Bulgarians aged 16 to 74 years have basic digital skills compared to the EU average of 56 percent).

especially during the first wave of the pandemic when policies on social interaction were at their most restrictive. Lack of access to digital devices during school closures also put disadvantaged students at higher risk of learning losses (World Bank 2021e). This underscores the fact that for the potential benefits of the digital transition to be widely harnessed, a broad range of complementary elements are required, including access to broadband, trust in the digital system and a baseline of digital skills among the population.

### 6.3. Potential growth prospects in ECA

Potential output growth in ECA is projected to slow from an annual average pace of 3.6 percent per year over 2011-21 to 3.0 percent per year in 2022-30—compared with 4.2 percent per year in 2000-10. As a result, potential per capita growth is expected to slightly decelerate to 2.8 percent per year over 2022-30 from 2.9 percent per year in 2011-21. The projected slowdown reflects a continued deceleration of all the main drivers of growth, exacerbated by the effects of the pandemic and the war in Ukraine.

Potential growth is expected to depend increasingly on capital accumulation as its other drivers—growth of the labor force and TFP—weaken due to increasingly unfavorable demographic developments. Labor force growth is expected to be constrained by intensifying demographic pressures, and its contribution to potential growth is projected at less than 0.1 percentage point a year, on average, over 2022-30. Meanwhile, TFP growth is expected to remain relatively weak, at less than 1 percent a year, over the remainder of this decade. Capital accumulation may be constrained by slowing progress with reforms; lingering structural bottlenecks, including lack of digital skills; low R&D spending; and waning gains from earlier reforms, particularly in ECA's five EU member states, inch closer to convergence with the EU.<sup>16</sup> Thus, in the baseline projection, capital accumulation accounts for about 70 percent of potential output growth in 2022-30.

The projected slowdown in potential output growth in ECA is not evenly spread across countries. It largely reflects slowdowns in Türkiye and, to a lesser extent, Poland. In Türkiye, potential growth is projected to fall from 4.6 percent a year in 2011-21 to 3.4 percent a year in 2022-30, as the contribution of capital accumulation slows. Investment prospects have deteriorated sharply owing to a weakening of macroeconomic policy frameworks and macroeconomic stability, which has dented confidence and increased uncertainty. The earthquakes that hit Türkiye in February 2023 may result in increased investment over the next few years as reconstruction efforts get underway, but largely to replace capital stock that has been damaged or destroyed. Despite the possibility of temporary upticks in growth due to reconstruction, adverse events such as earthquakes can have large sustained negative effects on productivity in the longer run through dislocating labor, tightening credit conditions, disrupting value chains, and decreasing innovation. Beyond the impact of the earthquakes and heightened uncertainty around

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<sup>16</sup> This is especially true of Poland, where output per capita in equivalent purchasing power terms was already about three-quarters of the EU average in 2019.

investment prospects, other structural headwinds are weighing on potential growth over the remainder of the decade, including low labor force participation and weak productivity growth (World Bank 2020e).

In Poland, also, all drivers of potential growth are expected to weaken in the remainder of this decade. TFP gains from earlier reforms are expected to fade as the country continues to close its per capita income gap with the EU. The disbursement of Next Generation EU funds has been delayed, dampening investment, compounding existing challenges with the absorption of funds, and threatening a missed opportunity to boost TFP given that investments and reforms associated with these funds must be implemented by end-2026. The contribution from labor force growth is expected to become negative as the working-age population declines, though this could be partly offset by the immigration of Ukrainian workers—an upside risk to the baseline forecast.

Elsewhere in ECA, potential output growth in 2022-30 is projected to be either stronger than, or close to, the growth rates of 2011-21. In some Central European and Western Balkan economies, faster growth is expected to be driven by sizable EU-related spending. Potential growth in these economies could be even stronger than projected in the baseline if the associated reforms are successfully implemented (World Bank 2022i). In particular, national targets for increasing R&D spending could support digital and green agendas and help raise TFP growth above the baseline.

Although potential growth prospects vary across the region, demographic headwinds are expected to intensify in each ECA economy as populations age and with birth rates remaining low (European Commission 2021). Consequently, the working-age shares of populations in ECA economies are expected either to continue increasing more slowly or to fall from peaks reached a decade ago or earlier; the shares of those retiring are expected to rise. Without policies to bolster labor-force participation rates, improve job opportunities to discourage emigration, and better integrate immigrants, labor-force growth will continue to fall and could become a drag on potential growth, with added fiscal challenges. Thus, the average contribution of labor-force growth to potential growth in ECA is projected in the baseline to fall from 0.3 percentage point a year over 2011-21 to less than 0.1 percentage point a year over 2022-30. For 9 of the 13 countries with available data, labor-force growth is expected to be a drag on potential growth. Even in the countries where this is not the case—Türkiye and the countries of Central Asia—the contribution in 2022-30 is expected to be weaker than in 2011-21. Türkiye, in particular, suffers from low labor force participation: its employment rate in 2019, at 54 percent, was nearly 20 percentage points below the EU average, reflecting, in particular, a large gap in female participation and employment (34 percent in Türkiye versus 67 percent in the EU).

The baseline projection is subject to many risks related to the possibilities of further pandemic outbreaks and a more prolonged or severe conflict in Ukraine than presently envisaged. Even after the pandemic and war recede, they may have lingering effects in increasing inequality by magnifying existing disparities and causing large human capital

losses among people who are already disadvantaged. This could weaken potential growth, especially if large segments of the population are left behind.

There are also some upside risks to the projections. For countries neighboring Ukraine, the migration resulting from Russia's invasion could alleviate labor supply constraints. Some of Ukraine's neighbors in ECA, particularly Poland and Romania, have taken in large numbers of Ukrainian refugees. Unlike some previous migration waves, however, roughly half of these migrants are children, and the share over the age of 64 years is also relatively high (UNHCR 2022). The inflows of Ukrainian refugees could boost the labor supply by around 1 million in Poland and over 60,000 in Romania, implying increases in potential output growth of 0.4 and 0.1 percentage point a year, respectively, unless or until the migrants return (IMF 2022a; Strzelecki, Growiec, and Wyszynski 2020; World Bank 2022i). The integration of these new workers is being supported by the EU's recently announced measures to provide services to forcibly displaced persons. The possible increase to potential growth could be even higher, since Ukrainian migrants, on average, have more years of schooling than the native populations in these receiving countries.

#### **6.4. Policy options to lift potential growth in ECA**

ECA faces formidable challenges in seeking to achieve convergence of living standards with the EU, particularly given the prospect of weakened potential output growth in the years ahead (Dieppe 2021). However, potential growth could be meaningfully lifted by reforms that fill the region's remaining investment needs, including climate adaptation and resilience; bolster human capital to address the pandemic's negative effects and deteriorating education outcomes; and mitigate demographic headwinds. Investment could be boosted, and potential growth further lifted, by reforms that address ECA's structural shortcomings related to the quality of governance and institutions, private sector development, and increased investment in R&D and the digital transition.

In a scenario in which the largest ten-year increases on record in each country in investment growth, education outcomes, life expectancy, and elderly and female labor force participation are assumed to be repeated, it is estimated that potential output growth could pick up from the baseline rate of 3.0 percent a year to 3.8 percent a year in 2022-30—faster than the 3.5 percent annual pace of 2011-21 (figure 10.A). Higher investment is expected to contribute three-quarters of the 0.8 percentage-point boost to annual potential growth. Social benefit reforms (assumed to raise labor force participation) account for another quarter. The remainder results from labor market reforms (also assumed to raise labor force participation) and education and health improvements. In a separate scenario in which investment is increased to tackle climate change, potential growth over 2022-30 would rise by 0.4 percentage point a year over the baseline, to 3.4 percent—only slightly lower than the average pace of 2011-21 (figure 10.B).

Private investment and innovation are encouraged by strong institutions and conducive business climates, a strong rule of law with secure and enforceable property rights and minimal expropriation risk, a stable and confidence-inspiring policy environment, and low

costs of doing business. The same factors encourage participation in the formal sector, where productivity tends to be higher than informal activity (World Bank 2018a, 2019a, 2021e). Stronger private sector-driven growth in ECA will depend critically on structural reforms to make the region's economies more market-based.

Given large gaps in the quality of governance between ECA's economies and EU peers, reforms that strengthen institutions should be prioritized. Action on this front would support TFP growth as well as investment (World Bank 2021e). A weak rule of law can result in an uneven playing field that disadvantages the private sector when competing against the state, while corruption can contribute to state capture of private sector activity. Failure to establish a strong rule of law and eliminate corruption will damage economic growth and increase fiscal risks, including those related to spillovers from impaired corporate balance sheets to public sector balance sheets, which, as history shows, can lead to large fiscal costs (Bova et al. 2016).

A related challenge is the large and still not entirely reformed state-owned enterprise sector in many ECA countries. Indeed, the state's large footprint in many ECA economies has grown larger since 2020 because of the need for government support related to the pandemic and the war in Ukraine.<sup>17</sup> A larger state footprint, combined with weak rule of law in many cases, increases the likelihood of an uneven playing field that disadvantages the private sector. Pervasive corruption and state capture likewise form formidable constraints on the ability of private firms in ECA to invest and innovate. It is thus critical for ECA countries to strengthen institutional quality and ensure that the state promotes the efficient allocation of resources.

Among the most effective and ways of improving government efficiency, accountability, control of corruption, and service delivery are digitalization and broader use of information technologies in the public sector (World Bank 2021b). Policies to enhance data transparency and security can also play an important role in strengthening institutions, including by making governments more accountable, which in the long run should raise per capita incomes (Islam and Lederman 2020).

In the context of institutional reform, there is considerable scope for ECA governments to reform and even dismantle regulatory barriers to doing business and entrepreneurship. The aim should be to ensure effective regulation that is conducive to the efficient working of competitive markets while addressing market failures (figure 10.C; Kilic Celik, Kose, and Ohnsorge 2020).

Lack of exposure to international competition—often the result of non-tariff barriers and complex trade rules, as well as restrictive product market and services regulations—remains a structural bottleneck to growth in the region, hindering the ability to raise

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<sup>17</sup> In the near to medium term, policy makers must carefully balance the need to support vulnerable populations, especially given the sharp increases in commodity prices exacerbated by the war in Ukraine, with the need to shore up fiscal sustainability—a key requirement of government effectiveness. Over time, government involvement is likely to retreat as support is unwound.

exports as well as attract domestic and foreign investment. The OECD's product market regulation indicator shows conditions in ECA to be 30 percent more prohibitive than the EU average, with particular bottlenecks arising from high public ownership and barriers to trade and investment (OECD 2022).

The invasion of Ukraine has put at risk decades of hard-won gains in regional trade and investment integration by fracturing critical trade routes, supply chains, and financial intermediation. This could result in less specialization, fewer economies of scale, less competition, and the slower spread of productivity-enhancing innovations.

Policies are urgently needed in many ECA countries to tackle intensifying demographic pressures by raising labor force participation. These include measures that would help raise retirement ages toward EU levels and help align retirement ages between men and women. In most ECA countries, the average effective labor market exit age remains below the EU average, with a large part of this gap accounted for by an earlier retirement age for women. Over the next decade, average effective retirement ages are expected to increase in the EU to 65 years for men and women, but in most ECA countries they will remain below this level (European Commission 2021). In some cases, such as Poland, earlier reforms to increase the retirement age of women have been reversed, with current legislation setting retirement ages at 65 years for men and 60 years for women. But in several economies (Bulgaria, Romania, Türkiye) pension reforms are planned that lift statutory retirement ages for men and women over the next decade or so.<sup>18</sup> These measures can be supplemented with others that increase the average effective labor market exit age (Carone et al. 2016). For instance, pension age reforms can be complemented with broader labor market policies tailored to older workers, including measures that incentivize job searches by older workers, and that support the retention of older workers, as well as increased investing in health care to promote healthier aging (Bodnár and Nerlich 2020).

Despite efforts to increase female labor force participation, women continue to make up a large share of the inactive population in both ECA and the EU.<sup>19</sup> Female labor force participation may be boosted by job training programs specifically for women, including vocational training. This is especially urgent given low training participation in the region (Bandiera, Buehren, Burgess, et al. 2020).

Measures that support the integration of migrants from Ukraine could boost the labor force and consequently potential growth (figure 10.D; IMF 2022a; Strzelecki, Growiec, and Wyszynski 2020). The skill-matching issues discussed above can be addressed by active labor market policies, including measures that promote job search, training, and re-training. Many of these policies should target lower-income and lower-skilled

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<sup>18</sup> Increasing the female retirement age has been found to bolster female participation in such countries as Japan and Switzerland (Lalive and Staubli 2015).

<sup>19</sup> In Romania, about three-quarters of the inactive population aged 25 to 59 years are women (among the highest of the EU), pointing to the need for further investment to expand access to child and elder care. The share of women in the inactive population aged 55 to 64 years is above the EU average in both Poland and Romania, partly reflecting lower legislated retirement ages and thus younger average effective exit ages.

households, where the risk of lost human potential is likely to be greatest. Digital infrastructure in schools needs urgent attention, while the rural-urban gap in education and challenges for inclusion (for example, for Roma in Romania) persist. Even in Poland, where learning outcomes are strongest among EU ECA countries, there are significant regional disparities, with the share of 25-64 year olds with tertiary education as low as 24 percent in some regions—less than half that in the Warsaw capital region (OECD 2021b). To address the harm caused by the pandemic and facilitate recovery of lost learning, potential measures could include high-quality, school-based tutoring and enrichment programs targeting the most vulnerable students (Patrinos 2022).

For ECA’s EU economies, the EU’s National Recovery and Resilience Plans (NRRPs), funded by the largest financing package ever approved by the EU, provide a unique opportunity for a new reform wave to boost potential growth and accelerate convergence with the EU (figure 10.E). NRRPs are intended to include policy measures and investments—including from Next Generation EU (NGEU), the EU’s 800 billion euro program to support the economic recovery from the COVID-19 pandemic. NRRPs aim to promote equitable recovery, indicating that some of the additional jobs could be created in lagging regions. If the additional jobs from these investments draw on the inactive working-age population in lagging regions, the benefits could be substantial, with a 1 percent boost to the labor force by 2030 relative to the baseline projection.

The green transition will require policies to promote investment and structural change. An increase in green investment would likely boost potential growth, assuming it is not offset by cuts in other capital expenditures. And if these investments involve technological innovation, thus lifting TFP, the boost to potential growth could be larger. The impact on growth of the green transition will depend on green fiscal and other complementary policies (World Bank 2022g). In Central Europe, green investments mapped out in the NRRPs are expected to lift potential growth over the next decade but will require private sector investment and participation to reach longer-term climate goals.<sup>20</sup> The EU’s Economic and Investment Plan for the Western Balkans, aimed at fostering integration and convergence with the EU, includes sizable funding for the green transition—a key priority given that these economies are among those in ECA farthest from the green transition frontier (figure 10.F).

The pandemic has highlighted the urgent need for reforms to promote the adoption of automation and digital technologies in ECA, given the region’s wide digital gaps with the EU and persistent labor shortages. Policies to expand access to digital connectivity can raise productivity and potential output, including by helping to advance inclusion and catch up, institutional improvement, and the green transition. Expanding broadband and mobile internet access would promote more equitable access for distance learning across income levels and facilitate remote working (Barrero et al. 2021; Morikawa 2021). In addition to its productivity-enhancing effects, wider internet access has been found to

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<sup>20</sup> The NGEU is anticipated to deliver a large boost to public investment, with the largest share of NRRP spending allocated toward climate change-related investments (37 percent of NRRPs).

increase female labor force participation (Viollaz and Winkler 2020). ECA's EU countries should take full advantage of NGEU-funded reforms to foster the digital transition.

Policies to raise R&D spending have considerable potential in ECA, given its current low levels and that it's an important driver of TFP growth (Yuan et al. 2021). Raising R&D spending may be one of the most promising ways of speeding up the convergence of ECA's per capita income with the EU. Increasing R&D spending might improve digital connectivity and promote more inclusive growth. Smaller firms and lagging regions in ECA have much to gain from such innovation (Hallward-Driemeier et al. 2020).

## **7. Latin America and the Caribbean**

### **7.1. Introduction**

Prior to the pandemic-induced recession of 2020, output growth in LAC had already slowed sharply, from a high of 6.7 percent in 2010 to an annual average of less than 1 percent between 2015 and 2019, including a recession in 2016. This weakening of the region's growth was due to a combination of cyclical and structural factors, including lower global commodity prices and economic and political challenges in some of the region's largest economies. Total factor productivity growth (TFP) slowed to a crawl in the pre-pandemic decade, turning negative in some years. Potential output growth in LAC is also estimated to have declined in the 2010s, and is the lowest among the EMDE regions.

In 2020, LAC experienced the deepest pandemic-induced recession of any EMDE region, and several LAC countries were among those with the highest per capita death rates globally. Widespread disruptions to education and severe damage to public health set back human capital accumulation. Following a precipitous fall in 2020, investment largely recovered in 2021, but consensus forecasts suggest that investment growth will remain too low to lift potential output growth significantly. The global supply shock from the war in Ukraine that began in February 2022 is also likely to reduce potential growth in LAC. The war's impacts on inflation and commodity markets have contributed to an extended period of macroeconomic instability, raising recession risks even as recovery from the 2020 recession remains incomplete (World Bank 2022j). Negative effects on investment due to tighter financial conditions are likely to outweigh any positive response to higher prices in regional commodity exporters.

The prospect of sustained weakness in TFP growth and deteriorating demographic conditions, most notably in South America, suggests that potential output growth in the remainder of this decade will be roughly unchanged from its low levels in 2011-21. Policies to boost labor force participation and improve education and health outcomes could raise potential growth to some extent, but the most effective approach in LAC is likely to be reforms that increase investment growth or improve productive efficiency. Investment in climate transition could also boost growth in LAC, given the region's endowments of



natural resources that are likely to be critical inputs to achieve transition, such as lithium and copper.

## 7.2. Evolution and drivers of potential growth in LAC

During 2011-21, potential output growth in LAC is estimated to have averaged around 2.2 percent a year, below the 2000-10 annual average of 2.7 percent (figure 11).<sup>21</sup> The slowing of potential growth is accounted for by shrinking contributions from the growth of TFP and labor. The finding that potential growth declined is robust to the method of estimation.

Potential TFP growth in LAC, which has long been below that in other EMDE regions, slowed to virtually zero after peaking in 2007; potential TFP was essentially flat between 2015 and 2019. Weak investment growth, starting in the mid-2010s, held back the absorption of productivity-enhancing new technologies, with commodity-exporting economies struggling to adapt to falling commodity prices (OECD 2016). Worsening terms of trade, a consequence of the downturn in commodity prices, may also have dampened TFP growth in the region's commodity exporters by reducing spending on research and development (R&D) and slowing innovation (Aslam et al. 2016). This hypothesis is supported by evidence that improving terms-of-trade during 2001-07 explained more than one-quarter of average TFP growth in this period in Mexico, Chile, and Peru (Castillo Bardález and Rojas Zia 2014). In keeping with anemic TFP growth and a severe cyclical downturn, per capita growth fell far below its estimated potential level of 1.2 percent per year during 2011-21, registering actual per capita income growth of only 0.4 percent per year.

Shortcomings in education and training have long dampened productivity growth in LAC. Although access to education has steadily risen in recent decades, the low quality of primary and secondary education, relative to international standards and countries with similar per capita incomes, has hindered productivity gains (OECD 2015; OECD/CAF/ECLAC 2016; World Bank 2021f). Further, at the tertiary level, graduation rates are low, and quality appears to have suffered as demand has expanded rapidly (World Bank 2021g). Regional productivity growth is further impeded by still-stringent labor and product market regulations and high levels of informality, as well as institutional weaknesses, reflected in such problems as elevated levels of wasteful government expenditure and corruption (de Paulo, de Andrade Lima, and Tigre 2022; IDB 2018).

Numerous studies have documented that weak TFP growth has been the principal contributor to the region's low potential output growth (Aravena, Friedman, and Hofman 2017; IMF 2017b; Loayza, Fajnzylber, and Calderón 2005).<sup>22</sup> One study found that in the nearly half-century leading up to the financial crisis of 2008-09, relatively low TFP growth, rather than relatively weak capital accumulation or labor force growth, was the main

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<sup>21</sup> For the period 2000-22, 20 LAC economies are included in the estimation, representing 99 percent of 2020 LAC GDP.

<sup>22</sup> See also, for instance, Faal (2005) on Mexico and Ollivaud, Guillemette, and Turner (2016) on Chile.

factor contributing to the widening income gap between most LAC countries and the United States (Daude and Fernández-Arias 2010).<sup>23</sup>

The contribution of labor force growth to LAC's potential output growth has declined substantially since the early 2000s, mainly owing to falling population growth. The growth of the working-age population fell to an average of 1.3 percent a year in 2011-21 from 1.8 percent a year in 2000-10 in spite of a marginal rise in the working-age share of the population. Labor's contribution to growth has declined even though female labor force participation has risen more than in other EMDE regions. It increased by approximately 10 percentage points between the mid-1990s and 2019, reaching nearly 60 percent.

The growth of fixed capital investment in LAC over 2000-21 broadly followed the contours of movements in commodity prices and the region's terms of trade. It was weak in the early 2000s, stronger in the decade 2003-13 (except for the period of the global financial crisis), and weaker again in 2014-19, contracting by 1.3 percent a year on average. There was then a collapse of more than 11 percent in the 2020 recession, followed by a rebound in 2021 amid sharply rising commodity prices. In 2011-21, investment grew at an average of just 1 percent a year, well below the 2000-10 annual average of 4.5 percent. Although the deterioration in the region's terms of trade was a key factor underlying much of the investment decline prior to the pandemic, policy uncertainty and bouts of tightening financial conditions have also been important (IMF 2015; World Bank 2016, 2017a). The role of commodity price movements was augmented in some commodity-exporting countries by procyclical effects on fiscal revenues and public capital expenditures.

In terms of LAC's three sub-regions, the slowing of potential growth between 2000-10 and 2011-21 is accounted for predominantly by South America—the largest subregion in economic size. Around half of the countries in South America experienced a slowdown in potential growth, including the largest two economies, Brazil and Argentina (figure 12). Although the contribution to potential growth from TFP in Mexico and Central America remained lower than in other LAC subregions, at just 0.2 percentage point a year during 2011-21, this subregion avoided the slowdown in potential TFP growth that afflicted South America and other EMDEs. TFP growth contributed more to potential growth in the Caribbean than in the other subregions, but still slowed between 2000-10 and 2011-21. Increasing contributions from labor force growth and capital accumulation offset this, however, so that the Caribbean was the only LAC sub-region where potential growth increased in 2011-21, relative to 2000-10.

The pandemic-induced recession of 2020, which was deeper in LAC than any other EMDE region, and its after-effects, have eroded potential growth further. Although total investment largely recovered to its long-term trend in 2021, inward foreign direct investment is estimated to have fallen more sharply in 2020, and not to have recovered to its pre-pandemic level in 2021 (UNCTAD 2022). This may imply less transfer of

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<sup>23</sup> Another study applying growth accounting to data from 1820 onwards found that over nearly 200 years, among nine LAC countries, only Chile narrowed its per capita income differential with the United States (Hofman and Valderrama 2020).

productivity-enhancing knowledge and technology (Bruhn, Calegario, and Mendonca 2020). Perhaps even more significant, LAC saw the longest school closures among EMDEs, holding back the development of human capital in young people. In March 2021, it was estimated that the number of secondary school children in LAC unable to read a basic text may have increased by more than 15 percent (World Bank 2021f). Such learning losses, if not remediated promptly, are likely to lower labor productivity and lifetime incomes for the current school-age generation (Werner, Komatsuzaki, and Pizzinelli 2021). To the extent that they compromise social mobility, such losses can also compound over generations (Hill and Narayan 2020).

### **7.3. Potential growth prospects in LAC**

In the rest of the 2020s, potential output growth in LAC appears likely to stagnate at low levels, with no improvement in South America, and a slight pick-up in Mexico and Central America offset by a modest slowdown in the Caribbean. Labor force growth seems likely to continue to decline. Investment growth is expected to improve somewhat on average, but not markedly and only after further near-term weakness. TFP is expected to regain some momentum from its near-zero growth rate in 2011-19, but only enough to offset the effects of slowing labor force growth. Thus, without significant policy action or a major productivity breakthrough, potential growth in LAC is expected to remain at 2.2 percent a year in 2022-30, identical to the period 2011-21 and the lowest of all EMDE regions (figure 13).<sup>24</sup>

The contribution of labor force growth to potential output growth in 2022-30 will be constrained not only by a falling working-age population share (expected to soon peak), but also by limited potential for additional gains in already high female labor force participation rates. With the contribution from labor force growth shrinking, potential growth is expected to sustain due to a slight increase in per capita potential growth in 2022-30, to 1.6 percent. Improved per capita potential growth is underpinned by a modest projected pick-up in potential TFP growth, expected to contribute about 0.5 percentage point a year to potential growth. This estimate takes into account the past relationships in LAC between investment growth and TFP growth, and between rising commodity prices and investment growth. However, no simple mapping can be assumed between commodity-related investment and productivity improvements, especially given the potential for expansion of primary commodity exports to crowd out manufacturing and compromise the competitiveness of other sectors (Alvarado, Iniguez, and Ponce 2017).

The war in Ukraine is expected to have largely negative effects on potential output growth in LAC (World Bank 2022k). It has contributed to tighter financial conditions, through both confidence and monetary policy channels. By driving commodity prices higher, the war further increased already elevated inflation in LAC and advanced economies, contributing to larger interest rate increases as central banks sharply tightened rates to

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<sup>24</sup> For the period 2022-30, 16 LAC economies are included in estimations, representing 97 percent of 2020 LAC GDP.

ensure inflation expectations remained anchored. Elevated geopolitical uncertainty brought on by the war has also soured global risk appetite, which is likely to curb investment in many EMDEs, including in LAC. The combination of a sharp rise in global interest rates and faltering investor confidence could precipitate financial crises in some EMDEs, including vulnerable countries in LAC, possibly resulting in large permanent output losses (Kose et al. 2021). A sustained war and secular rise in geopolitical uncertainty could also further fracture global trade and financial networks, which could raise trade costs, shrink markets, and slow the dissemination of technological innovation (Guénette, Kenworthy, and Wheeler 2022).

However, the war could also have some partially offsetting effects that benefit potential growth in LAC. Concerns about the resilience of geographically dispersed manufacturing supply chains could bolster manufacturing investment in some LAC economies (so-called “nearshoring”). Heightened awareness of vulnerabilities related to fossil fuel dependence and supplier concentration could also raise investment in the region’s extractive industries. LAC is endowed with minerals and metals that are important inputs for electrification and the manufacture of renewable energy technologies, demand for which could accelerate given heightened focus on energy security globally (World Bank 2022k). The region also offers potential alternative sources of oil and gas supply while the world is transitioning to clean energy. Capturing enduring productivity benefits from such resource-related tailwinds will likely depend on policy makers harnessing increased commodity earnings to fund sustainable infrastructure and enact health, education, and governance reforms

#### **7.4. Policy options to lift potential growth in LAC**

In a scenario in which the largest 10-year improvements during 2000-21 in education outcomes, life expectancy, and female labor force participation for each country in LAC are repeated, and labor force participation among older workers rises modestly due to social benefit reforms, it is estimated that average annual potential output growth in the region in 2022-30 could increase by around 0.2 percentage point (figure 14).

A sustained investment boom could offer greater potential growth benefits. Raising investment growth over 2022-30 by its largest previous 10-year increase (per country between 2000 and 2021) could raise potential growth by an average of around 0.3 percentage point a year, via capital accumulation and improved potential TFP growth. To be durable, an investment boom would need to be underpinned by structural reforms to increase domestic savings and boost returns to private investment (for example, via improvements in competitiveness, infrastructure, and the diffusion of new technologies), rather than by a transitory rise in commodity prices, as was often the case in the past. Indeed, past analyses highlight the risks for LAC countries of conflating several years of higher commodity rents with improvements in potential output (Alberola et al. 2016).

An investment drive focused purely on meeting the climate change-linked elements of the region’s infrastructure-related Sustainable Development Goals (SDGs) by 2030 could also materially benefit potential output growth. It is estimated that investments to address

climate change could raise LAC's annual potential growth by 0.1 percentage point. More climate-resilient infrastructure could also help mitigate a possible climate change-related reduction of 0.1 percentage point in annual potential growth resulting from increasingly frequent extreme weather events that damage capital stocks and erode labor productivity (OECD 2018). But the potential benefits of climate-smart investment go beyond mitigating bad outcomes. Many investments needed to help boost productivity directly can also aid climate change adaptation or mitigation. For example, more efficient irrigation systems would raise agricultural productivity as a first order consequence, but also increase the sector's climate resilience (World Bank 2022k). Increasing the contribution of renewables to the energy mix could also dampen an important source of volatility in the terms of trade of the region's energy importers, which could reduce the volatility of their growth. LAC may be the best positioned EMDE region to rapidly achieve the infrastructure- and climate-related SDGs because its existing energy mix is comparatively green (due largely to hydropower). This implies a smaller marginal investment requirement.

Most of the positive growth effects of the reforms assumed in the scenarios result from higher investment. Public investment in LAC tends to be constrained, however, by limited fiscal space (Vashakmadze et al. 2017). In these circumstances, curtailing unproductive public spending to increase space for productive investment, or increasing the efficiency of public investment (for example, through additional use of public-private partnerships), could improve the quality of infrastructure, while avoiding potential distortions from increased taxation (IDB 2018). Improvements in transportation infrastructure could be especially effective in raising productivity in the region's urban environments, where there is little evidence of positive agglomeration effects, in contrast to advanced economies. High and increasing costs from congestion in many of the region's largest cities may lie behind this apparent lack of returns to urban scale (Ferreira and Roberts 2018). Meanwhile, improving telecoms infrastructure, which is relatively cheap compared to meeting infrastructure investment gaps in other sectors, could help accelerate the adoption of new information and communications technologies in ways that can both raise firm productivity and result in more inclusive growth (Brichetti et al. 2021; Dutz, Alemida, and Packard 2018).

Gains from the reforms assumed in the scenarios will vary among countries depending on their specific characteristics and circumstances. In Mexico and several other Central American economies, for instance, female labor force participation is well below that of male participation. Measures to improve access to childcare and parental leave have been found to raise female labor force participation in LAC (Novta and Wong 2017). Moreover, since Central American economies have some of the highest child dependency ratios and worst education attainment records in LAC, this subregion would likely benefit significantly from investments in education and health care. In many countries in the region, as in other parts of the world, students from the poorest households have been found to be substantially less competent in reading and mathematics than those from the richest households (World Bank 2018a). The COVID-19 pandemic is likely to have further

exacerbated these inequalities, given that learning losses have been acute among children from low-income families with less access to distance learning (World Bank 2022a). Improving skills absorption by poor students may therefore have outsized positive effects on future productivity, which could help to mitigate some of the inequality-increasing consequences of pandemic-related learning losses.

Reforms in several areas beyond the scope of the scenario analysis could also boost potential output growth by raising productivity growth. Labor markets in LAC have long been less flexible than in other EMDE regions. Reforms to deregulate labor markets, including regarding inflexible wage-setting processes, hiring and firing constraints, and aligning compensation with productivity, would likely pay productivity dividends. Improving educational quality could raise productivity generally; there is evidence of positive growth externalities from higher skill levels in Latin America (Ferreira et al. 2017; Ferreira and Roberts 2018). LAC has relatively high enrollment rates in tertiary education, which is heavily subsidized in many countries, yet a larger proportion of firms in LAC cite skills shortages as their biggest obstacle than in the average EMDE. This may reflect the distribution of subjects studied (the relative paucity of science, technology, engineering, and mathematics majors), low graduation rates, and inadequate accountability in the university sector (World Bank 2021h). Beyond traditional education, active labor market policies to encourage the reskilling and reabsorption of workers could help mitigate a long-term trend in LAC of workers that are displaced out of high productivity industries transitioning into lower productivity work, thereby constraining overall labor productivity growth (Dieppe 2021).

Addressing the challenges associated with widespread informality could lift productivity (La Porta and Shleifer 2014; Ohnsorge and Yu 2021). Indeed, research has found that a drop of 1 percentage point in the informal share of the LAC economy has been associated with a 0.5 percentage-point narrowing of the gap between TFP in LAC and the United States (IDB 2013). Together with better-functioning labor markets, policy interventions that simplify business licensing and tax procedures and increase access to social security systems would also help reduce informality (Garcia-Saltos, Teodoru, and Zhang 2016; OECD 2017). At the same time, policy makers should be wary of tax and regulatory schemes that inadvertently encourage firms to stay small. Larger firms can, for example, face higher effective tax rates, which may discourage expansion. Meanwhile, schemes that favor smaller firms may result in excessive capital allocation to low-growth businesses. These factors may contribute to persistently low TFP growth (IDB 2018).

In addition, there are important opportunities to spur innovation in LAC, which underperforms other EMDE regions (World Economic Forum 2017). For example, policy-led efforts to ensure the education system encourages innovation, promote collaboration between firms, universities, and research institutes, and increase access to finance for innovation could all be beneficial (Vostroknutova et al. 2015). Creating incentives for firms to invest in internal research and development may boost productivity. Latin American firms that invest in R&D have been found to be better able to produce product innovations than those that do not, and firms that innovate are found to have significantly

higher labor productivity (Crespi, Tacsir, and Vargas 2016). Incentivizing or funding more R&D from government budgets may be a worthy use of scarce fiscal space given evidence of large paybacks, and given that R&D spending in LAC is below EMDE averages and has fallen further behind in recent years (World Bank 2021h). It is also important to recognize the merits of scale regarding R&D investment. Multiple studies have documented that size is one of the best predictors of R&D spending by firms in the region (Alvarez and Grazzi 2018).

There are further productivity gains to be made from deepening trade integration. Despite several extra- and intra-regional trade agreements, LAC is less open to trade than most other EMDE regions (World Bank 2016). International linkages and integration into global value chains (GVCs) have been shown to increase firm productivity, but even the LAC economies most integrated into GVCs are not highly integrated by global standards (Dieppe 2021; Montalbano, Nenci, and Pietrobelli 2016; Steinwender and Shu 2018). LAC also has relatively low intra-regional trade intensity, partly because of sparse regional road and rail networks and mediocre logistical services. Improved physical networks, streamlined customs procedures, and other domestic trade facilitation measures, could substantially reduce trade costs (World Bank 2021e). Reduced trade costs for manufacturing and services firms could help foster greater export diversification in LAC, where primary commodity exports tend to dominate. While greater diversification is not in itself a driver of productivity, it is likely to reduce output volatility, which is associated with stronger growth (Acharya and Raju 2020). Formal trade agreements could become more impactful through the inclusion of measures to harmonize regional standards and liberalize rules of origin restrictions (OECD/CAF/ECLAF 2018). Increased trade integration could lift productivity across sectors in LAC by increasing competition, and by providing opportunities for firms to specialize and take advantage of economies of scale. In the medium to long term, increased trade linkages can facilitate knowledge and technology transfer (Bown et al. 2017).

Many long-term productivity challenges in LAC can also be considered through the lens of low trust and related institutional weaknesses or poor governance. There is evidence that low trust feeds into institutional shortcomings and is associated with lower productivity and growth (Keefer and Scartascini 2022). Low trust in government may curtail the extent to which the public sector can effectively step in to correct market failures and address externalities. Weaknesses in judicial and legal processes may undermine the enforcement of contracts, discouraging investment, while high levels of violence in some countries in the region are an ongoing challenge for the building of stronger business environments. A lack of transparency in policy making may lead to perceptions that policy making is capricious or not geared to the public benefit. Entrenched social perceptions about trust and institutional integrity can take time to shift. Nonetheless, even modest additional commitments to increasing transparency and data availability could help to build trust in public authorities and public policy, while narrowing the scope for corruption and the erosion of institutional norms (Scartascini and Valle Luna 2020).

## 8. Middle East and North Africa

### 8.1. Introduction

GDP growth has been uneven over the past two decades in the Middle East and North Africa (MNA). Growth was relatively rapid during the 2000s, supported by rising oil prices (figure 15). But it slowed in the 2010s, mainly owing to the effects of political turmoil, most notably the 2011 Arab Spring revolutions in the Arab Republic of Egypt, Tunisia, Libya, and the Republic of Yemen; military conflicts in Iraq and the Syrian Arab Republic; the broader war on ISIS; the collapse in oil prices in 2014-16; and effects of the COVID-19 pandemic at the end of the period (Ianchovichina 2017). In 2022, growth suffered further from Russia's invasion of Ukraine and its repercussions.

Potential output growth has been estimated for five countries in MNA, accounting for almost half of the region's GDP.<sup>25</sup> The estimates indicate that potential growth halved between the 2000s and 2010s, with the slowdown driven by broad-based decelerations in capital stock, in total factor productivity (in economies dominated by extractive sectors and large public sectors), and in working-age populations. The pandemic has further damaged these drivers. In 2020, the region's output contracted by 3.6 percent, mainly reflecting pandemic-related mobility restrictions on activity and a collapse in oil prices. The growth rebound in 2021 was insufficient to reverse the decline in output. Investment collapsed by over 6 percent in 2020 and rebounded by only 5.3 percent in 2021. Human capital accumulation also suffered, with an average of about 8 percent of working hours lost in 2020-21, higher than the global average.

Potential output growth in the region is projected to remain lackluster in the remainder of this decade, at 2.5 percent a year on average. A reduction in the contribution of labor to potential growth is expected to be offset by an anemic improvement in total factor productivity (TFP) growth and stronger investment. Fixed capital accumulation is expected to account for almost two-thirds of potential output growth, with investment growth projected to be significantly stronger than in the 2010s when it was negative half of the time. Human capital accumulation is projected to slow owing to weaker growth in the working-age population.

Reversing the slowdown in potential growth since the 2000s requires urgent reforms to kindle private sector-led growth and diversify economies. Most of the region's growth since the 1970s has relied on growth of employment rather than productivity, as well as the expansion of public sectors (ILO 2022b). This has left the region with a multitude of structural challenges, including large gender gaps in the workforce and education attainment, limited economic diversification, excessive state involvement in activity, armed conflicts, weak governance, and macroeconomic instability. Policy action to address

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<sup>25</sup> Estimates using the production function approach are available for Egypt, the Islamic Republic of Iran, Jordan, Morocco, and Tunisia.



these challenges could significantly boost potential and actual output growth. Thus, investment could be increased by reprioritizing public spending, ensuring a green transition while mitigating the effects of climate change, and enabling and incentivizing the private sector. Human capital accumulation could be raised by increasing access to education and work for women and the poor, improving worker skills, upgrading health systems, and reversing income losses caused by the pandemic.

## **8.2. Evolution and drivers of potential growth in MNA**

Output growth in the MNA region declined sharply from an average of 4.5 percent a year in the 2000s to about 2.6 percent a year in the 2010s. Analysis suggests that the slowdown was largely the result of a decline in the region's potential growth rate. Several approaches to estimating potential growth—through estimation of a production function, and the use of filters or data for long-term (five-year-ahead) growth expectations to identify trends—indicate that potential growth in the 2010s was lower than in the 2000s (figure 16). Based on the production function approach, potential growth is estimated to have slowed from 4.8 percent a year in the 2000s to 2.4 percent a year in the 2010s. On a per capita basis, the slowdown was even starker, from 3.4 percent in the 2000s to 0.8 percent in the 2010s. Although the literature on the subject is sparse, it supports this result, documenting a broad-based decline in potential growth since 2000 in the MNA region, in both oil exporters and oil importers. The literature also supports the finding that the decline has been more severe than for EMDEs in aggregate (Alkhareif, Barnett and Alsadoun 2017; IMF 2016, 2017c; Mitra et al. 2015).

The decline in potential growth in MNA in the past decade had several contributory factors, including high geopolitical tensions, volatile oil prices, limited economic diversification in many MNA countries, a predominant role of the state in many cases, and armed conflicts within the region. In terms of the production function framework, all major components of potential output growth—labor force growth, capital accumulation, and TFP growth—slowed between the 2000s and 2010s, with more than half of the slowdown in potential growth attributable to slower growth of the capital stock. Investment growth slowed from an annual average of about 9 percent in the 2000s to less than 1 percent a year on average in the 2010s. Among oil exporters, investment growth was depressed by the collapse in oil prices in 2014-16, while in several oil importers, increased political and economic uncertainty took its toll. Countries afflicted by conflict or fragility suffered the outright destruction of capital (World Bank 2017c).

The second largest contributor to the slowdown in potential output growth in MNA was a decline in TFP growth, which turned close to zero in the 2010s. This has widened the region's productivity gap with advanced economies (Dieppe 2021). One source of the decline in TFP growth was the weakening of investment growth. Prior to the 2009 Great Recession, productivity growth in MNA was primarily supported by capital accumulation in oil-exporting economies. But this ended with the collapse of oil prices in 2014-16. Other

factors limiting TFP growth have been the dominance of commodity production sectors, inefficient investment, weak competition due to the large role of the state, and armed conflicts.

In the past decade, the contribution of labor force growth to potential output growth has declined mainly because of a precipitous slowdown in population growth, particularly in the member countries of the Gulf Cooperation Council (GCC). Labor force participation rates also declined, particularly among oil importers. The contribution of labor force growth to potential growth was also held back by the region's female labor force participation rates, which are among the lowest in the world. For example, women make up just under four-tenths, on average, of the populations of GCC economies and yet represent only about one-tenth of the labor force. Moreover, while educational attainment among both men and women improved in the past decade, the quality of education, as measured, for example, by primary school proficiency tests, remained lower than in most other regions (World Bank 2018b).

The pandemic did further damage to the drivers of potential growth. Fixed investment in 2021 was more than 10 percent lower than was expected prior to the pandemic, with negative and long-lasting consequences for the growth of the capital stock. Human capital has also been eroded by higher long-term unemployment, disruptions to education, and a deterioration of health outcomes. Pandemic-related school closures since 2020 have averaged 48 weeks in MNA, above the global average of 38 weeks. This outsized damage to human capital accumulation is likely to have undermined poverty reduction and impaired the lifetime earnings of many (Azevedo, Hasan, et al. 2021).

### **8.3. Potential growth prospects in MNA**

Over the 2020s, potential output growth in MNA is expected to remain weak, at 2.5 percent a year, only marginally above its 2010s average annual rate of 2.4 percent. Per capita potential growth is expected to increase to 1.3 percent from 0.8 percent in the 2010s. This mainly reflects a tepid improvement in TFP growth, which is expected to offset a further projected decline in the contribution of labor force growth, in part due to projected changes in demographic structures. Population growth is expected to slow to 1.3 percent a year on average, down from growth of close to 3 percent a year on average in the two decades before the pandemic. The working-age share of the population is expected to rebound to its 2013 peak, after a decade of decline.

The outlook for potential growth is underpinned by recent progress in structural reforms, particularly in the GCC economies. These include the increased participation of women in the workforce, improvements in the business climate, and diversification of the economies of commodity-dependent countries. Outside the GCC economies, however, reform momentum has remained lackluster.

In Saudi Arabia, increasing female labor force participation and reforms to the Kafala sponsorship program for expatriate workers have created a strong foundation for improving potential productivity growth, particularly by improving skill matchings and

disseminating new knowledge. Female labor force participation has increased from 18.7 percent in 2017Q2 to 33.4 percent in 2022Q1, with about 350,000 women having entered employment over this period. Investment should benefit from the 2021 National Investment Strategy, which aims to expand the role of the private sector and increase foreign direct investment. The government has also undertaken reforms to improve the regulation and supervision of financial institutions (such as the law on the resolution of systemically important financial institutions and the law on strengthening anti-money laundering and combating the financing of terrorism) and the functioning and liquidity of debt and equity markets (IMF 2021b). Saudi Arabia has also introduced value-added taxes to promote the diversification of its economy and improve revenue mobilization—part of a broader GCC initiative, with implementation also in Bahrain, Oman, and the United Arab Emirates (UAE). Such broadening of the tax base can help ensure fiscal sustainability, make fiscal policy less procyclical, and increase funding for productivity-enhancing investments.

The UAE has also taken steps to encourage greater inclusion of women in the workforce, strengthen working arrangements for expatriates, and improve the business climate more broadly. In the wake of reforms, female labor force participation rates increased by about 15 percentage points in the five years to 2020, reaching 66 percent. In the labor market, the government in 2021 passed a new labor law that standardizes employment contracts, caps working hours, and aligns weekends with key trading partners. To diversify its economy, it introduced a 9 percent corporate income tax and value-added tax recently. To attract further foreign investment, a new commercial law allows full foreign ownership of companies, while a simplified trademarks law improves protection for existing trademarks. The UAE has made progress in diversifying its economy. For example, oil revenues fell from 69 percent of total government revenues to just 41 percent over the decade to 2020.

In the Arab Republic of Egypt, the implementation of macroeconomic stabilization policies and structural reforms since 2016 has helped to raise potential growth by more than 1.3 percentage points in 2021 from its trough in 2014. Macroeconomic stabilization measures have included the liberalization of the exchange rate regime and devaluation of the pound, as well as fiscal measures to stabilize public debt, including the introduction of a value-added tax, reductions in energy subsidies, and actions to mobilize revenue and decrease expenditure. Structural reforms have targeted business licensing and insolvency and have also included labor market reforms focused on women and youth. In response to these measures, the unemployment rate has dropped to its lowest level in nearly two decades, with increasing labor force participation rates. More recently the private sector has benefited from legal reforms that allow it to participate in infrastructure, services, and public utility projects.

In the Islamic Republic of Iran, the 2022 budget announced efforts to cap subsidies on basic goods imports, impose a tax on gasoline and petroleum, and sell state assets. Legal changes to the power of the central bank have also assisted in achieving financial stability objectives. But further structural reforms are needed to address widespread inefficiencies,

stabilize fiscal spending and lower inflation, and remove significant price distortions. Implicit subsidies, mainly in the energy sector, have recently accounted for more than 45 percent of GDP (World Bank 2021i).

The projections of potential growth in MNA are highly uncertain. There are some upside risks to the baseline projections. The region's relatively low female labor force participation and exceptionally high share of youth in the population (people younger than 25 years account for one-third of the population) indicate a large pool of potential new entrants to the labor market and consumer base. This, in turn, could substantially increase returns to investment and innovation, but it will hinge on whether the private sector is sufficiently vibrant and able to draw on a well-educated work force in flexible labor markets.

Risks to the baseline projections of potential growth, however, remain predominantly to the downside. While the war in Ukraine has provided a massive windfall to oil exporters, the longer-term benefits of this windfall depend on whether it is funneled into financing reforms and diversifying economies. For oil-importing economies in the region, the war in Ukraine may undermine longer-term growth prospects by raising the risk of social unrest and conflict, counteracting human capital gains through malnourishment and increased poverty, and increasing the likelihood of financial and balance of payments crises (Dieppe 2021; Hadzi-Vaskov, Pienknagura, and Ricci 2021; Kilic Celik, Kose, and Ohnsorge 2020; World Bank 2021e). More broadly, the pandemic could fragment global trade and investment networks, increase global uncertainty, and persistently increase borrowing costs, thereby limiting investment prospects. The pandemic remains an ongoing risk and could further destroy human capital and undermine investment if new variants appear that significantly disrupt activity and raise uncertainty.

#### **8.4. Policy options to lift potential growth in MNA**

The region faces multiple impediments to faster potential growth, including high dependence on the production and export of commodities; widespread poor governance and ongoing political instability; wide gender gaps in the labor market; large and less productive public sectors; fragility and conflict; prolonged crises in some economies and high debt and rising crisis risks in others; the repercussions of the COVID-19 pandemic, and climate change. A major challenge for the region is the deep-seated structural impediments to private sector-led growth. These need to be tackled to enable job creation and substantial improvements in living standards.

The gains from reforms could be significant. Cross-country experience indicates that reforms of education and health systems and labor markets can raise potential growth. A scenario analysis applied to the MNA region suggests that labor market policies to raise the female labor force participation rate in each country by the largest 10-year improvement in MNA during 2000-21 could lift average potential growth by 0.1 percentage point a year during the remainder of this decade. Similar steps to address gaps in investment could yield a further boost of 0.3 percentage point a year (figure 17). If

reforms are stronger than historical improvements in the region, which are modest by comparison with the average EMDE, the gains could be substantially greater. Thus, if female labor force participation were raised to the EMDE average gradually over 2022–30—from 21 to 53 percent—potential growth would be raised by 1.2 percentage points a year. While this would be a major spike in female labor force participation, the recent increases in Saudi Arabia, from 20 percent in 2017 to 35 percent in 2021, show that sizable increases are possible over the course of a few years. Furthermore, if the region were to boost investment in climate change adaptation and mitigation by 1.2 percent of GDP per year, potential growth could be raised by an additional 0.1 percentage point a year.

The region’s potential growth could also be raised significantly by improving governance. Weak governance in the region has been found to crowd out private investment and discourage private-sector growth (Benhassine et al. 2009; Nabli 2007). Improved governance in the education sector, such as more structured measurement of results in training and educational programs, would enhance the matching of skills across workers and employers and could provide more, better-quality jobs in the private sector (Gatti et al. 2013). Weak governance is also reflected in perceptions of widespread corruption, which is a highly cited constraint on business activity in MNA in the World Bank’s Enterprise Surveys. Corruption tends to discourage interactions between private firms and public authorities, and more corruption is associated with lower employment and productivity (EBRD, EIB and World Bank 2016). Strengthening legal frameworks, including areas like corporate governance and bankruptcy resolution, can alleviate constraints on legitimate market transactions.

Economies in the region remain heavily reliant on the production and export of primary commodities. The diversification of agriculture-dependent economies (Morocco) and oil-dependent economies (GCC economies, the Islamic Republic of Iran, Iraq) remains a top priority to increase economic stability and boost potential growth. Among the oil-exporting economies, oil revenue still accounted for about one-third of output, two-thirds of merchandise exports, and three-quarters of government revenue in 2019. With the world transitioning away from fossil fuels, the oil intensity of global output declined by about one-third in the two decades to 2019, and this trend will likely continue. Policies to promote diversification include measures to increase competition in product markets and avoid market concentration; measures that support the reallocation of economic resources to new activities; measures to lower trade costs and improve infrastructure and logistics; the rationalization and reduction of energy subsidies; and the liberalization of service trade and foreign direct investment (Dieppe 2021; Kose and Ohnsorge 2020).

Armed conflict poses significant threats to the lives and livelihoods of people, and they destroy human and physical capital. Breaking cycles of conflict can substantially improve growth prospects in fragile states. Close to half of conflicts globally, and one-third in MNA, are recurrences of past conflicts often over similar issues (Jarland et al. 2020). Countries where there is conflict have some of the widest gender gaps in education, labor force participation, and political participation. In the region’s fragile economies, the reconstruction investment needed to maintain adequate provision of health, education,

electricity, and water and sanitation services remains a high priority (World Bank 2017c). In countries hosting refugees, these efforts need to be adapted to the structural changes that refugee crises have brought, such as through the adoption of more innovative financing mechanisms to fund higher demand for health service delivery (World Bank 2017d). Addressing fragility by creating opportunities for women can also support medium- and long-term development in these economies (Bakken and Buhaug 2020; World Bank and GDC 2020).

The COVID-19 pandemic may leave lasting scars on productivity and potential growth in the region if governments do not address such consequences as human capital losses, increased debt, and health care burdens (Dieppe 2021; Kilic Celik, Kose, and Ohnsorge 2020). To minimize losses to human capital and productivity, countries could increase investment in health care systems, and, in the field of education, increase investment in multiple ways of learning; improve the equity, adaptability, and resilience of education systems; increase surveillance and data collection to assess possible learning losses; and develop and implement policies to accelerate learning (UNESCO, UNICEF, and World Bank 2021; World Bank 2021j).

The ability of some economies to reverse the past decade's slowdown in potential growth is constrained by high government debt: public debt in MNA oil importers in 2021 was over 90 percent of GDP (World Bank 2021k). High debt can make it difficult to implement countercyclical policy, increase productive investment (including in human and physical capital), and boost private sector confidence. Policy reforms are needed to address high debt, mitigate its negative effects on economic activity, and reduce the likelihood of financial crises. These include implementing sound and transparent debt management frameworks, ensuring financial regulation and supervision promote sustainable debt accumulation in the public and private sectors, and progressing with governance reforms to minimize waste and corruption (Kose et al. 2021).

Climate change is likely to have devastating effects on lives and livelihoods in MNA, with natural disasters—including heatwaves and floods—already more frequent in recent decades. Over time, rising temperatures will reduce agricultural yields and growing areas and exacerbate existing water scarcity. This could undermine food security, forcing migration, lowering labor productivity, and raising the likelihood of conflict. By one estimate, crop yields in the region could fall by up to 30 percent if temperatures were to rise by 1.5-2 degrees Celsius relative to pre-industrial times and by almost 60 percent if they were to rise by 3-4 degrees (World Bank 2014).

Mitigation, adaptation, and a focus on a green and inclusive recovery in the post-pandemic world are key to ensuring sustainable future growth (Acerbi et al. 2021; IMF 2021c). Policies to limit climate change include repricing fossil fuels, for example through a carbon tax, to appropriately reflect costs to the environment. High energy subsidies in the region, accounting for 13 percent of government expenditure on average in 2021, could be rationalized, reduced, and replaced with targeted social spending to protect the vulnerable from the resulting price rises. Many economies in the region have adopted plans to adapt

to climate change in order to protect human and physical capital (Kuwait, Oman, Saudi Arabia, United Arab Emirates), including integrated water management actions, sustainable agriculture practices, reduced desertification, and early warning systems for natural disasters (IMF 2021c).

Country-specific reform agendas are essential to improve potential growth in the region. In Saudi Arabia, implementing the codification of legal practices is an important step in strengthening the legal system. Rationalizing state involvement in the economy, for instance by privatizing poorly performing state assets, could improve the allocation of capital and empower the private sector. This is particularly important in diversifying its economy away from fossil fuels. Labor market reforms should be considered to further increase the participation of women in the labor force. A law requiring the disclosure of assets, an effective anti-corruption strategy, and the efficient implementation of Vision 2030 reforms could all improve governance.<sup>26</sup>

Effective implementation of the UAE 2050 Strategy, with appropriately sequenced and timed reforms, and the UAE Green Agenda 2030 could help reverse declines in potential growth. Reforms include commercializing nonstrategic government-related entities, investing in education and training in emerging fields that assist in diversifying the economy, and further aligning national and expatriate labor laws and public and private wages.

In Egypt, maintaining the gains from previous structural and macroeconomic reforms is not assured, with further reforms are needed to address persistent fiscal and external vulnerabilities, as well as structural impediments to growth. To further promote macroeconomic stabilization, reforms could focus on improving the transparency of fiscal reporting and debt management, rationalizing the central bank's subsidized lending schemes, and improving liquidity management to enhance monetary policy transmission. On structural policies, reforms are needed to further strengthen revenue mobilization (including through limiting tax exemptions and reforming real estate taxes), increasing the role of the private sector by rationalizing state ownership, reducing tariffs and non-tariff barriers, and enhancing the independence of regulatory authorities.

In the Islamic Republic of Iran, structural reforms are urgently needed to address widespread inefficiencies, the lack of fiscal sustainability, and price distortions. Further measures to raise government revenue—eliminating tax exemptions and improving tax compliance—and stabilize government expenditures are needed with a particular focus on subsidy reform. This would also assist in bringing down the high intensity of energy usage. Reforms to the monetary policy framework—a price stability mandate, greater central bank independence, rationalized lending operations, and stronger supervisory and resolution powers—could improve macroeconomic and financial sector stability.

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<sup>26</sup> See Government of Saudi Arabia (2022) for more details on Vision 2030.

## 9. South Asia

### 9.1. Introduction

Economic activity in the South Asia region (SAR) rebounded strongly from the recession caused by the COVID-19 pandemic, expanding by 7.9 percent in 2021 after a drop of 4.5 percent in 2020. Output in the region is on track to grow by about 6.0 percent a year between 2022 and 2030, faster than the 2010s annual average of 5.5 percent and only moderately slower than growth in the 2000s (figure 18). This will make SAR the fastest growing emerging market and developing economy (EMDE) region in the remainder of this decade. SAR's robust growth performance and outlook reflect the region's high potential growth rate as demographic trends expand the working-age population, the investment rate remains elevated, and productivity growth continues to benefit from the shift of resources away from agriculture and informal activity.

The COVID-19 pandemic massively disrupted the drivers of potential growth, and its impact on future potential growth is uncertain. The pandemic lowered investment in 2021 to about 9 percent below pre-pandemic projections, and this gap is expected to remain over much of the remainder of this decade, even with investment growing a little faster than its previous trend rate. The region was also affected by pandemic-related school closures, which were much more prevalent than the global average, as were lost working hours and job losses. In addition, SAR's exceptionally large informal sector was hard hit by the pandemic and the job and income losses to its participants may have had long-lasting negative effects on their productivity.

Taking into account these and other factors, SAR's potential growth is projected in the baseline to slow only marginally to 6.1 percent a year on average in the 2020s, from 6.2 percent a year in the 2010s. Past and prospective potential growth has been estimated for four commodity-importing countries in SAR, which together account for close to 90 percent of the region's output. The projection of sustained, robust potential growth in the 2020s is based on projected contributions from all major drivers of growth. Investment growth is forecast to remain robust at above 6 percent a year, encouraged by the implementation of reforms that will also help generate productivity growth. Although population growth is expected to moderate, labor-force growth will be supported by stabilization of the participation rate after two decades of decline, an increase in the share of working age populations, and also by improvements in educational attainment. However, the outlook is uncertain, and downside risks prevail, especially regarding the lasting impacts of the pandemic and the consequences of a more prolonged war in Ukraine than assumed in the baseline.

To achieve faster sustained growth in the region than projected in the baseline scenario, it is necessary to address the structural factors that hinder growth. These factors include limited female participation in economic activity; high levels of informal economic activity, particularly in agriculture, which is characterized by low productivity; limited integration into global value chains; and lagging educational standards and attainment. Fewer than



one-fourth of working-age women in SAR are in the labor force, although many more work in the informal economy; increasing female participation in the formal economy could significantly boost potential growth. Potential growth can also be increased by implementing other important reforms to enhance product and labor markets, accelerate investment in mitigating and adapting to climate change, and invest in human capital.

## **9.2. Evolution and drivers of potential growth in SAR**

Potential output growth in SAR in the 2010s was broadly stable from the 2000s, at an annual average of 6.2 percent (figure 19). On a per capita basis, potential growth accelerated from 4.7 percent to 5 percent as population growth slowed. Potential growth peaked in 2007 and has since slowed in line with declines in the growth of the capital stock and the labor force. The country-level estimates incorporated in the regional average are broadly consistent with those obtained in other studies for the region. In the case of India, estimates of potential growth since 2010 have been in the range of 6-8 percent a year (Bhoi and Behera 2017; Blagrove et al. 2015; Mishra 2013; Rodrik and Subramanian 2004).

Contributions to potential output growth from capital, labor, and total factor productivity (TFP) are estimated to have been broadly stable in SAR over the past two decades. The largest contributor has been TFP growth, which was mostly unchanged between the 2000s and 2010s, partly reflecting continued sectoral reallocation of resources from agriculture into manufacturing and services (Dieppe 2021). TFP growth in 2000-21 in SAR was more than one-half higher than for EMDEs in aggregate, largely reflecting a greater contribution from sectoral reallocation. SAR's TFP growth also benefited from rising secondary schooling completion rates, although they increased more slowly (by about 15 percentage points) than in all EMDEs between 2000 and 2021.

The second largest contributor to SAR's potential output growth in the past two decades has been capital accumulation, even though investment growth slowed from an average 9.3 percent a year in the 2000s to closer to 5.6 percent in the 2010s. There have also been significant country differences, with continued strong investment growth in Bangladesh (over 8 percent a year over the last two decades), rising investment growth in Nepal, but slowing investment growth in India. Several factors have contributed to India's slowdown in investment growth, including heightened regulatory and policy uncertainties, delayed project approvals and implementation, continued bottlenecks in the energy sector, and reform setbacks (Anand et al. 2014). Large corporate debt overhangs and non-performing assets in the banking sector have weighed on credit and investment growth across the region.

The contribution of labor force growth to potential output growth in SAR remained strong over the last two decades, exceeding that in all other EMDE regions except SSA. The median labor force participation rate in SAR declined from 58 percent in 2000 to a trough of 56 percent in 2014, but has since increased marginally. Population growth slowed slightly between the 2000s and 2010s, averaging around 2 percent a year over the two

decades. The region enjoyed a demographic dividend as the share of the working-age population continued to rise. Gains in education outcomes have been limited in the region. Secondary school completion rates in the region were around 40 percent in the 2010s. Moreover, the increase of 5 percentage points from the first decade of the 2000s was the second smallest increase among EMDE regions.

The COVID-19 pandemic disrupted life and undermined all three drivers of potential growth. It led to a contraction of over 10 percent in fixed investment in 2020, with only a partial reversal in 2021. Investment in 2022 is expected to remain 5 percent below the pre-pandemic trend, and this gap is expected to endure over much of the remainder of this decade. Human capital will have been eroded by lower participation rates, disruptions to education, and a deterioration in health outcomes. Pandemic-related school closures averaged 70 weeks in South Asia through March 2022—much higher than the global average of 41 weeks—and kept nearly 400 million children out of school (UNESCO and UNICEF 2021). This damage to human capital accumulation could undermine the pace of poverty reduction, significantly impair the lifetime earnings of many, and reduce upward social mobility across generations (Azevedo, Rogers, et al. 2021; World Bank 2021a, 2022b). The pandemic also had adverse effects on the informally employed—predominantly low-skilled, rural, female, and young workers—which accounted for 59 percent of total employment in 2010-18 in the region, significantly higher than in other EMDE regions (Ohnsorge and Yu 2021). Income losses were particularly severe in the services sector, given widespread informality and the limited ability of informal firms to access government support (Apedo-Amah et al. 2020; World Bank 2020f).

### **9.3. Potential growth prospects in SAR**

Potential output growth in SAR is projected to average 6.1 percent a year between 2022-30, a slight slowdown from 6.2-6.3 percent a year in the 2000s and 2010s. This slowdown is less pronounced than in other regions and leaves potential growth well above that in other EMDE regions. Per capita potential growth is expected to rise slightly to 5.1 percent from 5.0 percent in the 2010s.

The forecast of continued solid potential output growth in SAR through 2030 is underpinned mainly by a projected recovery in TFP growth. This is partly due to the expected effects of assumed improvements in educational attainment, despite pandemic setbacks, as well as improvements in transport connectivity and agricultural productivity. Higher TFP growth is expected to largely offset a moderation in working-age population growth and a slightly smaller contribution from capital accumulation. Reform momentum in several economies is expected to help maintain the growth of TFP and potential output.

In India, which accounts for about three-fourths of SAR output, the focus of government spending has shifted toward infrastructure investment, labor regulations have been consolidated, underperforming state-owned assets are being privatized, and the logistics sector is being modernized and integrated. During 2019-20, several labor laws that

presented long-standing barriers to growth were consolidated, rationalized, and simplified. They covered wages, social security, occupational health and safety, and industrial relations. The “Make in India” initiative, which began in late-2014, promotes investment and innovation, and the acquisition of skills to support workforce modernization. To boost international trade, the government has been modernizing and simplifying trade procedures through digitalization and infrastructure upgrades, and liberalizing services trade policies by raising foreign ownership limits (World Bank 2020g). The government has also taken steps to address the causes of past stress in the banking sector, including improving regulations and introducing a new bankruptcy law with a rule-based and time-bound resolution mechanism. The budget for 2021-22 has created a “bad bank” to acquire and resolve legacy non-performing assets, inject further capital into state banks, and increase foreign ownership in the insurance sector.

Other countries have also taken action to promote more conducive environments for private sector activity. In Pakistan, to improve macroeconomic stability, the functional and administrative autonomy of the central bank has been strengthened, government borrowing from the central bank has been prohibited, and price stability has been established as monetary policy’s primary objective (World Bank 2022l). In Nepal, reforms are planned to improve governance and transparency, upgrade the tax system and improve spending efficiency, enhance public debt management, and strengthen financial regulation and supervision (IMF 2022b).

The baseline projection of SAR’s potential growth is subject to significant uncertainty and risks, predominantly on the downside. The COVID-19 pandemic and the war in Ukraine are of particular concern as these shocks have put significant pressure on policy buffers, increased fiscal and financial sector vulnerabilities, and thereby heightened risks of financial crises (Dieppe 2021; Kilic Celik, Kose, and Ohnsorge 2020). In Sri Lanka, the two shocks, together with existing domestic vulnerabilities, led to a balance of payments and sovereign debt crisis in mid-2022. While policies to resolve this crisis are now being implemented, with the support of the international community, there are likely to be significant losses to the country’s potential growth in the years ahead. Other economies in the region are at risk of similar crises given the size of potential shocks and elevated fiscal and financial vulnerabilities. The risk of a global recession has also risen because of the two shocks, and this would damage the region’s actual and potential growth. Future waves of the pandemic and the possibility of new variants could cause further disruptions to education and employment, and discourage investment, leading to further losses to potential growth. Meanwhile, the war in Ukraine has increased global uncertainty and could lead to a prolonged fragmentation of global trade and investment networks. Gains from further improvements in agriculture productivity, which explained two-thirds of agricultural output growth globally from 2001 to 2015, may also be at risk due to higher input costs and the fragmentation of trade and finance (Fuglie et al. 2020). Regarding upside risks to potential growth in SAR, the pandemic has accelerated technology adoption, which may promote future productivity gains (World Bank 2021m).

#### 9.4. Policies to lift potential growth in SAR

Additional structural reforms in SAR could significantly boost the growth of productivity, employment, and potential output. In a scenario in which the region's largest 10-year improvements during 2000-21 in investment growth, female labor force participation, education outcomes, and life expectancy are assumed to be repeated for each country in the region, it is estimated that SAR's annual potential growth rate in the remainder of this decade would be raised by 0.3 percentage point (figure 20). However, this underestimates the potential benefits of significant reforms. First, the region has made no progress in raising female labor force participation over the last two decades from around 30 percent. If it were to be raised over the remainder of this decade to the EMDE average of 55 percent, it is estimated that potential growth would be 1.2 percentage points higher. Second, investment in climate change adaptation and mitigation of about 2.3 percent of GDP per year could boost potential growth by an additional 0.2 percentage point. While this scenario analysis indicates how reforms could raise SAR's potential growth in the years ahead, there are also other possible reforms to consider.

Labor productivity in SAR remains the lowest of all EMDE regions, in part reflecting high informality, the relatively large role of agriculture, and the region's limited integration into the global economy (Dieppe 2021). Policies to reduce informality include investing in human capital, increasing access to credit and public-sector support, and improving the business environment (Ohnsorge and Yu 2021; World Bank 2020f). Informal employment is particularly high among young, low-skilled, female, and rural workers, and policies for educating and training these groups can help their transition to formal employment. Greater access to credit for informal workers can also encourage formalization, while expanding access to microfinance and other services has been shown to increase investment and productivity among informal enterprises (ILO 2016). Gaining access to high-quality public services can also incentivize informal firms to become formal. Enhanced monitoring and enforcement of tax and other regulations could also discourage informality. In India, the introduction of a Goods and Services Tax in 2017 was designed partly to encourage formalization of activity.

Agriculture remains a large part of the economy in SAR, accounting for 18 percent of value-added and 42 percent of employment. Despite a three-fold increase in crop yields in the region over the last four decades, the average yield of cereal grains is still half that of East Asia (Fuglie et al. 2020). With two-thirds of the global extreme poor's livelihoods dependent on agriculture, with many of those in SAR, increasing productivity in this sector is especially important, with a large potential impact on economy-wide productivity. Policies to achieve this include increasing research spending on agriculture; measures to raise productivity on existing farms and promote the reallocation of resources to the most productive ones; measures to promote the adoption of new technologies; the expansion of training for farmers in the best available techniques; the development of financial products that meet the needs of farmers; and assisting in the transfer of excess labor from agriculture to other sectors (Fuglie et al. 2020).

Enhancing the region’s integration into global value chains and promoting the diversification of exports could also boost productivity growth and private sector investment. In other regions, international trade integration has been associated with faster economic growth, but SAR lags behind them in regional as well as global integration of trade and investment flows (Pathikonda and Farole 2017). Closer trade and investment ties could be supported by closing infrastructure gaps, removing regulatory and other impediments to business, and promoting a shift toward higher value-added manufacturing (Lopez-Acevedo and Robertson 2016). The region’s exports remain highly concentrated in a narrow range of products, which are often of relatively poor quality and less complex than those of peers (Lian et al. 2021). Policies to promote diversification of exports could focus on raising research and development spending, investing in infrastructure (including in digital technologies) and education, adopting new technologies, and increasing openness to trade.

There is significant room for improving SAR’s business environment. In particular, reform priorities include improving government effectiveness and controlling corruption.

Additional steps to address corporate and banking sector balance sheet vulnerabilities in the region could lift credit growth and the growth of investment and potential output. Banks’ high ratios of non-performing loans hold back the supply of credit. At the same time, high corporate debt hinders credit demand and investment, and parts of the corporate sector may require debt restructuring or even the exit of firms. Addressing the problem of so-called “zombie firms”—firms that are unable to cover interest payments from operating profits—could free up credit and resources for more productive uses (Banerjee and Hofmann 2022). In India, for example, 10 percent of non-financial firms, accounting for 10 percent of total bank credit, have been identified as zombies (Pattanaik, Muduli, and Jose 2022).

Greater investment in human capital may also help lift productivity, labor incomes, and potential output, including by fostering shifts of resources to higher value-added and more innovative sectors (Aturupane et al. 2014). Policies in this area include measures to raise the participation of women in the workforce, increase access to higher and better education, and invest in vocational training programs. Improving women’s access to economic opportunities—still far more limited in SAR than in other EMDE regions—remains a significant source of potential growth gains (Hsieh et al. 2019). Less than one-fourth of working-age women are in the labor force in SAR, compared to more than half in other EMDE regions (World Bank 2022m). Women’s participation in the workforce can also bring complementary benefits, including improvements in the nutrition of children and associated increases in productivity.

Country-specific reform agendas are key to boosting potential growth in the region. For example, in Bangladesh, reforms could focus on strengthening trade competitiveness through tariff reform and implementation of the Bangladesh National Single Window and the Customs Modernization Strategic Action Plan (2019-22); increasing investment and FDI through the full operationalization of new economic zones; increasing investment in

climate adaptation; and addressing the pandemic's impact on the financial sector, including by strengthening banks' relatively weak capital positions and exiting regulatory forbearance (World Bank 2022n).

In India, potential growth could benefit from accelerated implementation of an already ambitious reform agenda. Addressing the aftermath of financial sector distress could unlock significant growth. India has a less developed financial system than many of its peers, with a heavy state presence. To improve the sector's efficiency and depth, reforms could be undertaken to further rationalize the role of public sector banks, ensure a level playing field in the banking sector, and promote the development of capital markets (World Bank 2020g). On infrastructure, the reforms suggested by the Task Force on the National Infrastructure Pipeline should be implemented, including improving project preparation processes, enhancing the capacity and participation of the private sector, improving contract enforcement and dispute resolution, and improving sources of financing.

In Pakistan, priorities to raise potential growth include improving macroeconomic stability (avoiding destabilizing boom-bust cycles), increasing international competitiveness, and promoting equity and inclusion (World Bank 2020h, 2022l). Other policies beneficial to growth could include strengthening insolvency arrangements and creditor rights, improving the financial viability of the energy sector, and strengthening revenue mobilization and spending efficiency to better fund growth-promoting public investment.

The outlook for potential growth in the remainder of this decade and beyond is highly dependent on repercussions of the COVID-19 pandemic and climate change. While the impacts of both are highly uncertain, they will be almost entirely negative, with risks that they could be severely adverse. Policies to address these challenges are key to ensuring sustainable growth.

Regarding the COVID-19 pandemic, policies need to focus on mitigating its impact, including on education and employment, as well as on improving resilience to future pandemics by investing in surveillance and the health sector. Pandemic-related closures have kept more than 400 million children out of school in 2020-21 in the region, indicating an urgent need for countries to take measures to minimize education losses. SAR also has a large digital divide, with only 12 percent of school-aged children (3-17 years old) having access to the internet at home, well below the 33 percent of children globally (UNICEF and ITU 2020). Besides efforts to close the digital divide, education policies should be pursued that develop information systems for large segments of the population, improve coordination across stakeholders to improve outcomes, and encourage innovation (World Bank 2018b). In the health sector, besides expanding current vaccination programs, countries could prepare for future waves of COVID-19 and future pandemics by investing in improving the procurement and distribution of vaccines; shifting resources and planning toward more preventative care for the vulnerable; creating more effective early warning systems; and promoting, through international cooperation, global solutions to this global

problem with collective financing, mutual accountability, and strong multilateral systems (Global Preparedness Monitoring Board 2021; World Bank 2021).

Climate change represents a significant threat to lives, livelihoods, and economic growth in the region, as in the rest of the world. Extreme weather events, including cyclones, floods, and droughts, have become more frequent in SAR, and the damage caused has become more costly. The region is one of the most vulnerable to climate change-induced increases in poverty, disease, and child mortality, 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). Mitigation and adaptation are key to ensuring sustainable growth in the future (Agarwal et al. 2021; World Bank 2021). The region, which accounted for about 9 percent of global greenhouse gas emissions in 2018, can contribute to global mitigation efforts by incentivizing renewable energy sources, rationalizing and reducing subsidies on fossil fuels, and appropriately pricing carbon emissions through carbon taxes (Friedlingstein et al. 2022). The introduction of carbon taxes would both lower pollution and increase fiscal revenues to fund productivity-enhancing investments, but care should be taken to minimize their impact on vulnerable households. Adaptation, also necessary given the already changing climate, could be accelerated by quickly formulating and effectively implementing a comprehensive national adaptation plan. To date, only Sri Lanka has formulated and released such a plan.

## **10. Sub-Saharan Africa**

### **10.1. Introduction**

Over at least the past two decades, output growth in Sub-Saharan Africa (SSA) has been consistently below the EMDE average. Although the region fared better during the 2008-09 global financial crisis than other EMDE regions, economic growth in many countries never returned to its 2000s average, as declining investment in extractive sectors, worsening security situations, rising public debt, and deepening poverty weighed on activity. Over half of all SSA economies are expected to grow in 2022-24, but at a slower rate than in the 2010s, largely reflecting damage from the COVID-19 pandemic and the adverse effects of Russia's invasion of Ukraine on poverty and food security—two shocks that have further exacerbated underlying constraints on SSA's growth.

SSA's potential output growth has also been consistently below the EMDE average since at least 2000. The COVID-19 pandemic as well as Russia's invasion of Ukraine have depressed it further by adversely affecting fundamental drivers of potential growth, such as human and physical capital accumulation. In contrast to slowdowns in most other regions, potential growth in SSA in the 2010s was only slightly slower than in the preceding decade, although it remained barely above the region's population growth.

Without significant progress with reforms, actual and potential growth are likely to remain depressed across the region: it is projected that potential growth in SSA is likely to fall below 3 percent a year over the 2020s, with decelerating labor supply and slowing

investment growth—especially in South Africa—expected to be only partly offset by a modest increase in TFP growth.<sup>27</sup>

Weaker potential growth would delay the reversal of pandemic-inflicted losses in per capita incomes and hinder poverty reduction in SSA. The world’s extreme poverty is increasingly concentrated in SSA: nearly 60 percent of people living in extreme poverty live in the region (World Bank 2022a).<sup>28</sup> The COVID-19 pandemic reduced per capita incomes in SSA by nearly 5 percent in 2020, twice as much as in EMDEs more broadly, and caused widespread losses in learning and health outcomes (World Bank, UNESCO, and UNICEF 2021). Recent sharp cost-of-living increases caused by soaring food and fuel prices, largely resulting from the war in Ukraine, are pushing even more people into extreme poverty and acute food insecurity across the region. Boosting potential growth in SSA could substantially mitigate the damage arising from these developments.

The sharp deceleration of growth since 2019, triggered by the pandemic and steepened by Russia’s invasion of Ukraine, increases the likelihood of SSA missing the Sustainable Development Goals (SDGs). Investment has fallen across most SDG sectors, worsening constraints in industries that were already weak prior to the pandemic, such as power generation, agriculture, and health (UNCTAD 2021a). The SSA region also remains one of the most vulnerable to climate change-induced disruptions to development prospects (Rozenberg and Fay 2019).

This multitude of challenges confronting SSA underscores the urgency of structural reforms to boost potential growth, including reforms that spur private investment, skills development, and female labor force participation. There are substantial opportunities to boost potential growth through investment in SSA food systems and green and resilient infrastructure, with benefits magnified through productivity-enhancing technology transfers. Comprehensive reforms to strengthen health care, labor force participation, education, and social protection could similarly be transformative, unlocking the region’s underutilized potential human capital.

## 10.2. Evolution and drivers of potential growth in SSA

Potential output growth in SSA stood at 3.2 percent a year during the 2010s, only slightly below its average of 3.4 percent during the 2000s (figure 21). The experience of SSA contrasts with that of EMDEs as a whole, where potential growth during 2010s was a full percentage point slower than in the first decade of the 2000s.

The relative stability of potential output growth in SSA reflects two largely offsetting factors: a boost from a significant increase in public investment and a rise in the working-age share of the population being canceled out by a sharp deceleration in total factor productivity (TFP). TFP in SSA decelerated sharply in the 2010s, and especially in 2015-

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<sup>27</sup> This section draws on estimates of potential growth for 14 EMDEs in SSA, which together accounted for over a third of the region’s GDP in 2021. Estimates are available for Benin, Burundi, Cameroon, Gabon, Kenya, Lesotho, Mauritania, Mauritius, Mozambique, Namibia, Niger, Senegal, South Africa, and Togo.

<sup>28</sup> Extreme poverty is measured as the number of people living on less than \$2.15 using 2017 prices.



19. During this period, following the collapse of commodity prices and a decline in investment in extractive industries, potential TFP growth reached its slowest rate since 2000. This slowdown in TFP growth in SSA and other EMDE regions during the pre-pandemic decade has been attributed in part to a slowdown in convergence to the technological frontier. After a rapid catch-up in the 2000s, convergence has slowed amid weaker inflows of foreign direct investment (FDI) and lagging capabilities to adopt frontier technologies (Kemp and Smit 2015; UNCTAD 2021b).<sup>29</sup>

More than many other EMDEs, the economies of SSA have continued to benefit from a young and growing labor force. The contribution of labor supply growth to potential output growth increased by about 0.2 percentage point a year between the 2000s and 2010s amid rapid expansion in working-age populations. Excluding South Africa, it increased slightly more as rising labor force participation accompanied rapid population growth. This contrasts with other EMDE regions, where population aging has dampened labor supply growth.

The weakening of SSA's potential growth in the past decade was mainly concentrated in South Africa, the region's second-largest economy. In fact, excluding South Africa, potential growth in the region accelerated from 3.9 percent a year during the 2000s to 4.7 percent a year during the 2010s—not far below the EMDE average of 5.0 percent—largely due to strong public investment. Excluding South Africa, the contribution of capital stock growth to potential output growth in SSA rose from 1.5 percentage points a year in the 2000s to 2.2 percentage points a year in the 2010s. This was driven by macroeconomic stimulus policies after the global financial crisis, public investment initiatives in non-resource-intensive countries, and rising FDI inflows in metal exporters. Efforts to improve the business environment supported private investment activity and investor confidence in many non-oil producing countries. Each year since 2012, SSA has been the EMDE region with the highest number of reforms to improve business climates (Devarajan and Kasekende 2011; World Bank 2019b). However, in oil exporters, which account for almost 40 percent of SSA output, investment growth and FDI inflows fell substantially in the aftermath of the 2011-16 global commodity price plunge (World Bank 2017a).

Since 2019, the COVID-19 pandemic and Russia's invasion of Ukraine have substantially weakened all major drivers of potential growth in SSA, even more than in the rest of EMDEs. Economic activity in most SSA economies is more concentrated than in many other EMDEs in sectors directly hit by the pandemic. Remote work, which often allows for a wide range of activities, is impossible in much of the region. And even in sectors where it is possible, many countries lack the infrastructure needed to switch to remote work during the COVID-19 lockdowns. Similarly, digital inequalities, lack of reliable internet, and power access limited the feasibility of remote learning in many SSA countries. As a result, learning losses from school closures have been more severe than in

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<sup>29</sup> During 2000s, potential TFP growth had strengthened because of improvements in health and education outcomes, as well as a decline in the share of the labor force engaged in agriculture and the associated reallocation of workers to higher productivity sectors (Abdychev et al. 2018; McMillan and Harttgen 2014).

other EMDE regions and have disproportionately affected vulnerable households, deepening the learning crisis in the region (Angrist et al. 2021).

Several other structural features of the region's economies made SSA more vulnerable to slowdowns of potential growth. The sharp drop in commodity prices at the start of the pandemic severely reduced investment in extractive industries, particularly in oil-producing countries, compounding the adverse effect of delays in maintenance work due to mobility restrictions. The collapse of fiscal revenues and reorientation of government spending to pandemic relief measures took a major toll on public investment. Investment is expected to recover but could remain well below pre-pandemic trends.

In addition, SSA has the highest share of informality across all EMDE regions, with informal firms, especially those owned by women, hit particularly hard during COVID-19 lockdowns. Many informally employed workers, who were outside social protection nets, had to dispose of productive assets and deplete savings to cope with income losses and rising living costs, which further weakened their already low productivity.

Russia's invasion of Ukraine has sharply increased the number of vulnerable people because of surging domestic inflation and spreading food and fuel shortages, especially in SSA countries with already high levels of fragility. By increasing incidences of malnutrition and undernourishment, this is likely having a significant and lasting negative impact on human capital accumulation. In addition, because of deteriorating food affordability, many SSA governments are facing increased pressures to strengthen social protection and subsidize food and fuel at a time when fiscal space is already depleted. The resulting diversion of public funds from development projects, such as infrastructure investment, could delay progress toward other SDGs across the region. War-induced disruptions to global fertilizer and fuel supplies could also imperil sustained productivity growth in SSA agriculture, which already faces substantial risks due to the adverse impact of climate change (World Bank 2021n).

### **10.3. Prospects for potential growth in SSA**

According to current baseline projections, potential output growth in SSA will continue to drift lower, to below 3 percent a year on average in the 2020s, with further slowdowns in capital accumulation and labor supply growth only partly offset by a modest increase in TFP growth. This would be a less steep slowdown than in the average EMDE, mainly because of relatively fast population growth. Nevertheless, potential growth at this rate would mean that potential GDP per capita in SSA would rise by only 1.5 percent a year over the remainder of the 2020s, slowing the region's progress on poverty reduction and the reversal of pandemic-inflicted income losses.

Much of the weakness in the region's prospects for potential growth is accounted for by South Africa, which faces both slowing labor force growth and slower capital accumulation. Excluding South Africa, potential growth in the region would remain broadly steady at 4.6 percent a year on average during the 2020s, exceeding EMDE average potential growth by more than a half percentage point. In per capita terms,

however, this would still be weak, averaging 2.5 percent a year over the remainder of the 2020s, compared to 3.5 percent a year for EMDEs as a whole.

The underlying contribution of SSA's capital stock is projected to moderate to 1 percentage point a year in the 2020s. For 11 of the 13 SSA countries in the sample that are commodity-exporting, private investment in the resource sector is expected to continue growing in response to high commodity prices. Although financing costs are rising across the region as global financial conditions tighten, continued access to concessional financing will allow public investment to remain robust in some countries, supporting progress toward development goals. In contrast to the rest of the region, investment growth in South Africa is expected to recover only moderately during the next decade because of such structural impediments as high unemployment, weak infrastructure and institutions, slow progress with reforms, elevated public debt, and deteriorating profitability of state-owned enterprises, especially in the power generation sector. Excluding South Africa, investment growth is expected to remain robust at around 5.9 percent a year.

This investment growth is also expected to support TFP growth across the region. In South Africa, a stronger record of innovation than in the broader region suggests that despite weaker investment growth than in other SSA economies, TFP growth may pick up in the remainder of the 2020s. South Africa is one of SSA's leaders in digital infrastructure and services and is therefore more prepared than the rest of the region to adopt frontier technologies, for example in information technology and digital finance (figure 22; World Bank 2017e, 2019c). For SSA as a whole, the contribution of TFP growth to potential output growth is expected to increase by about 0.3 percentage point a year. However, if South Africa is excluded, the contribution is expected to increase by only 0.1 percentage point a year.

SSA is expected to experience a slower decline in fertility rates than other EMDE regions (Canning, Raja, and Yazbeck 2015). As a result, the youth dependency ratio (the population younger than 15 divided by the population aged 16-64) is projected to remain high and the share of the working-age population is projected to continue to rise at a similar rate to the pre-pandemic decade—except in South Africa, where slowing labor force growth is expected to dampen potential growth.

There are substantial risks that potential growth in SSA could slow in the period ahead by more than projected. These risks include the emergence and spread of infectious diseases, including new strains of COVID-19, which could further undermine improvements in health outcomes and disrupt the accumulation of human capital. SSA's high dependence on commodity exports—over 90 percent of the region's economies are commodity exporters—leaves the region particularly vulnerable to commodity price swings and resulting volatility of growth. High levels of public debt and weak fiscal revenue mobilization could further constrain much-needed investment in some countries, especially if access to international financial markets and donor support remains restricted. Violence and insecurity amid rising poverty and income inequality could slow reforms, including ones that improve investment climates. Productivity in agriculture may decelerate substantially if costs of farming inputs remain elevated for an extended period

and investment in green and resilient infrastructure fails to pick up. Insufficient access to agricultural inputs may lead to more low-productivity subsistence farming, rendering regional food systems even more vulnerable to shocks, especially in countries where climate change has already depressed productivity in farming. Many of these risks, however, can be mitigated through policy actions that promote sustained improvements in the fundamental drivers of potential growth.

#### **10.4. Policy options to lift potential growth in SSA**

Potential output growth in SSA could be increased by meeting the region's investment needs for climate adaptation and resilience, boosting human capital, and increasing labor force participation. For example, in a scenario in which the largest ten-year increases on record in each country in investment growth, education outcomes, life expectancy, and female labor force participation are assumed to be repeated, it is estimated that SSA's potential growth over the remainder of this decade could be boosted by about 0.8 percentage point a year, to an annual average of about 3.7 percent. Much of this boost would come from meeting investment needs, including investment in climate change mitigation and adaptation projects (figure 22).

In a separate scenario representing increased investment in climate change adaptation and mitigation, it is assumed that all SSA economies increase investment to limit climate change to 2 ° C, and also to become more resilient to its effects. The scenario is based on the World Bank's Country Climate Development reports. The additional capital spending includes, for example, investment in resilient infrastructure, flood prevention, and renewable power generation, and is estimated at about 1.2 percent of SSA GDP per year in the 2020s. The estimated boost to potential growth is 0.1 percentage points a year over this period.

Although public investment in SSA picked up in the mid-2000s and reached a peak of 5.8 percent of GDP in 2014, this rate was well below the average in other EMDE regions (World Bank 2017f). Partly as a result, SSA still has substantial infrastructure investment needs. Furthermore, public investment fell sharply during the pandemic, reversing some of the progress in meeting these needs. Additional financing equivalent to 27-37 percent of SSA's 2022 GDP could be needed to return SSA to its pre-pandemic income convergence path by the mid-2020s (IMF 2021d). The region's annual infrastructure investment needs, the largest among all EMDE regions, are estimated at over 9 percent of regional GDP—nearly four times higher compared to estimates of the actual infrastructure spending in SSA (Fay et al. 2019; Rozenberg and Fay 2019). In all likelihood, a substantial boost in private as well as public sector investment is needed to cover infrastructure gaps and accelerate capital accumulation. If the region's best ten-year investment growth rates were repeated, the boost to potential growth in the 2020s is estimated at about 0.4 percentage points.

Increasing public investment could boost output in the short term, including by spurring private investment (World Bank 2017f). Many countries in the region have little fiscal space to raise public spending because of elevated public debt, weak revenue mobilization,

and current pressures to boost social protection in response to the cost-of-living increases. There is, however, scope to reallocate resources from less productive spending programs and improve domestic revenue mobilization. Tax revenues as a ratio to GDP are relatively low for most countries in SSA and could be increased through reforms, including broad-based consumption taxes, simplified tax design, and improved tax administration (Mabugu and Simbanegavi 2015). In many countries, reforms that improve business climates and promote economic diversification would also encourage private investment (including FDI) in non-resource sectors, broaden tax bases, and reduce vulnerabilities to fluctuations in commodity prices.

Rapid scaling up of infrastructure investment carries the risk that funds could be spent inefficiently. There is evidence that the institutions governing the life cycle of infrastructure projects are weaker in SSA than in other EMDEs regions. This can lead to poor project selection, inadequate enforcement of procurement procedures, and failure to complete projects, limiting the success of large public investment projects (Dabla-Norris et al. 2012). Strengthening the underlying institutional and governance capacities could play an important role in raising the efficiency of public investment in the region (Calderón, Cantú, and Chuhan-Pole 2018; Rajaram et al. 2014). Many SSA countries can greatly benefit from stronger institutions and reduced corruption. Structural reforms that address these issues would raise fiscal revenues and build the capacity to use public funds more efficiently. Improved governance would incentivize investment and job creation in the private sector, enhance developmental outcomes and support economic and social inclusion.

To meet infrastructure and investment needs, many countries will need to boost private investment, particularly in green and climate change adaptation projects. Over the past few decades, SSA economies have made substantial progress with reforms to improve the investment climate, including regulatory reforms. Nevertheless, there remains considerable scope for simplifying regulations and administrative procedures for starting a business, increasing the efficiency of the legal system, and reducing regulatory uncertainty. In addition, complementary reforms are needed to raise returns on private investment in many countries. These include increasing openness to trade, technological readiness, and policy stability. Reforms to improve security are urgently needed as well, especially in low-income countries (LICs). Persistently high levels of violence and insecurity, which are being exacerbated by social unrest caused by deteriorating living standards, could have a significant and lasting adverse impact on potential growth (Hadzi-Vaskov, Pienknagura, and Ricci 2021).

Further improvements in education and health outcomes could bolster potential growth by raising labor force participation rates, enhancing human capital accumulation, and boosting TFP growth. Although the region has achieved significant improvements in these areas, much more remains to be done. In half of the countries in the region, fewer than 50 percent of young people complete lower-secondary education, and fewer than 10 percent go on to higher education (World Bank 2017g). In addition, learning outcomes have been generally poor, and gender disparities have remained significant at the secondary and

tertiary levels (Oleyere 2015). Completion rates adjusted for the quality of learning outcomes in Africa are some of the lowest in the world—for example, just 10 percent of lower secondary students in SSA achieve a minimum proficiency level in mathematics (UNESCO 2019). Priorities vary depending on country circumstances, but they center on investing in effective teaching, ensuring access to quality education for the poor, and closing gender gaps (World Bank 2017g).

Investment in health and education is especially urgent considering the scale of learning losses during the pandemic. School closures due to COVID-19 social restrictions are likely to have a significant negative impact on long-term educational attainment across the region, as well as the earning and employment prospects of new labor market entrants. For example, in the aftermath of the 2015 Ebola outbreak, almost a fifth of girls in Sierra Leone never re-enrolled in schools (Bandiera, Buehren, Goldstein, et al. 2020). One estimate suggests that a loss of one year of schooling because of COVID-19 school closures translates into as much as three years of learning losses in the long term (Angrist et al. 2021).

Major health indicators show SSA is lagging. Average life expectancy in the region was 62 years in 2020—well below the average of over 70 years in other EMDE regions. SSA is disproportionately affected by the impact of infectious diseases. Building strong health systems, as well as setting up regional coordination mechanisms (to improve prevention, preparedness, and response to future pandemics), is critical for providing adequate health services.

Achieving the education and health improvements envisaged in the scenario analysis—that is, a rise in secondary school completion rates by 3.7 percentage points, tertiary completion rates by 0.4 percentage point, and life expectancy by 3 years—would raise potential growth by around 0.2 percentage point a year during 2020s.

The COVID-19 pandemic has also widened gender inequalities in SSA because women were employed disproportionately in the hardest-hit sectors, notably the informal economy. At about 64 percent, the labor force participation rate for women in SSA remains well below the 74 percent rate for men, indicating significant scope for increasing the number of women in the workforce. Raising female labor force participation in SSA is complicated by the prevalence of unpaid female labor, lack of affordable childcare, as well as by gaps in educational attainment and restrictions in women’s access to credit and rights to own and control assets (Seguino and Were 2015).

These challenges point to the need for policy and institutional frameworks to increase female labor force participation and promote female entrepreneurship. Reforms that remove obstacles to ownership rights, promote equal access to financial services, and expand the availability of childcare are critical for women’s empowerment and gender equality (World Bank 2022o). If the female labor force participation rate increases by 2.5 percentage points, as assumed in the scenario analysis, it would raise potential growth in the region by around 0.2 percentage point a year in the 2020s.

In addition to the reforms captured in the scenario analysis, there are others that could pay significant dividends in terms of increased TFP (IMF 2022c). These include diversification efforts to reduce reliance on the resource sector, stronger property rights to encourage productivity-enhancing investment, and greater transport connectivity to spur competition and within-region integration. For example, estimates suggest that the full implementation of the African Continental Free Trade Area (AfCFTA) could lift 30 million people from extreme poverty by 2035 through trade facilitation and the removal of tariff and non-tariff barriers (World Bank 2020i). Across the region, there is substantial scope for raising productivity across many sectors and industries, including the formal sector, the agricultural sector, and the nonfarm informal sector, which could further boost the region's potential growth (Calderon 2021).

Many economies in SSA are striving to diversify away from natural resource exports, especially by taking steps to increase the competitiveness of manufacturing, which suffers from poor business environments, lack of infrastructure, and high unit labor costs (Bhorat and Tarp 2016). Along with increased human capital and the removal of trade barriers, improvements in transport and energy infrastructure would increase the competitiveness of the region and facilitate its integration into global and regional value chains (Abreha et al. 2020; Allard et al. 2016). AfCFTA could be a strong catalyst for many intra-African productivity-boosting infrastructure projects, including the expansion of road networks, which would substantially reduce intraregional transportation costs, especially for landlocked countries (UNCTAD 2021c).

The COVID-19 pandemic has accelerated the adoption in SSA of digital technologies, which could significantly improve productivity across firms, both formal and informal, and sectors, especially agriculture (World Bank 2021o). More widespread digitalization would require additional sizable investment in infrastructure and skills, which governments could facilitate by promoting competition, eliminating barriers to entry, removing restrictive licensing in the telecommunications industry, and avoiding taxes and regulations that constrain the expansion of service-providing industries.

Across the region, the share of the labor force working in the low-productivity agricultural sector remains high. Many countries have substantial scope for raising agricultural productivity, including by improving land titles; promoting new farming techniques, including by increasing access to credit; and providing the infrastructure needed to connect farms to markets (Fuglie et al. 2020). In Ethiopia, for instance, public investments in irrigation, transportation, and power have led to a significant increase in agricultural productivity and incomes (Rodrik 2017). Improving productivity in agriculture, especially in LICs, is key to reducing food insecurity and extreme poverty across SSA.

TFP growth has accounted for about 60 percent of output growth in agriculture in EMDEs, and improvements in agricultural TFP have larger poverty-reducing effects than TFP growth in other sectors, especially in LICs where farming accounts for a big share of the economy (Fuglie et al. 2020; Ivanic and Martin 2018). Compared to other EMDE regions, agriculture represents a much larger share of output and employment in SSA,

especially in the poorest countries. This increases the need for policies that promote the diffusion and adaptation of new technologies in farming, including public spending on research and development in agriculture, targeting improvements in yields; eliminating barriers to the adoption of new technologies by private firms; and enforcing business-friendly sanitary and phytosanitary standards.

In many countries in SSA, declines in the share of the labor force engaged in agriculture have been matched by increases in the share employed in the informal sector (Ohnsorge and Yu 2021). Raising productivity in the informal sector is therefore an important policy objective. Fostering a supportive regulatory environment, and promoting investment in basic infrastructure such as electricity, road networks, and information technology, are key reforms that could make the informal sector more dynamic, encourage formalization, and increase the contribution of the resources currently employed in the informal sector to the region's long-run economic growth (Bhorat and Tarp 2016).

## **11. Conclusion**

In EAP, potential output growth declined in 2011-21 relative to 2000-10, in part due to COVID-19 pandemic-related economic disruptions. The weakening of potential growth in EAP was broad-based, with all of its drivers fading. Prospects for the fundamental drivers of growth suggest that without policy reforms, the recent slowdown of potential growth in EAP will accelerate and broaden in the remainder of this decade. While policies may be able to stem or even reverse the projected slowing in the growth of factor inputs, policies to raise TFP growth offer a more promising way for many of the region's economies to mitigate the slowdown of potential growth and speed up the convergence of per capita income toward advanced economy levels. Higher infrastructure investment designed to improve disaster resilience and meet climate goals could provide an additional boost to potential growth.

In ECA, potential output growth is projected to slow to an annual average pace of 3.0 percent in 2022-30 from 3.6 percent in 2011-21. Investment has weakened against the backdrop of sustained geopolitical tensions and pronounced uncertainty, as has the growth of the labor force. The dual shocks of the COVID-19 pandemic and the war in Ukraine are expected to inflict substantial damage to the drivers of potential growth and exacerbate existing structural challenges. Given the limited fiscal space in the region, structural reforms are needed to help boost jobs and incomes, strengthen resilience to shocks, and promote sustainable growth over the next decade.

In LAC, potential output growth has been set back by the COVID-19 pandemic and the war in Ukraine, exacerbating a trend that goes back two decades. Following a steep decline in 2020, investment largely recovered in 2021, but medium-term prospects for investment growth remain too modest for it to lift potential growth. This, together with sustained weakness in total factor productivity growth and slow growth of working-age populations, most notably in South America, suggests that potential output growth will remain weak



in the remainder of this decade. Reforms to boost labor force participation and improve education and health outcomes could help lift potential growth, but the most effective approach is likely to be addressing reforms that raise investment growth or boost productive efficiency. Investment in the climate transition could also boost potential output growth in LAC.

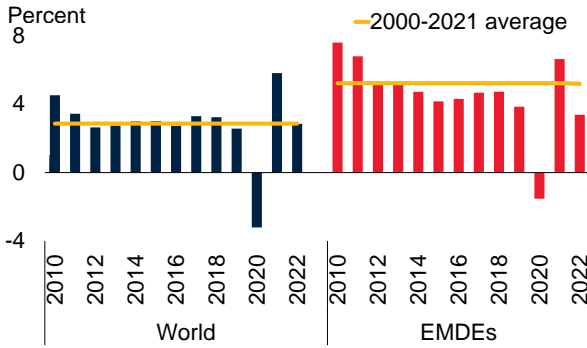
In MNA, potential output growth is estimated to have halved between the 2000s and 2010s owing to a broad-based slowing of capital accumulation, total factor productivity growth (in economies dominated by extractive sectors and large public sectors), and labor force growth. Potential growth in the region is projected to remain lackluster in the remainder of this decade, with a further decline in the contribution of labor force growth to potential output growth offsetting an anemic improvement in total factor productivity growth. Reversing the slowdown in potential growth requires urgent reforms to kindle private sector-led growth.

SAR is the only EMDE region not to have suffered a decline in the growth rate of potential output in 2011-21 relative to the preceding decade. Its potential growth in the last decade was close to that of East Asia and the Pacific but faster than other EMDE regions. It continued to be bolstered by an expanding working-age population, a high investment rate, and productivity-raising shifts of resources away from agriculture and informal activity. The pace of potential growth is expected to remain robust in the remainder of the 2020s, and to be supported by all major growth drivers. However, there is still scope to boost the region's potential growth significantly through product and labor market reforms. These include measures to increase women's participation in economic activity, to accelerate investment in mitigating and adapting to climate change, and to expand investment in human capital.

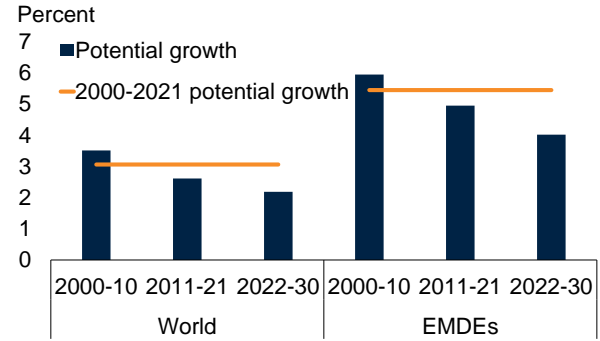
In SSA, potential output growth has been below the EMDE average since at least 2000. The effects of the COVID-19 pandemic and Russia's invasion of Ukraine have depressed it further, although not as much as in some other regions. This long period of anemic potential growth, with growth rates barely above the region's population growth, resulted in stagnant per capita potential output growth. Without economic reforms, potential growth in SSA is likely to weaken further over the rest of this decade, as labor supply growth moderates and capital accumulation wanes, especially in South Africa.

**Figure 1. Actual and potential growth in EMDEs**

**A. Actual GDP growth**



**B. Potential A. Actual GDP growth GDP growth**

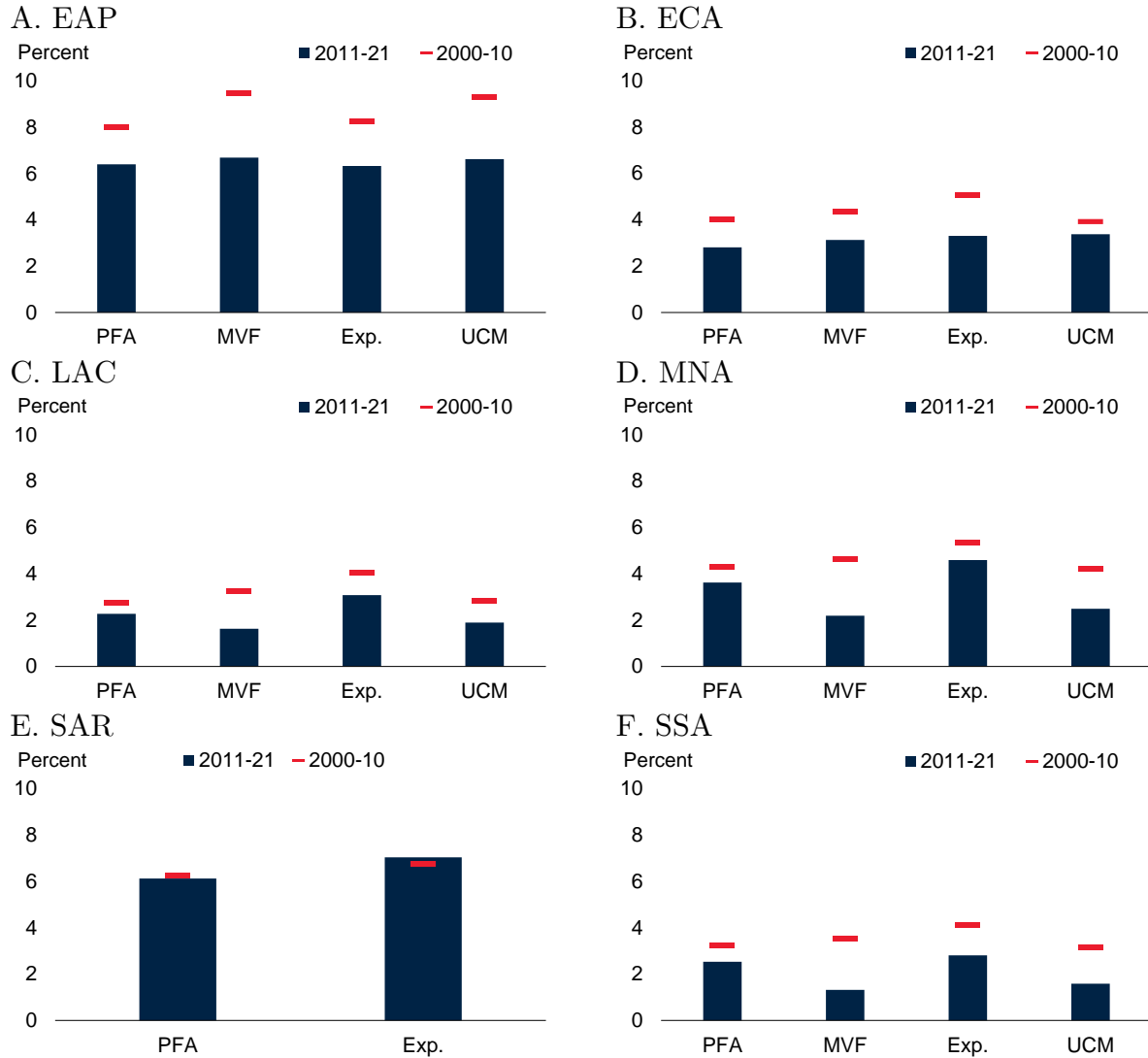


Sources: Haver Analytics; Penn World Tables; UN Population Prospects; World Bank.

Note: EMDEs = emerging market and developing economies.

A. Aggregate growth rates are calculated using GDP weights at average 2010-19 prices and market exchange rates.  
 B. Period average of annual GDP-weighted averages. World sample includes up to 53 EMDEs and 30 advanced economies.

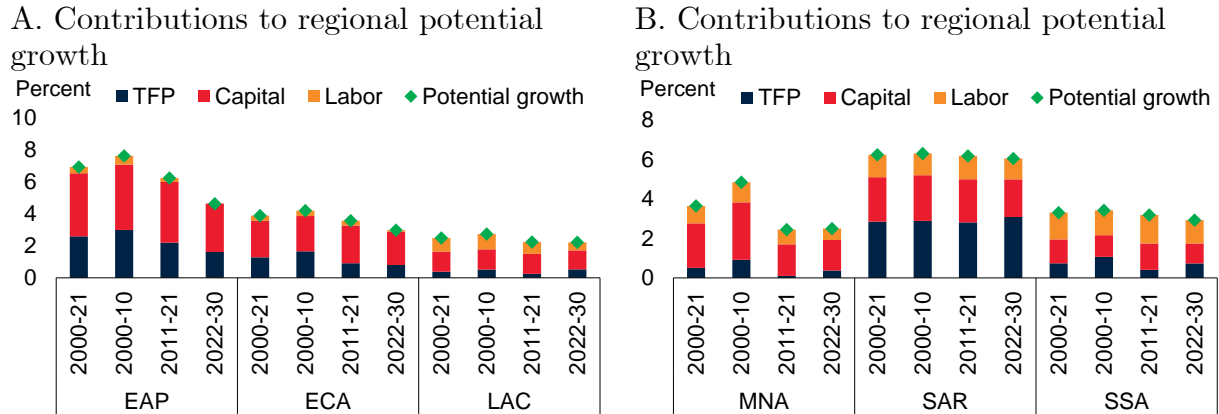
**Figure 2. Potential growth in EMDE regions, 2000-10 and 2011-20**



Sources: Haver Analytics; Penn World Tables; UN Population Prospects; World Bank.

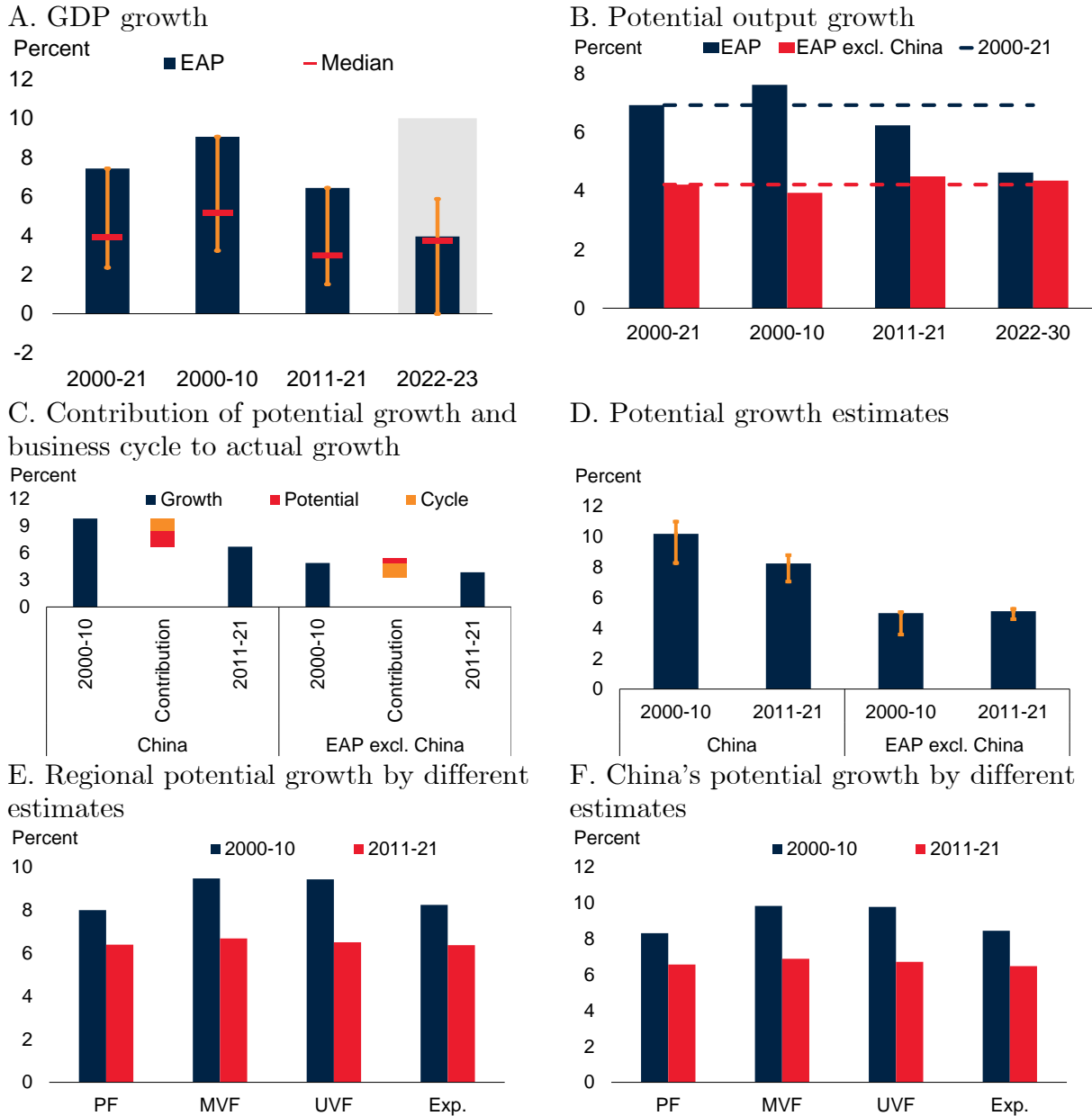
Note: EAP = East Asia and Pacific, ECA = Europe and Central Asia, LAC = Latin America and the Caribbean, MNA = Middle East and North Africa, SAR = South Asia, SSA = Sub-Saharan Africa. Period average of annual GDP-weighted averages. Samples differ across measures, depending on data availability. PFA = production function approach. MVF = multivariate filter-based. UCM = univariate filter-based (specifically, the Hodrick-Prescott filter). "Exp." = estimates based on five-year-ahead World Economic Outlook forecasts. For SAR, insufficient data available for filter-based estimates until 2010. The sample includes 28 economies; 3 countries in EAP (China, Philippines, and Thailand), 5 countries in ECA (Bulgaria, Hungary, Kazakhstan, Poland, and Romania), 10 countries in LAC (Bolivia, Brazil, Chile, Colombia, Costa Rica, Honduras, Mexico, Paraguay, Peru, and Uruguay), 3 countries in MNA (Jordan, Morocco, and Tunisia), 4 countries in SAR (Bangladesh, India, Pakistan, and Sri Lanka), and 3 countries in SSA (Cameroon, Namibia, and South Africa). Note that quantitative estimates may differ from those presented in Figure 3 because of sample differences. Figure 2 ensures sample consistency across measures; Figure 3 ensures sample consistency across time.

**Figure 3. Contributions to potential growth in EMDE regions**



*Sources:* Haver Analytics, Penn World Tables, UN Population Prospects, World Bank.  
*Note:* 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. Period averages of annual GDP-weighted averages. Estimates based on the production function approach. Sample includes 6 countries in EAP, 9 in ECA, 16 in LAC, 5 in MNA, 3 in SAR, and 14 in SSA. Note that quantitative estimates may differ from those presented in Figure 2 because of sample differences. Figure 2 ensures sample consistency across measures; Figure 3 ensures sample consistency across time.

**Figure 4. EAP: Regional actual and potential output growth**



Sources: International Monetary Fund; Penn World Tables; UN Population Prospects; World Bank, World Development Indicators database;

Note: EAP = East Asia and Pacific. Shaded areas indicate forecast. GDP weighted averages (using average real U.S. dollar GDP at average 2010-19 prices and market exchange rates). Period averages.

A. Markers show median GDP-weighted averages of the six EMDE regions; orange whiskers show minimum-maximum range.

B.C. Potential growth estimates based on production function approach. Sample includes six EAP economies (China, Indonesia, Malaysia, Mongolia, the Philippines, and Thailand).

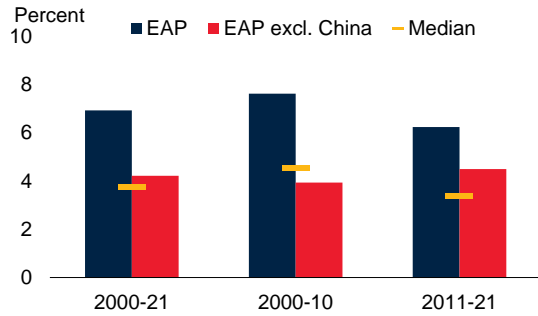
C. Blue bars denote average actual growth over each ten-year period. Red bars denote contribution of potential growth to change in actual growth between the two five-year periods; orange bars denote contribution of cyclical growth.

D. Orange whiskers show min-max range of potential growth estimates in the four sources listed above. "EAP ex. China" includes Indonesia, Mongolia, Philippines, and Thailand.

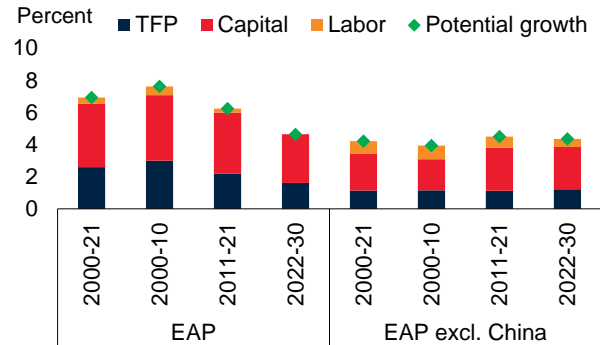
E. F. MVF = multivariate filter; PF = production function approach; UVF = univariate filter (Hodrick-Prescott filter). Expectations-based estimates (“Exp.”) are potential growth proxied by five-year-ahead IMF World Economic Outlook growth forecasts. Sample includes three EAP economies (China, the Philippines, and Thailand).

**Figure 5. EAP: Drivers of potential output growth**

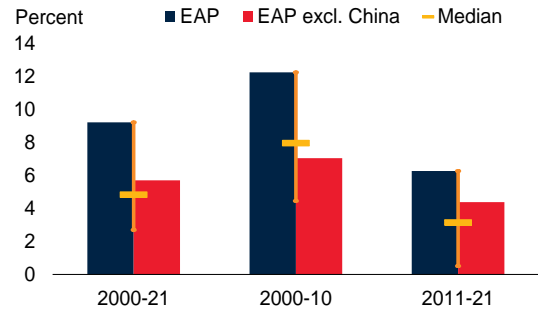
**A. Potential GDP growth**



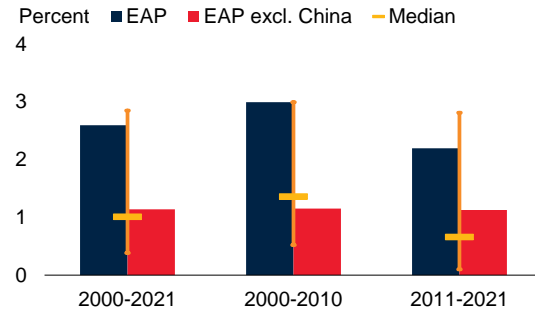
**B. Contributions to potential GDP growth**



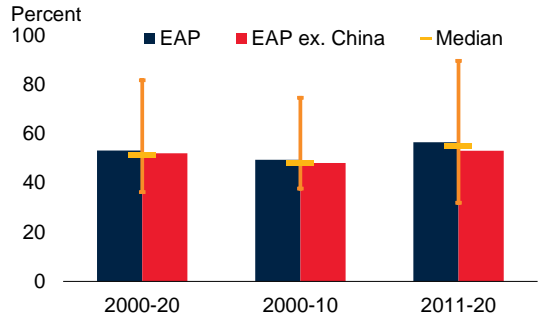
**C. Investment growth**



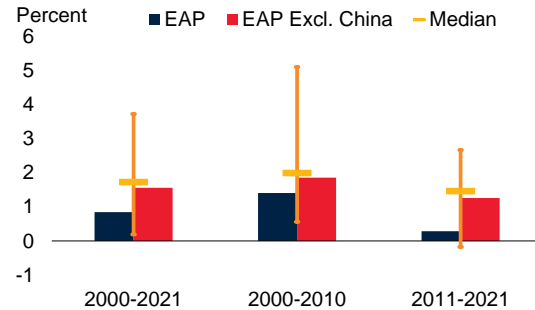
**D. Potential TFP growth**



**E. Secondary education attainment**



**F. Working-age population growth**



Sources: Haver Analytics; Penn World Tables; UN Educational, Scientific, and Cultural Organization (UNESCO) Institute of Statistics; UN Population Prospects; World Bank; World Development Indicators database.

Note: EAP = East Asia and Pacific; TFP = total factor productivity. GDP weights are calculated using average real U.S. dollar GDP (at average 2010-19 prices and market exchange rates).

A.C.-F. Bars show period averages of annual GDP-weighted averages. Markers show median of GDP-weighted averages of the six EMDE regions. Orange whiskers show min-max ranges.

A.B. Estimates based on production function approach. Sample includes 53 EMDEs, of which six economies are from EAP (China, Indonesia, Malaysia, Mongolia, the Philippines, and Thailand).

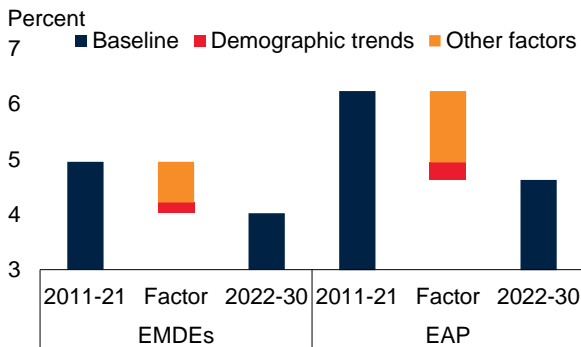
C.D. Sample includes China, Indonesia, Malaysia, Mongolia, the Philippines, and Thailand (where potential growth estimates are available for both investment growth and TFP growth measures for the period 2000-21).

E. Period averages of simple annual averages. Percentage of population ages 25 and above that completed at least lower secondary education. "EAP ex. China" includes Indonesia, Malaysia, Mongolia, the Philippines, and Thailand.

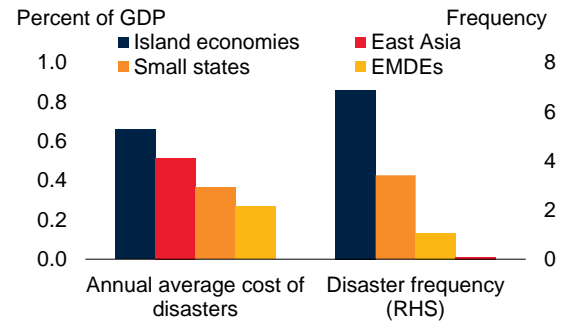
F. Working-age population refers to population ages 15-64. Sample includes six EAP economies.

**Figure 6. EAP: Potential growth—baseline and reform scenarios**

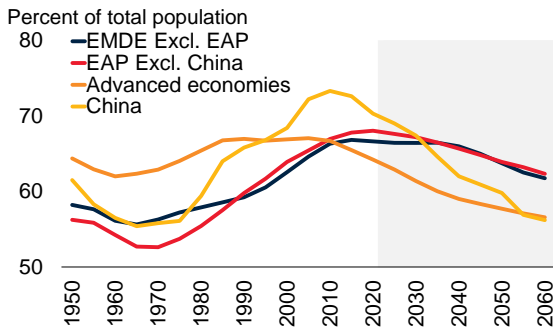
**A. Baseline projection of potential output growth**



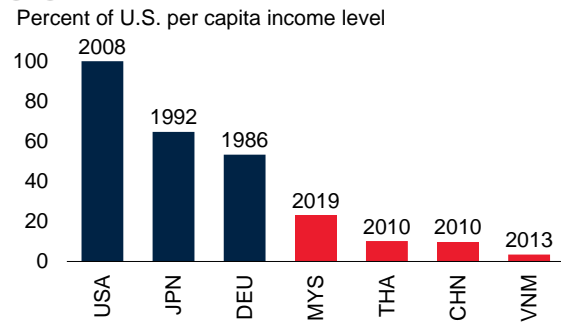
**B. Natural disasters**



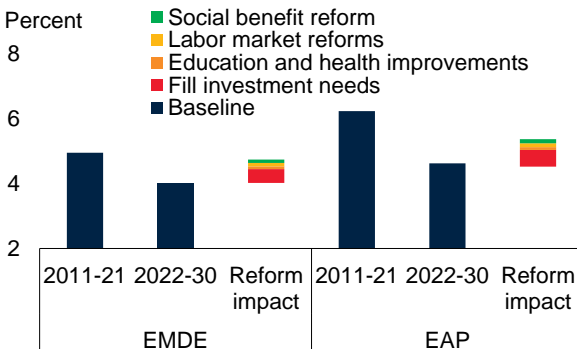
**C. Working-age population**



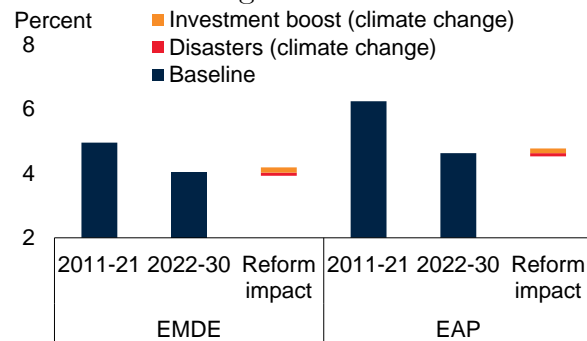
**D. Per capita income at peak working-age population share**



**E. Reform scenarios**



**F. Climate change scenarios**



Sources: International Monetary Fund; Penn World Tables; UN Population Prospects; World Bank.

Note. Shaded areas indicate forecast. GDP-weighted averages (using average real U.S. dollar GDP at average 2010-19 prices and market exchange rates). Period averages.

A. Potential growth estimates based on production function approach. “Other factors” include trend improvements in human capital and investment growth relative to its long-term average. Sample includes 53 EMDEs (6 from EAP).

B. East Asia includes 10 EMDEs in EAP; Island economies includes 13 EMDEs in EAP. Disaster frequency is calculated based on the annual average number of natural disaster incidents from 1980-2021 per 10,000 square kilometers of land area.

C. The working age population is defined as those aged 15 to 64.

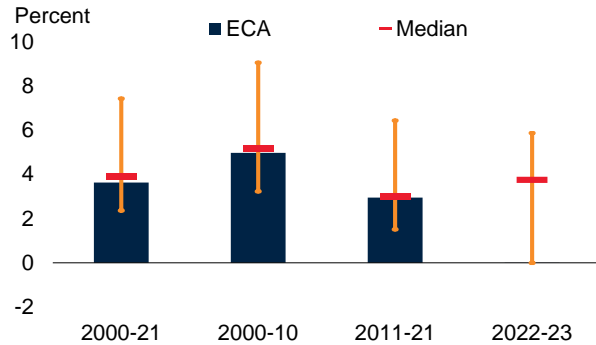
D. Per capita income in the year that working-age population share peaked (years shown above the bars). Red bars are EAP economies and include only those whose working-age population shares are expected to have peaked before 2020.

E,F. Potential growth estimates based on production function approach. Sample includes 53 EMDEs (6 from EAP: China, Indonesia, Malaysia, Mongolia, the Philippines, and Thailand).

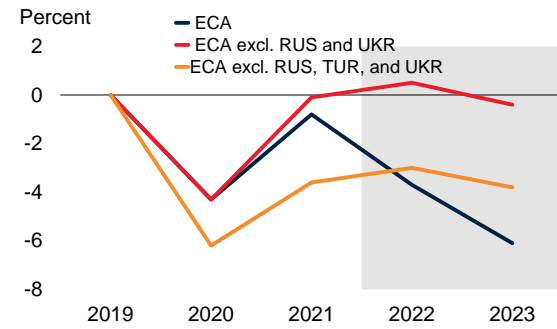


**Figure 7. ECA: Output growth and potential growth**

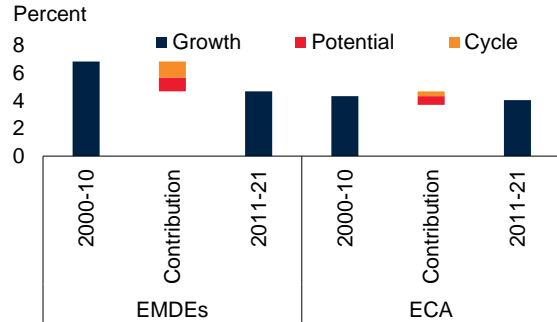
**A. GDP growth**



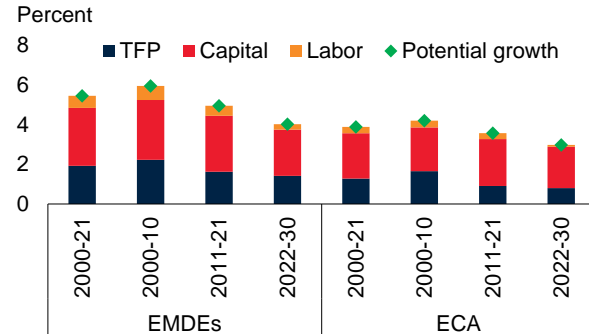
**B. Deviation of output from pre-pandemic trend**



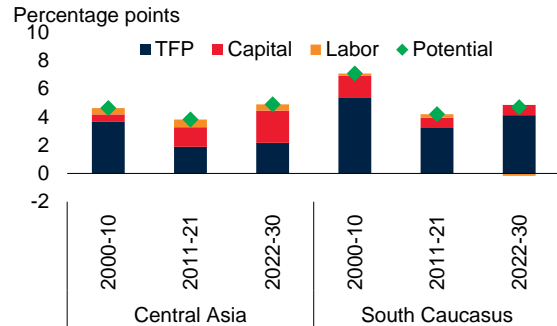
**C. Contributions of potential growth and business cycle to actual growth**



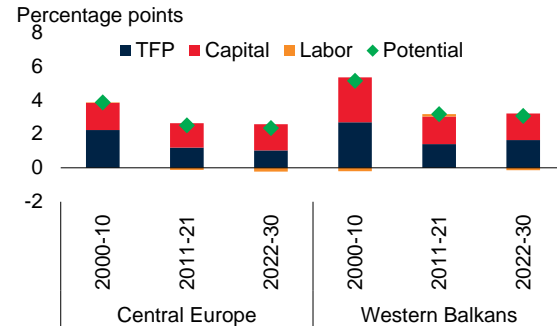
**D. Contributions to potential growth: EMDEs and ECA**



**E. Contributions to potential growth: Central Asia and South Caucasus**



**F. Contributions to potential growth: Central Europe and Western Balkans**



Sources: Penn World Tables; World Bank

Note: ECA = Europe and Central Asia; EMDEs = emerging market and developing economies. RUS = Russian Federation; UKR = Ukraine; TUR = Türkiye. TFP = total factor productivity. Shaded area indicates forecast. GDP weights are calculated using average real U.S. dollar GDP (at average 2010-19 prices and market exchange rates).

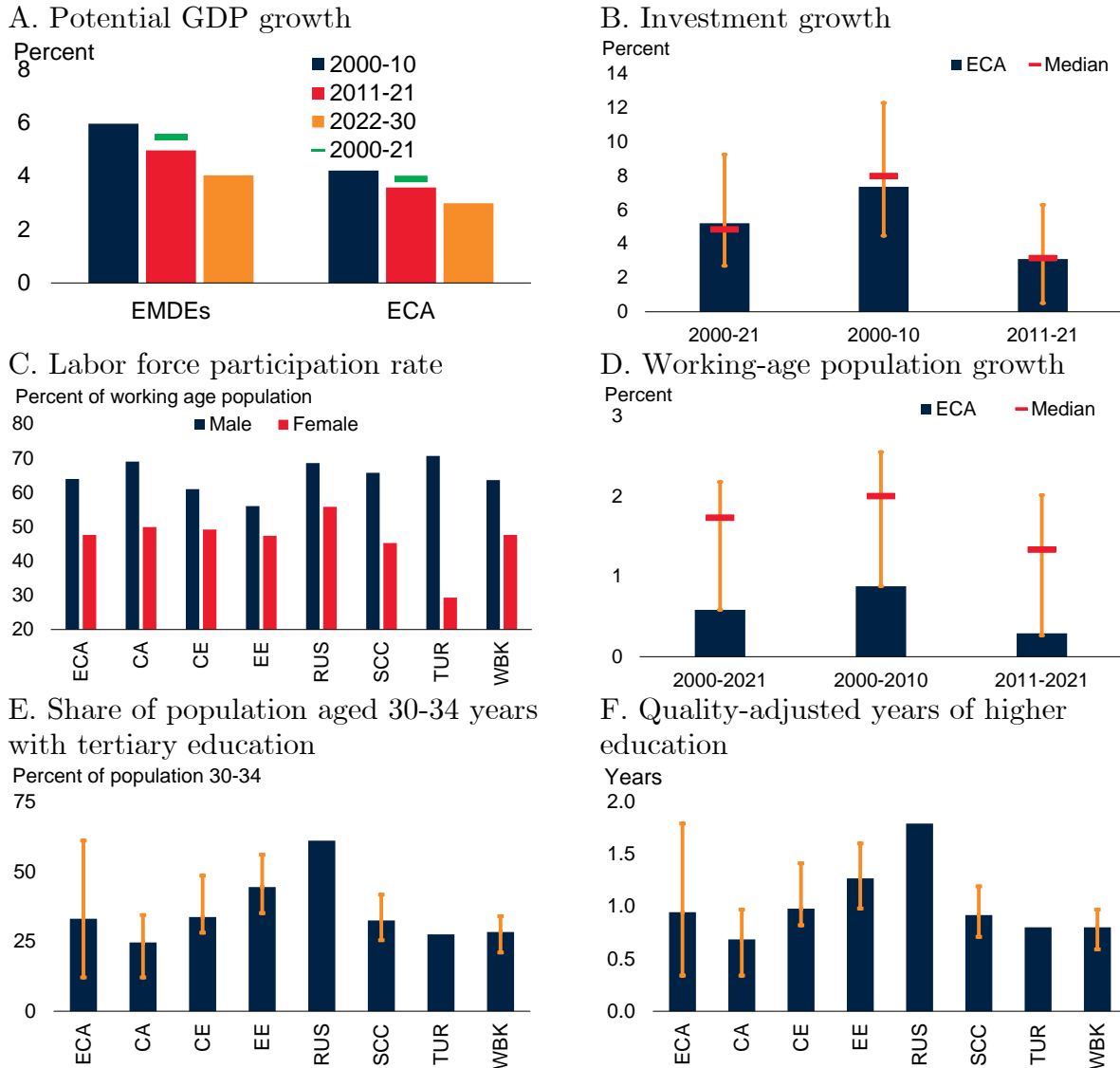
A. Bars show period averages of annual GDP-weighted averages. Markers denote the median region, with orange whiskers showing min-max ranges across regions.

B. Figure shows the percent deviation between the Global Economic Prospects report forecasts released in June 2022 (World Bank 2022c) and January 2020 (World Bank 2020c). For 2023, the January 2020 baseline is extended using projected growth for 2022.

C. Blue bars denote average actual growth over each ten-year period. Red bars denote contribution of potential growth to change in actual growth between the two five-year periods; orange bars denote contribution of cyclical growth.

C.-F. Period averages of annual GDP-weighted averages. Estimates based on production function approach. Sample includes 53 EMDEs, of which 9 are from ECA (Türkiye, 2 in Central Asia, 4 in Central Europe, 1 in South Caucasus, and 1 in Western Balkans). The Russian Federation and Ukraine are excluded.

**Figure 8. ECA: Potential output growth and its drivers**



*Sources:* European Commission; Eurostat; Penn World Tables; UN Population Prospects; World Bank, World Development Indicators database.

*Note:* CA = Central Asia; CE = Central Europe; ECA = Europe and Central Asia; EE = Eastern Europe; EMDEs = emerging market and developing economies; RUS = Russian Federation; SCC = South Caucasus; TUR = Türkiye; WBK = Western Balkans. GDP-weighted averages (using average real U.S. dollar GDP at average 2010-19 prices and market exchange rates). Period averages.

A. Estimates based on production function approach. Sample includes 53 EMDEs, of which 9 are from ECA (Türkiye, 2 in Central Asia, 4 in Central Europe, 1 in South Caucasus, and 1 in Western Balkans). The Russian Federation and Ukraine are excluded.

B. Bars show averages. Orange whiskers show min-max ranges. Sample includes 13 ECA economies, including Türkiye, the Russian Federation, and Ukraine.

C. Figure shows share of population age 15 and older by gender that is economically active. Unweighted averages.

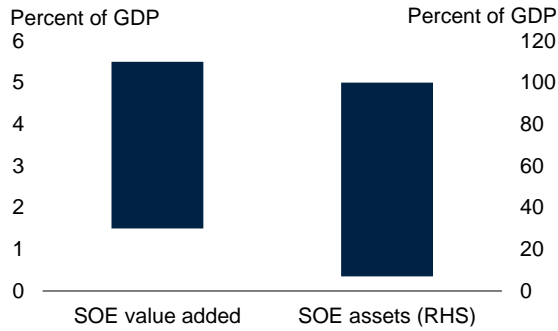
D. Bars show averages. Median marker and whiskers show median and min-max ranges of EMDE regions.

Working-age population refers to population aged 15-64 year. Sample includes 22 ECA economies.

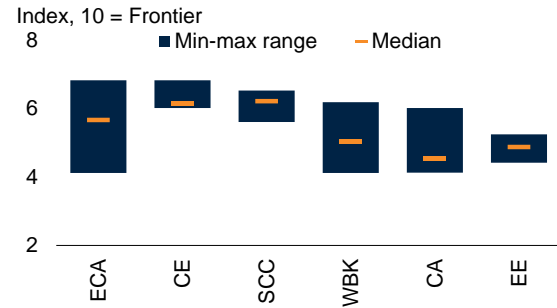
E.F. Aggregates calculated as simple averages of country-level data as calculated in World Bank (2020e).

**Figure 9. ECA: Drivers of potential output growth**

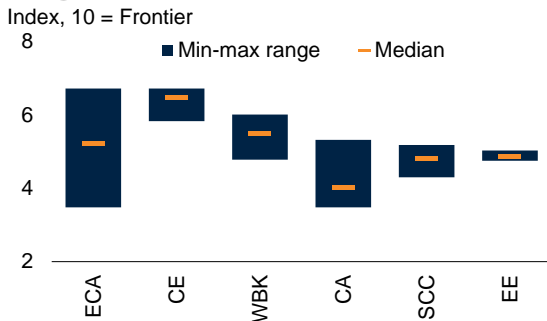
**A. EBRD state-owned enterprise activity and assets**



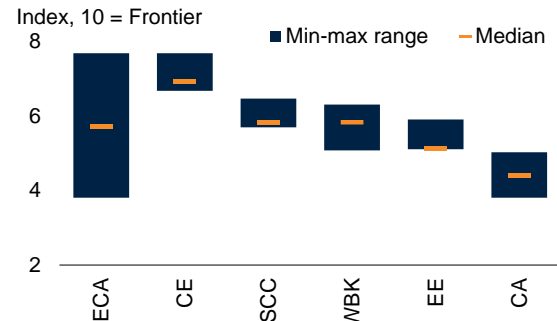
**B. EBRD assessment of governance, 2021**



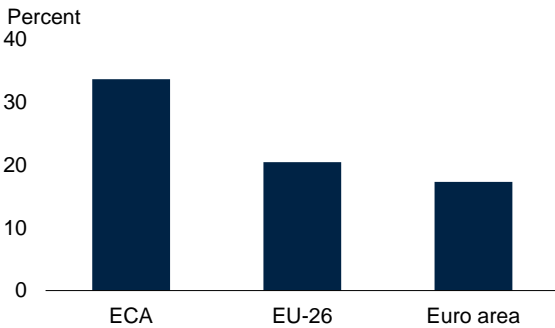
**C. EBRD assessment of transition to a competitive market economy, 2021**



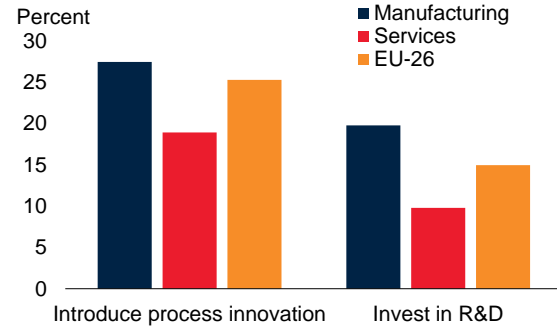
**D. EBRD assessment of integration, 2021**



**E. World Bank Enterprise Surveys: Share of firms that met with tax officials**



**F. World Bank Enterprise Surveys: Share of firms that introduce process innovation and invest in R&D**



Sources: EBRD (2020, 2021); World Bank; World Bank, Enterprise Surveys database.

Note: CA = Central Asia; CE = Central Europe; ECA = Europe and Central Asia; EE = Eastern Europe; RUS = Russian Federation; SCC = South Caucasus; SOE = state-owned enterprises; TUR = Türkiye; WBK = Western Balkans.

A. SOE data are 2014-16 averages, as presented in Sanja and Tabak (2020). Sample includes 25 of the 38 countries covered by EBRD, of which 17 are ECA EMDEs.

B.-D. Data reflect the scores of transition qualities, which measures each economy's performance against that of comparator economies in EBRD regions, as presented in EBRD (2021). Scores range from 1 to 10, where 10 represents a synthetic frontier corresponding to the standards of a sustainable market economy.

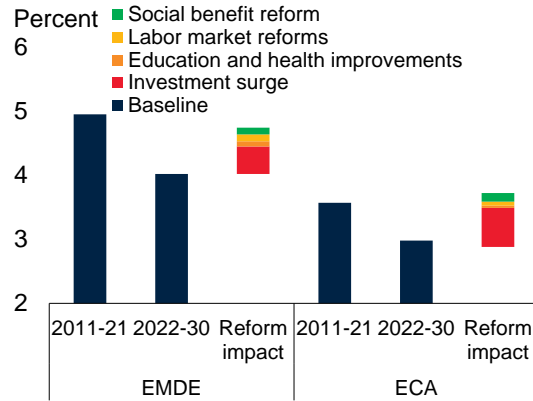
E.F. Data for the EU-26 grouping and the euro area exclude Germany. Aggregates are calculated as averages. Data are for 2019.

E. Figure shows percent of firms that were visited or inspected by tax officials or were required to meet with them over the last year.

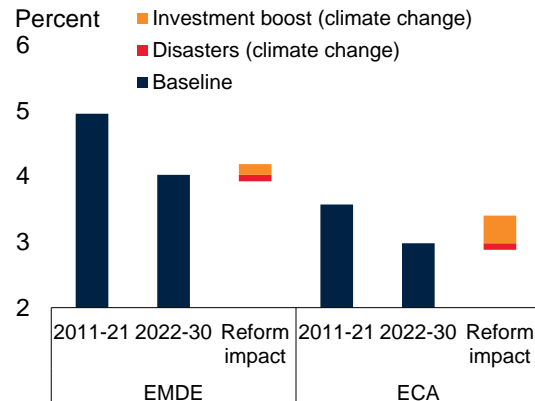
F. "Introduce process innovation" data indicate the percent of firms that introduced any new or significantly improved process over the last three years, including methods of manufacturing products or offering services; logistics, delivery, or distribution methods; or any supporting activities for processes. "Invest in R&D" data indicate the percent of firms over the last fiscal year that invested in formal research and development activities.

**Figure 10. ECA: Potential output growth: scenario results**

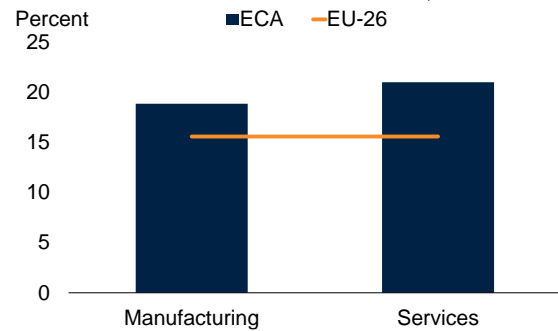
**A. Potential growth under reform scenarios**



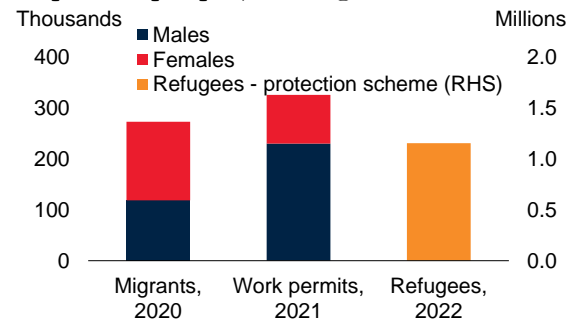
**B. Climate change scenarios**



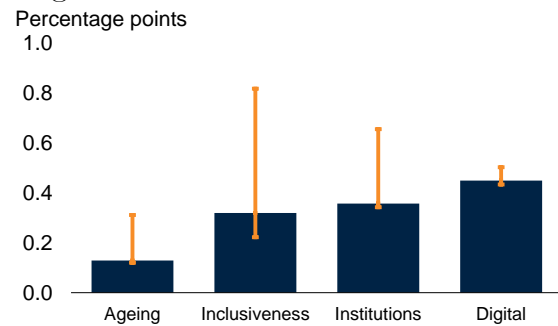
**C. Share of firms reporting competition from informal firms as a constraint, 2019**



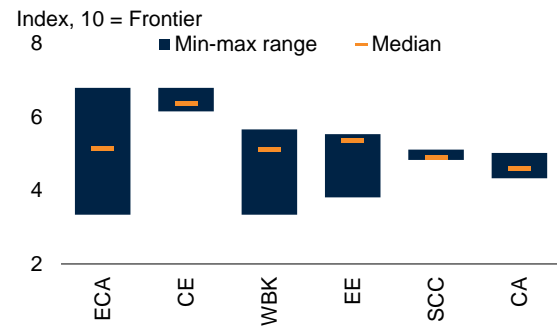
**D. Poland: Ukrainian migrants and forcibly displaced people, through June 2022**



**E. Impact on Central European potential growth from NGEU reforms and policy targets**



**F. EBRD assessment of green transition, 2021**



Sources: EBRD (2020, 2021); Haver Analytics; IMF; Oxford Economic Model; Penn World Tables; UNHCR; United Nations (2020); UN Population Prospects; World Bank; World Bank Development Indicators database; Enterprise Surveys database.

Note: CA = Central Asia; CE = Central Europe; ECA = Europe and Central Asia; EE = Eastern Europe; RUS = Russian Federation; SCC = South Caucasus; TUR = Türkiye; WBK = Western Balkans. Period averages of real GDP-weighted averages.

A.B. Potential growth estimates based on production function approach. Sample includes 53 EMDEs, of which 9 countries are from ECA.

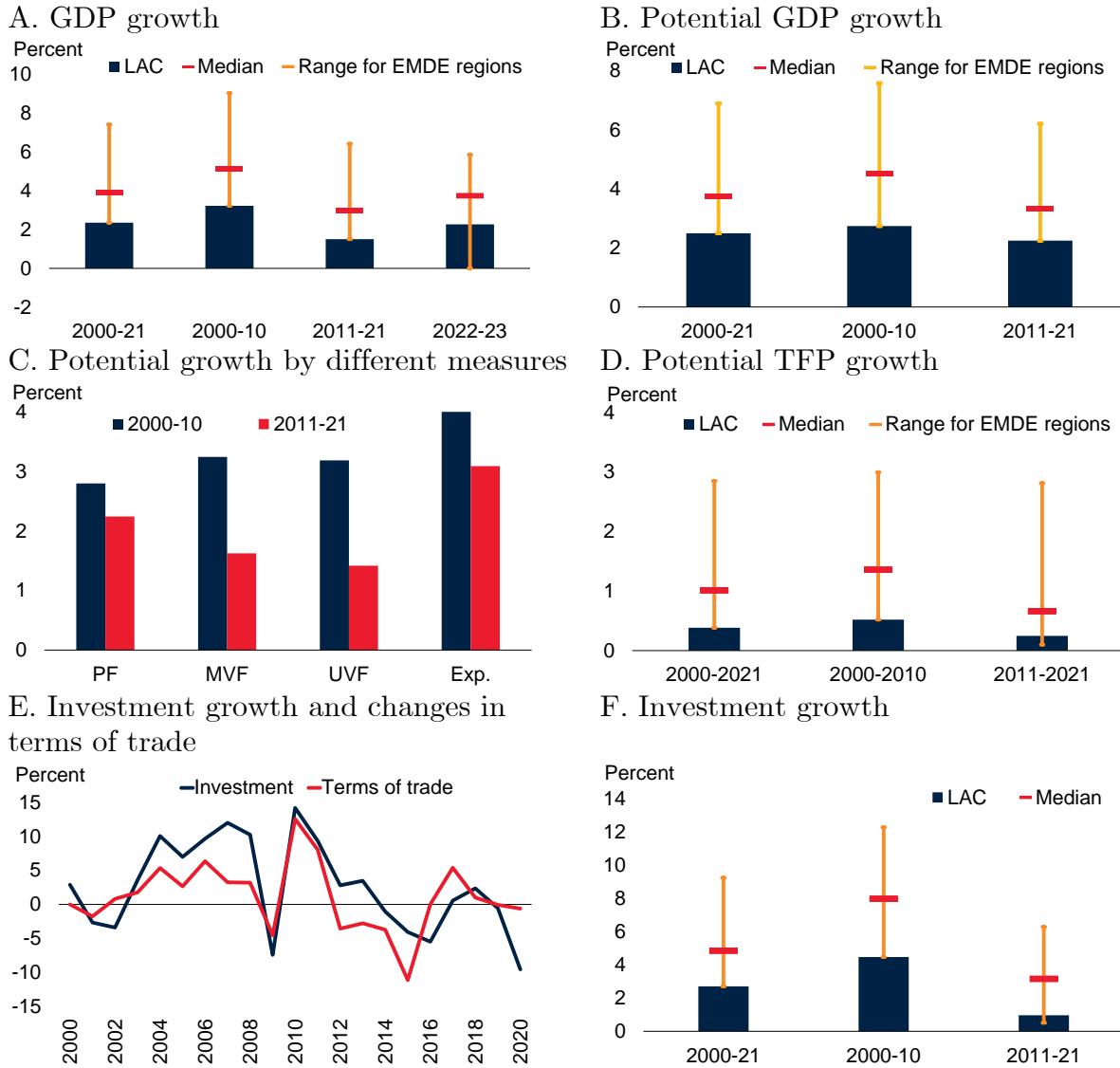
C. Refugees indicate those registered for national protection schemes. Migrants indicate migrant stock in mid-2020.

D. Percent of firms identifying practices of competitors in the informal sector as a major constraint. Data for the EU-26 country grouping and the euro area exclude Germany. Aggregates are calculated as averages.

E. Impact on Central Europe potential output of Next Generation EU (NGEU) reforms, as described in World Bank (2022i). Orange whiskers show min-max range. Sample includes Bulgaria, Poland, and Romania.

F. Scores for transition quality, which measures each economy's performance against that of comparator economies in EBRD regions, as presented in EBRD (2021). Scores range from 1 to 10 (10 = standards of a sustainable market economy).

**Figure 11. LAC: Output growth and drivers of potential growth**



Sources: Haver Analytics; National statistical agencies; Penn World Tables; UN Population Prospects; World Bank.

Note: EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean. GDP weights are calculated using average real U.S. dollar GDP (at average 2010-19 prices and market exchange rates). A.B.D.F. Bars show period averages of annual GDP-weighted averages. Markers show the median of GDP-weighted averages of the six EMDE regions; orange whiskers show min-max EMDE range (of which LAC is the minimum).

B. Estimates based on production function approach.

C. MVF = multivariate filter; PF = production function approach; UVF = univariate filter (specifically, the Hodrick-Prescott filter). Expectations-based estimates (“Exp.”) are potential growth proxied by five-year-ahead IMF World Economic Outlook growth forecasts. Sample is a consistent set of 10 economies.

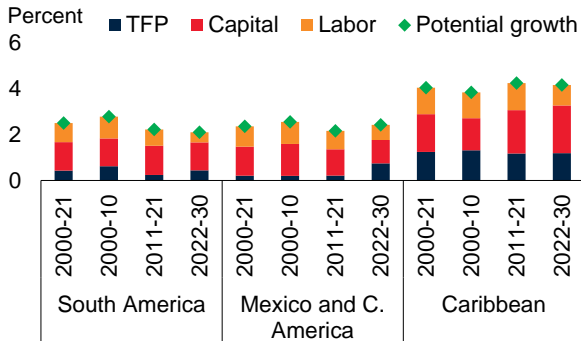
D.F. Sample includes 53 EMDEs, of which 16 are LAC economies.

E. Investment-weighted average growth rates and GDP-weighted terms of trade changes. Sample includes 20 LAC economies.

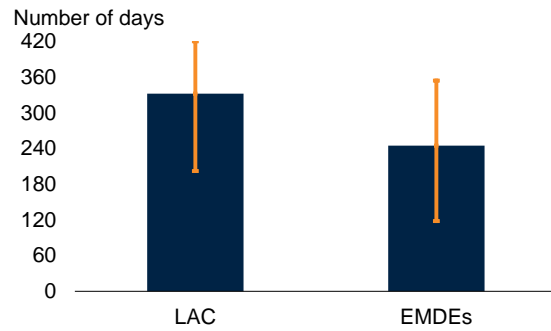


**Figure 12. LAC: Potential output growth**

**A. Contributions to subregional potential growth**



**B. Duration of school closures**



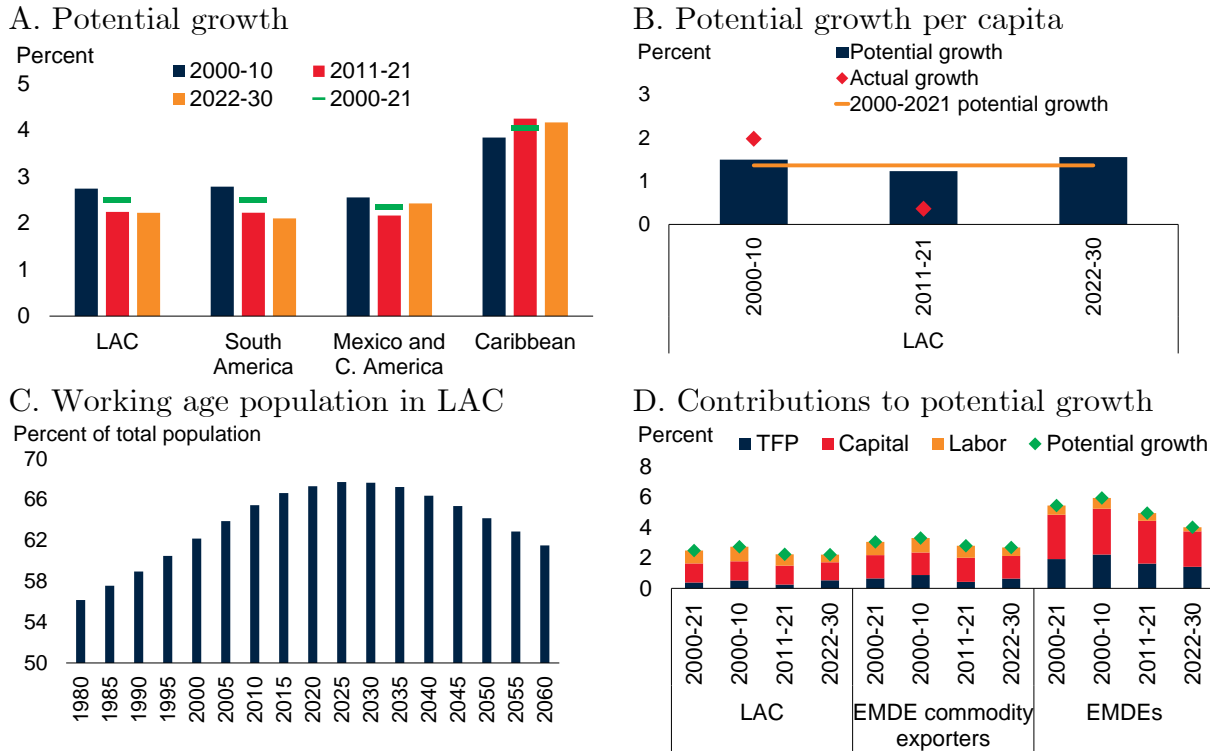
Sources: Hale et al. (2021); Haver Analytics; Penn World Tables; UN Population Prospects; World Bank.

Note: EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean. GDP weights are calculated using average real U.S. dollar GDP (at average 2010-19 prices and market exchange rates) for the period 2011-19.

A. Period averages of annual GDP-weighted averages. Potential growth estimates based on production function approach. South America includes nine economies (Argentina, Brazil, Bolivia, Chile, Colombia, Ecuador, Paraguay, Peru, and Uruguay), Mexico and Central America includes five economies (Costa Rica, Guatemala, Honduras, Mexico, and Nicaragua), and Caribbean includes two economies (Dominican Republic and Jamaica).

B. Simple averages. Orange whiskers are interquartile range. Sample includes 137 EMDEs (33 from LAC).

**Figure 13. LAC: Potential growth prospects**



Sources: Haver Analytics; Penn World Tables; UN World Population Prospects; World Bank.

Note: EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean. GDP weights are calculated using average real U.S. dollar GDP (at average 2010-19 prices and market exchange rates) for the period 2011-19.

A. D. Period averages of annual GDP-weighted averages. Estimates based on production function approach.

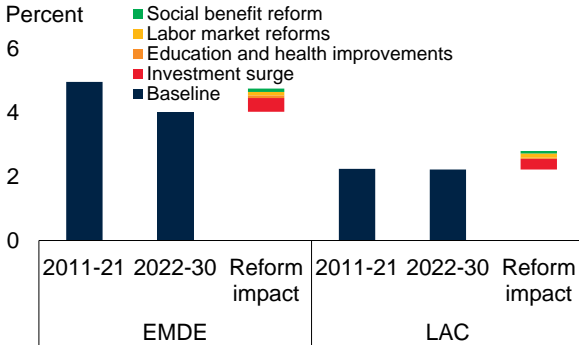
A. LAC subregions as in Figure 12.

C. Projections based on median fertility and mortality scenario, and medium international migration, per the definition of projection scenarios in the World Population Prospects published by the United Nations Department of Economic and Social Affairs.

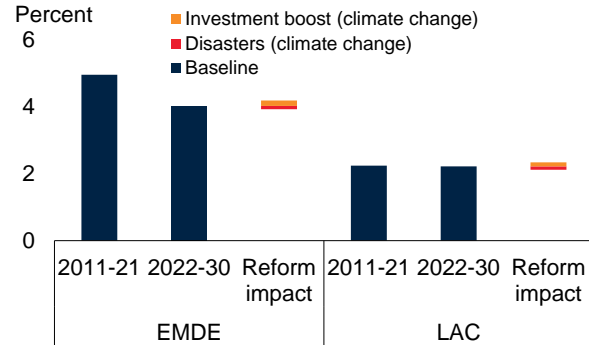
D. Sample includes 53 EMDEs, of which 16 are from LAC, and 30 commodity-exporters.

**Figure 14. LAC: Policies to raise potential output growth**

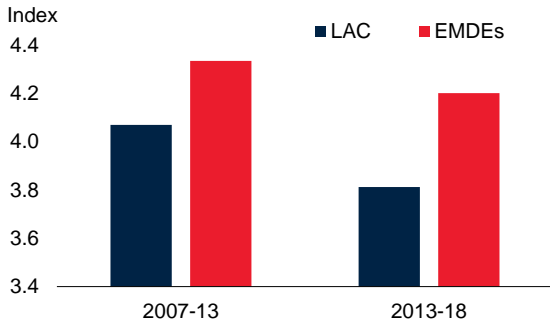
**A. Potential growth under reform scenarios**



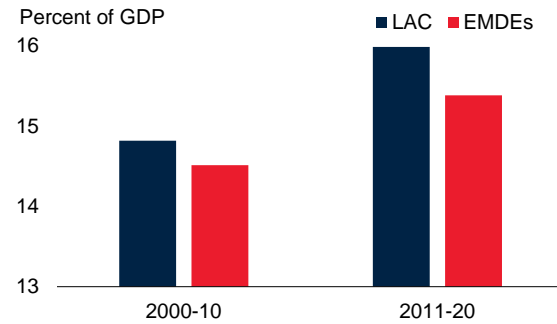
**B. Potential growth effects from infrastructure investment and climate disasters**



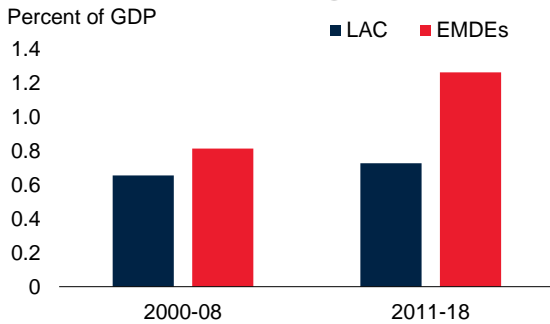
**C. Labor market flexibility**



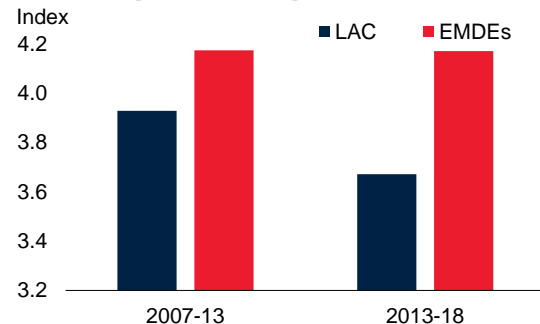
**D. Government consumption**



**E. Research and development**



**F. Transparency of policy making**



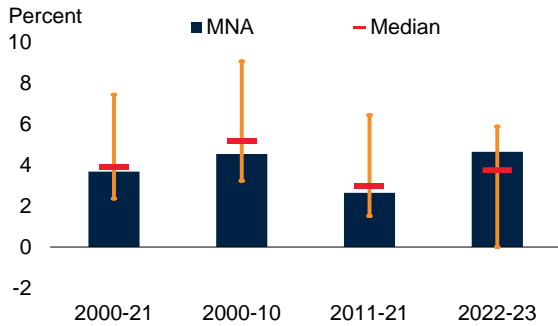
*Sources:* Haver Analytics; Penn World Tables; UN Population Prospects; World Economic Forum, Global Competitiveness Index; World Bank.

*Note:* EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean. GDP weights are calculated using average real U.S. dollar GDP (at average 2010-19 prices and market exchange rates). A.B. Period averages of annual GDP-weighted averages. Potential growth estimates based on production function approach. Sample includes 53 EMDEs (16 from LAC).

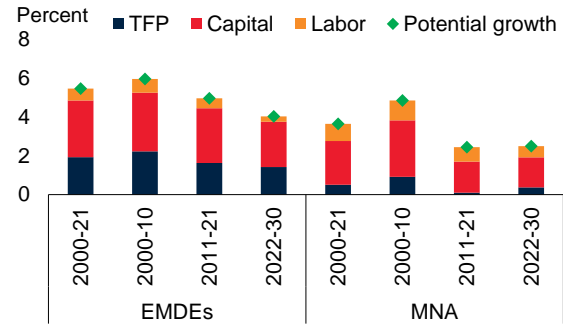
C.-F. Cross-period simple averages of annual GDP-weighted averages. Samples include: for C, 112 EMDEs (23 from LAC); for D, 53 EMDEs (11 from LAC); for E, 101 EMDEs (18 from LAC); for F, 112 EMDEs (23 from LAC).

**Figure 15. MNA: Output growth and drivers of potential growth**

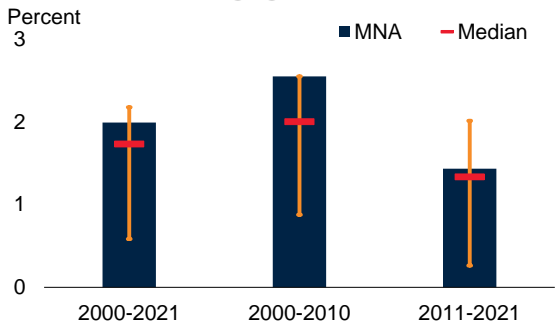
**A. GDP growth**



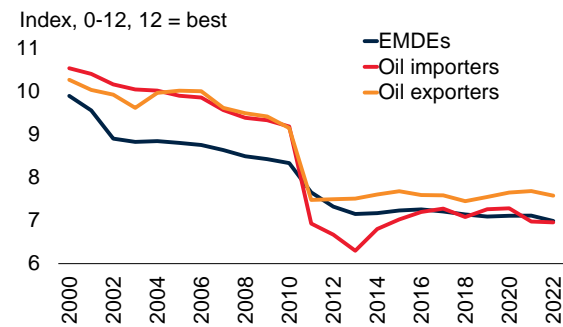
**B. Contributions to potential output growth**



**C. Working-age population growth**



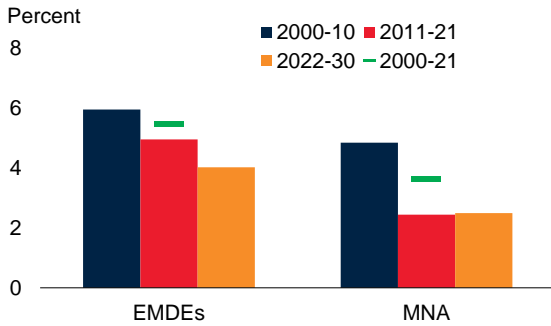
**D. Political stability**



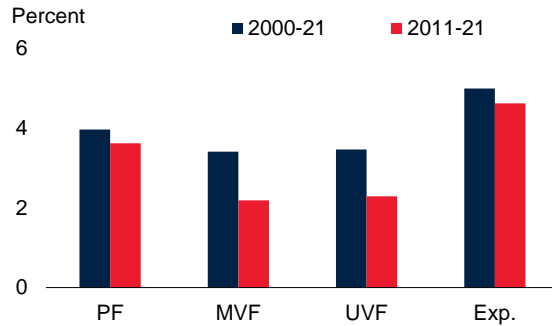
*Sources:* International Monetary Fund; Penn World Tables; PRS Group; UN Population Prospects; World Bank.  
*Note:* EMDEs = emerging market and developing economies; MNA = Middle East and North Africa. GDP weights are calculated using average real U.S. dollar GDP (at average 2010-19 prices and market exchange rates).  
 A.C. Bars show period averages of annual GDP-weighted averages. Markers show median GDP-weighted averages of the six EMDE regions; orange whiskers show max-min ranges.  
 B. Period averages of annual GDP-weighted averages. Estimates based on the production function approach. Sample includes 53 EMDEs, of which 5 are from MNA.  
 C. Working-age population refers to population ages 15-64. Sample includes 53 EMDEs (5 from MNA).  
 D. Based on the government stability subindex of the International Country Risk Guide. Unweighted average of 10 MNA oil exporters, 6 MNA oil importers, and 102 EMDEs.

**Figure 16. MNA: Potential output growth**

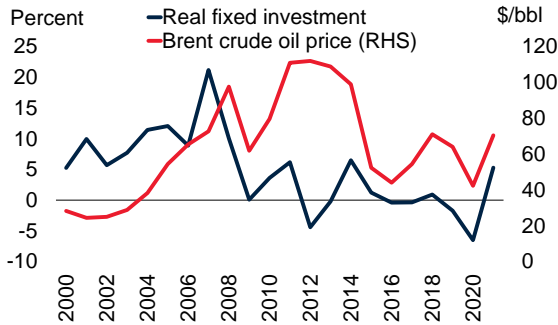
**A. Potential output growth**



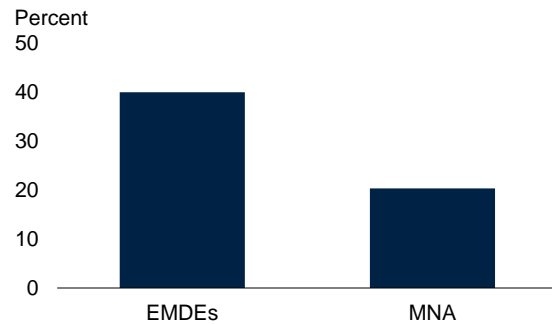
**B. Potential output growth by different estimates**



**C. Investment growth**



**D. Female labor force participation**



Sources: International Monetary Fund; Penn World Tables; UN Population Prospects; World Bank.

Note: EMDEs = emerging market and developing economies; MNA = Middle East and North Africa. GDP weights are calculated using average real U.S. dollar GDP (at average 2010-19 prices and market exchange rates).

A.B. Period averages of annual GDP-weighted averages.

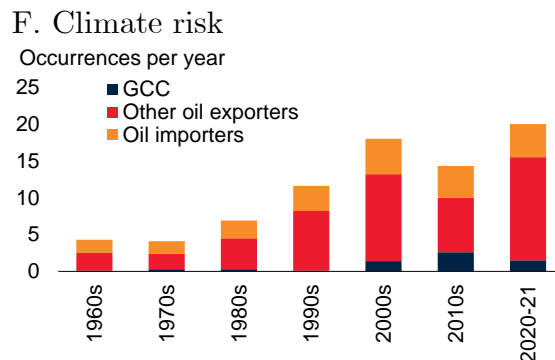
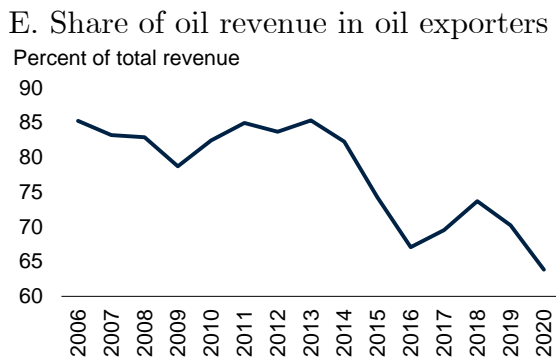
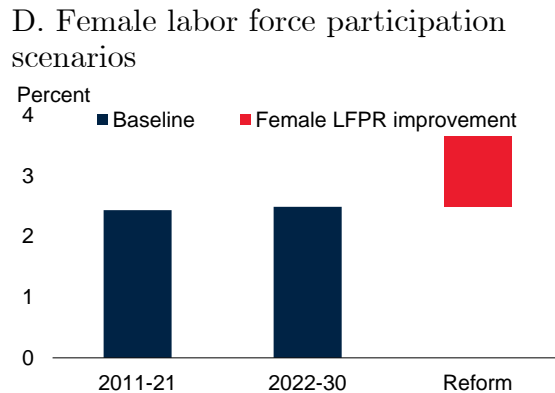
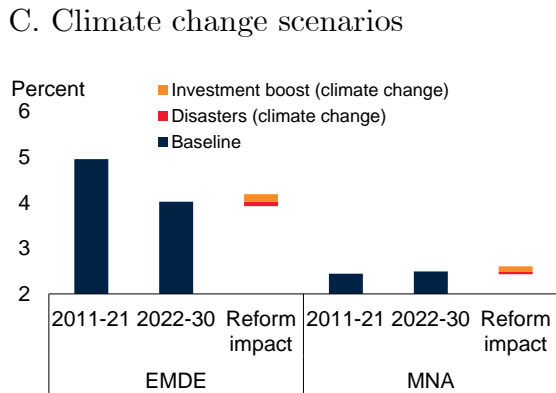
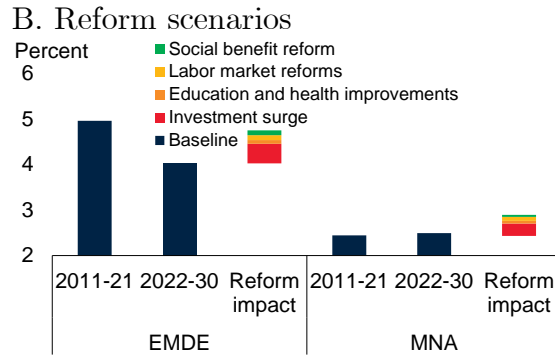
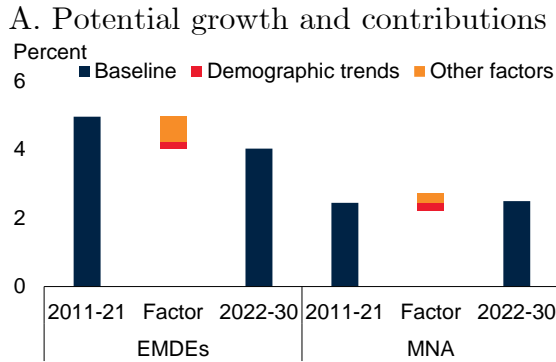
A. Estimates based on the production function approach. Sample includes 53 EMDEs, of which 5 countries are from MNA region.

B. MVF = multivariate filter; PF = production function approach; UVF = univariate filter (specifically, the Hodrick-Prescott filter). Expectations-based estimates (“Esp.”) are potential growth proxied by five-year-ahead IMF World Economic Outlook growth forecasts. Sample includes three economies (Jordan, Morocco, and Tunisia).

C. Based on growth rate of real fixed investment and Brent crude oil price.

D. Based on female labor force as a percentage as total labor force. Sample includes 155 EMDEs (19 from MNA) from 2012-21.

**Figure 17. MNA: Policies to raise potential growth**



Sources: EM-DAT database; Haver; Penn World Tables; UN Population Prospects; World Bank.

Note: EMDEs = emerging market and developing economies; MNA = Middle East and North Africa. GDP weights are calculated using average real U.S. dollar GDP (at average 2010-19 prices and market exchange rates) for the period 2011-21.

A.-D. Period averages of annual GDP-weighted averages. Production function estimates.

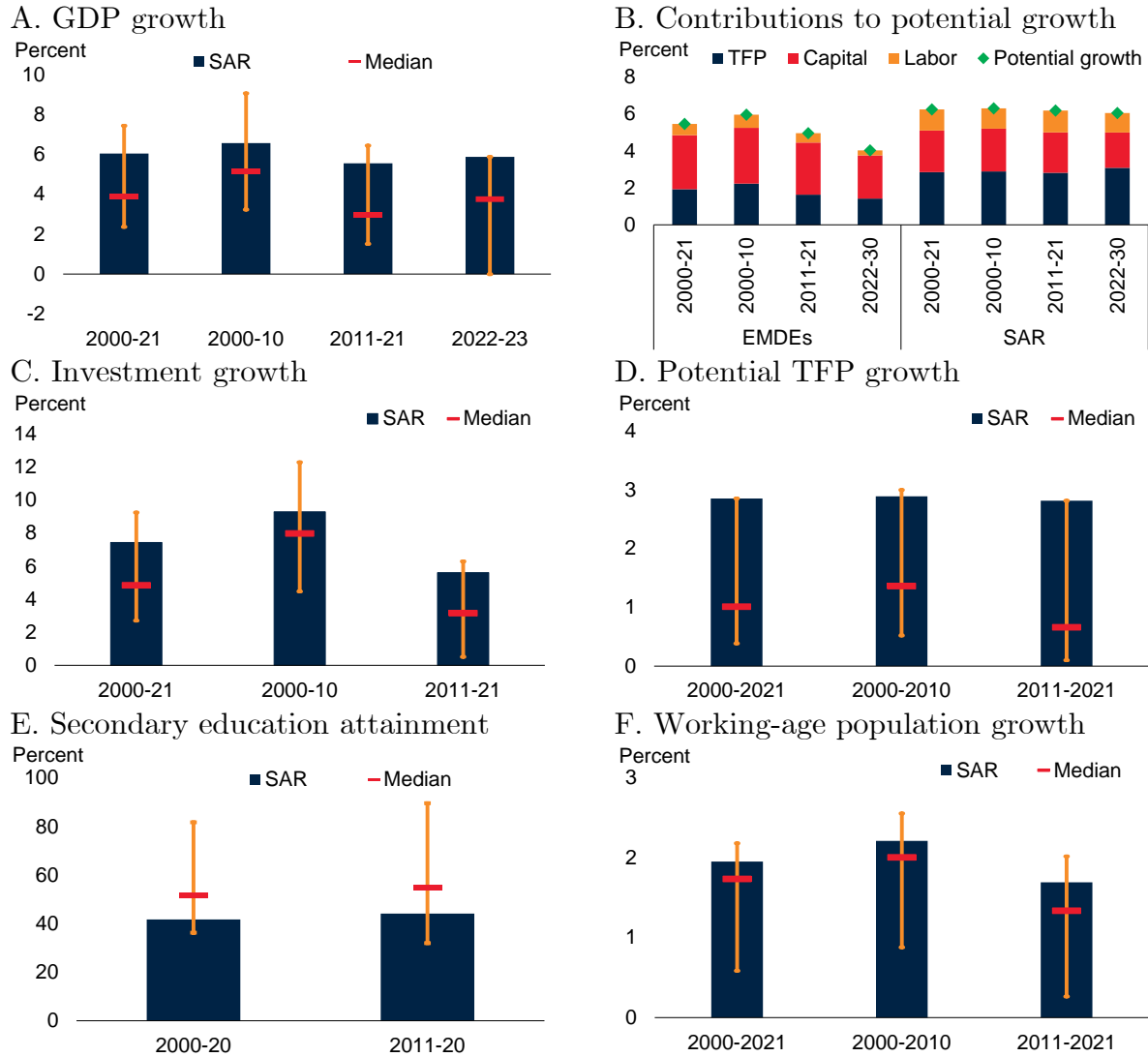
A. Sample includes 53 EMDEs, of which 5 countries are from MNA. "Other factors" include trend improvements in human capital, and stable investment growth relative to its long-term average.

B. Sample includes 53 EMDEs (5 from MNA).

E. Unweighted averages of seven MNA economies.

F. GCC = Gulf Cooperation Council. Includes data for 19 MNA economies. Occurrences of natural disasters.

Figure 18. SAR: Output growth and drivers of potential growth



Sources: Haver Analytics; Penn World Tables; UN Population Prospects; World Bank; World Development Indicators database.

Note: EMDEs = emerging market and developing economies; SAR = South Asia. GDP weights are calculated using average real U.S. dollar GDP (at average 2010-19 prices and market exchange rates).

A.C.-F. Bars show period averages of annual GDP-weighted averages. Markers show median of GDP-weighted averages of the six EMDE regions. Orange whiskers show max-min range.

B. Estimates based on the production function approach. Sample includes 53 EMDEs, of which 3 economies are from SAR (Bangladesh, India, and Pakistan).

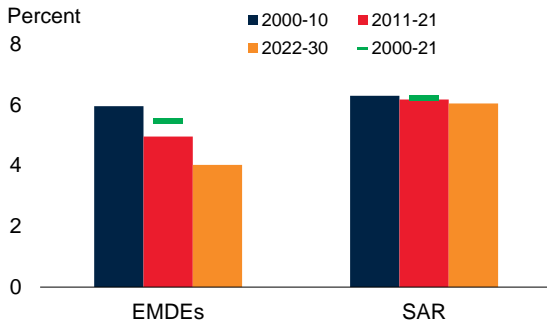
C.D. Sample includes three SAR economies (where potential growth estimate is available for both investment growth and TFP growth measures for the period 2000-21).

E. Period averages of simple annual averages. Percentage of population ages 25 and above that completed at least lower secondary education. Sample for SAR includes Bangladesh, Pakistan, and Sri Lanka.

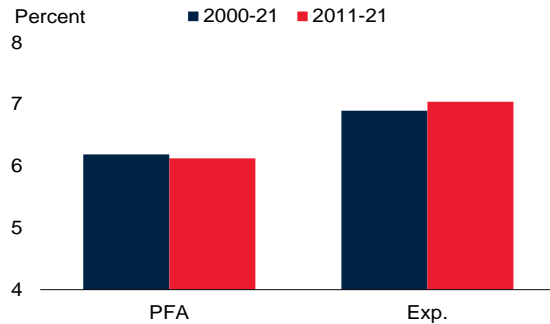
F. Working-age population refers to population ages 15-64. Sample includes three SAR economies.

**Figure 19. SAR: Potential output growth**

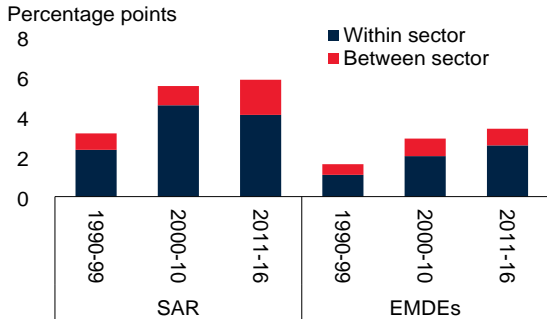
**A. Potential output growth**



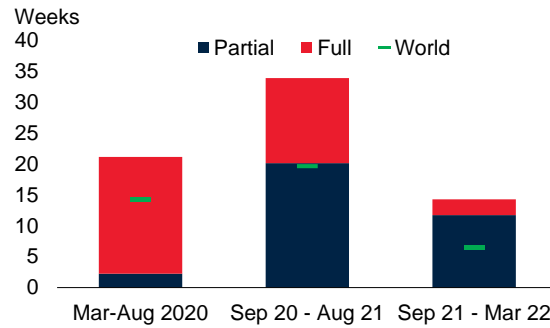
**B. Potential output growth by different estimates**



**C. Within- and between-sector contributions to productivity growth**



**D. School closures**



*Sources:* Asian Productivity Organization database; Groningen Growth Development Center database; ILOSTAT database; OECD Structural Analysis database; Penn World Tables; UN Population Prospects; World Bank; World Bank, Development Indicators database.

*Note:* EMDEs = emerging market and developing economies; SAR = South Asia. GDP weights are calculated using average real U.S. dollar GDP (at average 2010-19 prices and market exchange rates) for the period 2011-21.

A.B. Period averages of annual GDP-weighted averages.

A. Estimates based on the production function approach. Sample includes 53 EMDEs, of which 3 economies are from SAR (Bangladesh, India, and Pakistan).

B. PFA = production function approach; Expectations-based estimates (“Exp.”) are potential growth proxied by five-year-ahead IMF World Economic Outlook growth forecasts. Expectations sample includes Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, and Pakistan.

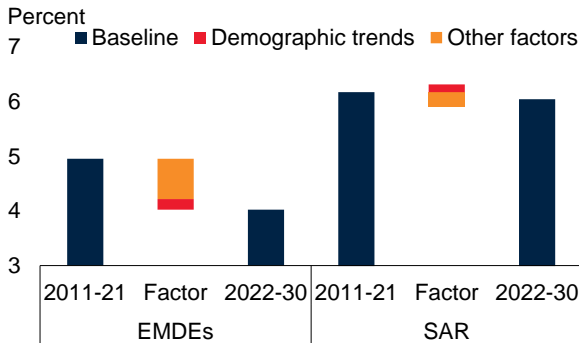
C. Productivity is defined as real GDP per worker (at 2010 market prices and exchange rates). Sample includes 3 EMDE economies from SAR (India, Pakistan, and Sri Lanka) and 19 other EMDEs. Growth “within sector” effects show the contribution of initial real value added-weighted productivity growth rate of each sector, holding employment shares fixed. Growth “between sector” effects show the contribution arising from changes in sectoral employment shares. Median of country-specific contributions.

D. Unweighted averages. Data up to March 2022.

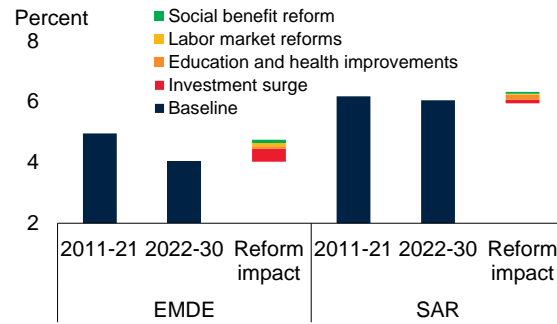


**Figure 20. SAR: Policies to raise potential output growth**

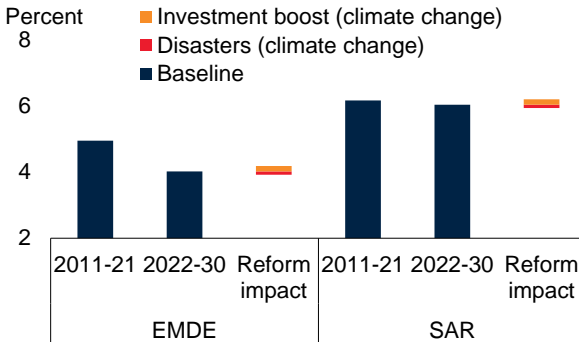
**A. Potential output growth and contributions**



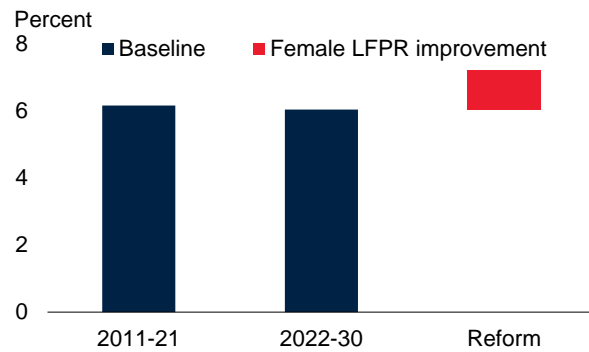
**B. Reform scenarios**



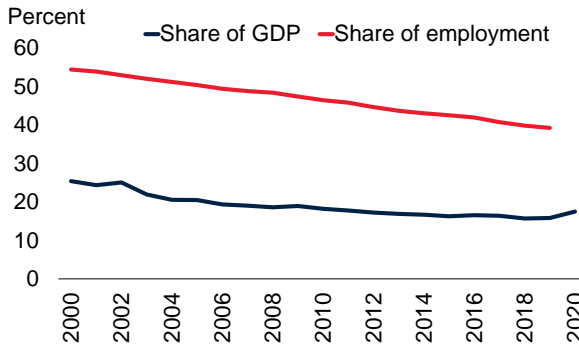
**C. Climate change scenarios**



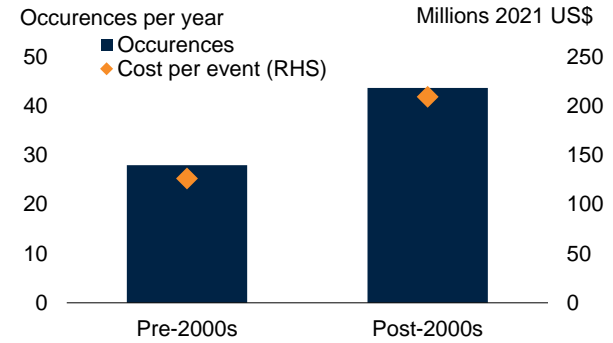
**D. Female labor force scenarios**



**E. Share of agriculture sector**



**F. Climate risk**



Sources: EM-DAT database; Penn World Tables; UN Population Prospects; World Bank; World Development Indicators database.

Note: EMDEs = emerging market and developing economies; SAR = South Asia. GDP weights are calculated using average real U.S. dollar GDP (at average 2010-19 prices and market exchange rates) for the period 2011-21.

A.-D. Period averages of annual GDP-weighted averages. Potential growth estimates based on production function approach.

A. Sample includes 53 EMDEs, of which 3 economies are from SAR region. "Other factors" include trend improvements in human capital, and stable investment growth relative to output growth.

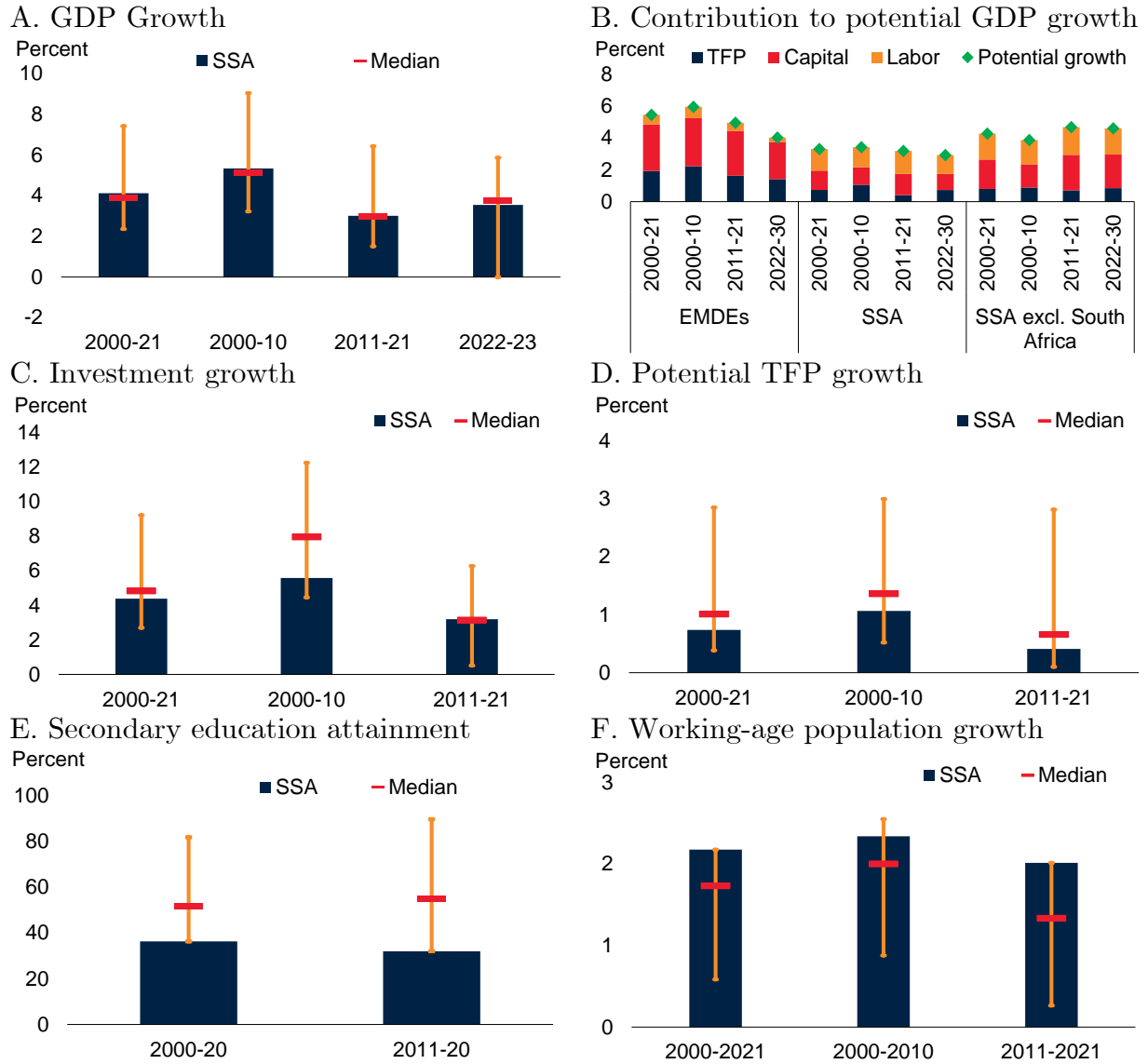
B. Sample includes 53 EMDEs, of which 3 economies are from SAR region.

D. LFPR = labor force participation rate.

E. Sample includes eight SAR economies.

F. Based on data from 1980-2021. "Cost per event" in current 2021 US dollars. Occurrences of natural disasters.

**Figure 21. SSA: Economic growth and drivers of potential growth**



*Sources:* Penn World Tables; UN Population Prospects; World Bank; World Bank, World Development Indicators database.

*Note:* EMDEs = emerging market and developing economies; SSA = Sub-Saharan Africa. Shaded areas indicate forecast. GDP weights are calculated using average real U.S. dollar GDP (at average 2010-19 prices and market exchange rates) for the period 2011-21.

A.C.D.F. Bars show period averages of annual GDP-weighted averages. Markers show median of GDP-weighted averages of six EMDE regions; vertical lines denote range of regional averages.

B. Period averages of annual GDP-weighted averages. Estimates based on production function approach. Sample includes 53 EMDEs (14 from SSA).

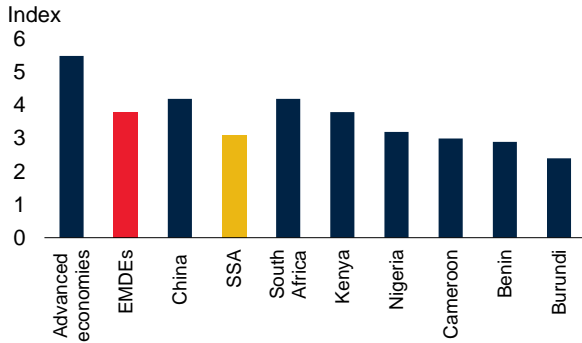
C. D. Sample includes 14 SSA economies (where potential growth estimate is available for both investment growth and TFP growth measures for the period 2000-19).

E. Period averages of simple annual averages. Percentage of population ages 25 and above that completed at least lower secondary education.

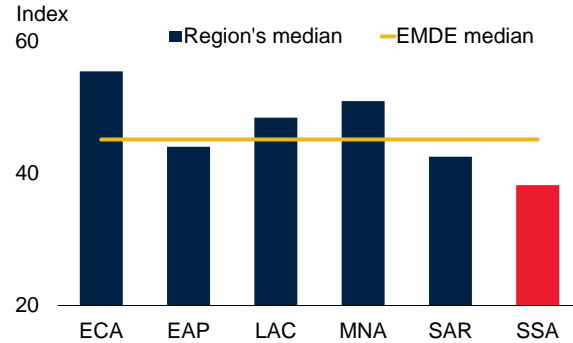
F. Working-age population refers to population ages 15-64. Sample includes 14 SSA economies.

**Figure 22. SSA: Obstacles to economic growth and reforms to accelerate potential growth**

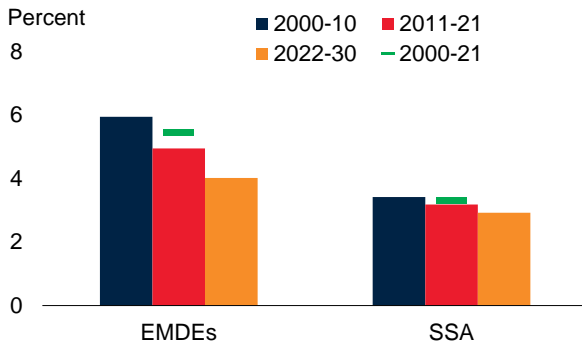
**A. Networked Readiness Index**



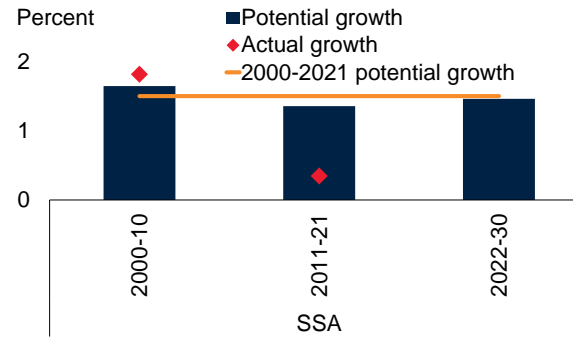
**B. Climate change vulnerability and readiness index**



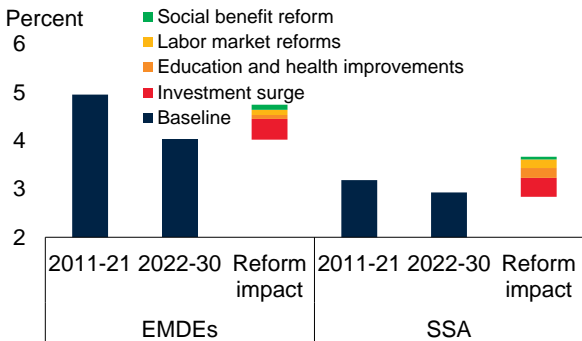
**C. Potential GDP growth**



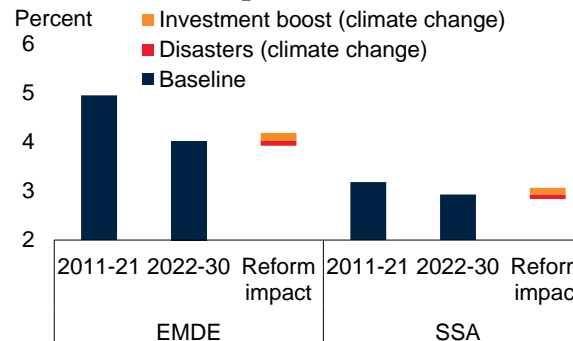
**D. Per capita potential GDP growth**



**E. Reform scenarios**



**F. Climate change investment scenarios**



*Sources:* Notre Dame Global Adaptation Initiative; Penn World Tables; Portulans Institute; UN Population Prospects; World Economic Forum; World Bank; World Development Indicators database.

*Note:* Estimates based on production function approach.

A. Portulans Institute Network Readiness Index estimates preparedness to benefit from emerging technologies and capitalize on the opportunities presented by the digital transformation; higher value indicates better readiness. Unweighted group averages.

B. The Notre Dame Global Adaptation Initiative index reflects vulnerability to climate change and other global challenges in combination with the readiness to improve resilience. A higher value indicates lower vulnerability and/or better readiness. Sample includes 146 EMDEs; last observation 2019.

D.-F. Sample includes 53 EMDEs (14 from SSA). Period average of annual GDP-weighted averages.

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