African Economic Outlook 2020

Developing Africa's Workforce for the Future

AFRICAN DEVELOPMENT BANK GROUP

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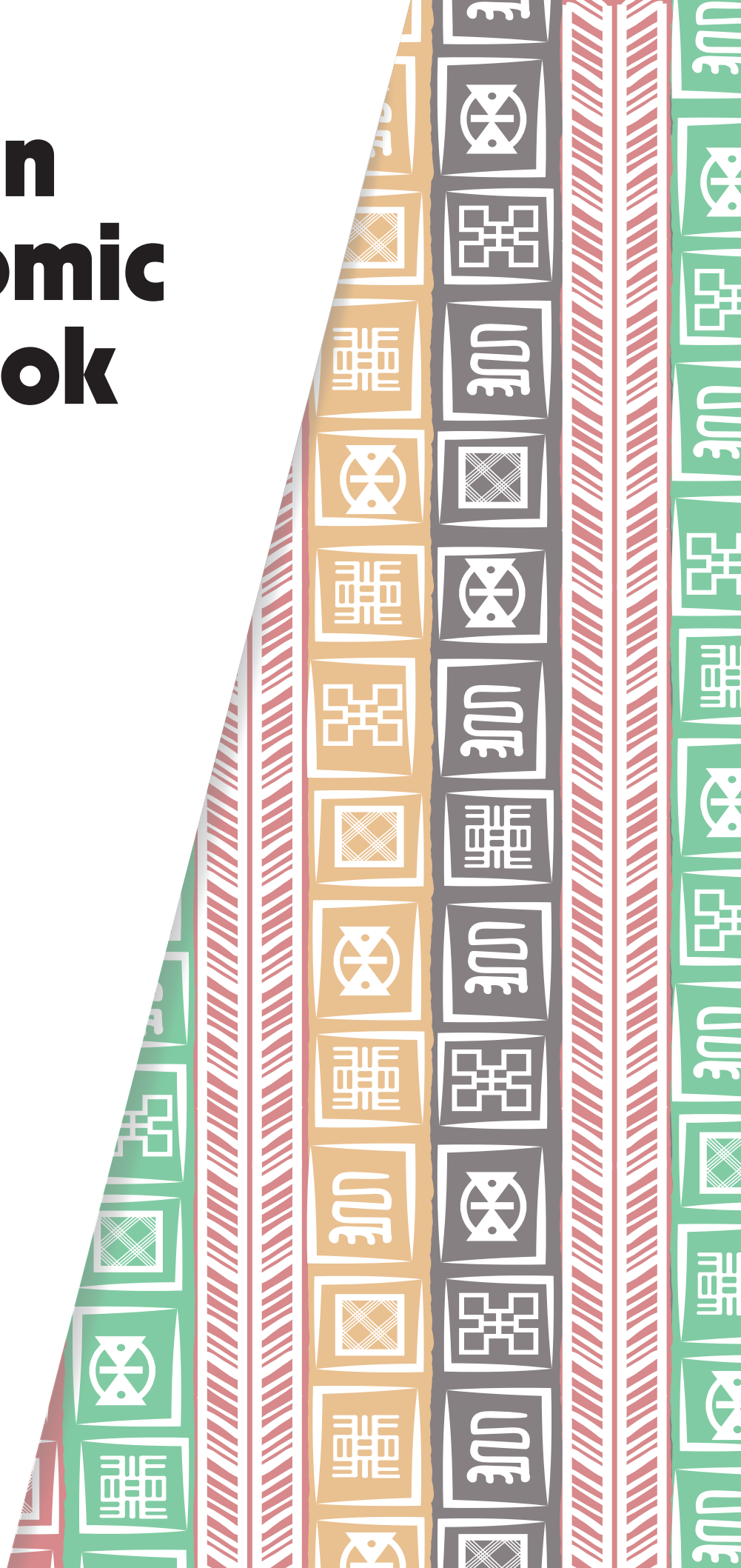

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FOREWORD

Africa's economic outlook continues to brighten. Its real GDP growth, estimated at 3.4 percent for 2019, is projected to accelerate to 3.9 percent in 2020 and to 4.1 percent in 2021. Leading the way are six economies among the world's 10 fastest growers: Rwanda, Ethiopia, Côte d'Ivoire, Ghana, Tanzania, and Benin.

Growth's fundamentals are also improving, with a gradual shift from private consumption toward investment and exports. And for the first time in a decade, investment accounted for more than half the continent's growth, with private consumption accounting for less than one third.

The 2020 Outlook highlights, however, that growth has been less than inclusive. Despite Africa's solid growth performance, only about a third of countries achieved inclusive growth, reducing both poverty and inequality.

To make Africa's growth more inclusive, countries need to deepen structural reforms to diversify their productive base, build resilience to extreme weather events by adopting climate-smart agricultural techniques and providing risk-sharing platforms for households, create more fiscal space to expand social safety nets and increase the efficiency of existing programs, and remove obstacles to the movement of workers to more productive opportunities within and across countries.

Fostering more inclusive growth would also require building Africa's human capital and creating more jobs in high-productivity sectors. To do so, countries should seek to integrate education and skill development strategies into their economic development plans, while upgrading and expanding education and training programs to strengthen worker employability and firm productivity. That requires measures to improve both the quantity and the quality of education.

Specifically, it requires expanding access to schools in remote areas, increasing incentives to invest in education, developing a demand-driven education system in synch with employers' needs, investing in nutrition to help poorer children, and building STEM and ICT capacity.

To address inequality in education, the Outlook appeals for progressive universalism in education spending—setting high priorities for the poor and disadvantaged and for basic education, where social returns are highest.

The Outlook shows that public expenditures on education and infrastructure are highly complementary, as investing in both has a much greater payoff than investing exclusively in just one. The efficiency of education spending is much lower in Africa than in developing and emerging Asia. The good news, though, is that by enhancing the efficiency of education spending—now at 58 percent for primary schooling—African countries could almost reach universal primary enrollment without increasing spending at all. Key policies to improve spending efficiency and education quality include conducting education expenditure audits and reviews, improving teacher quality, and using performance-based financing.

This year's Outlook offers numerous ways for African countries to develop the workforce of the future. Addressing Africa's education and skill gaps requires collective action involving governments, households, international donors, and the private sector. Let's invest in Africa's future and prepare its workforce.

Dr. Akinwumi A. Adesina, President
African Development Bank Group

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THEMATIC COVERAGE OF PREVIOUS EDITIONS

Edition	Thematic title
2003	Privatization
2004	Energy Supply and Demand
2005	Financing of Small and Medium-sized Enterprise (SME) Development
2006	Promoting and Financing Transport Infrastructure
2007	Access to Drinking Water and Sanitation in Africa
2008	Technical and Vocational Training
2009	Information and Communication Technology across Africa
2010	Public Resource Mobilization and Aid
2011	Africa and Its Emerging Partners
2012	Promoting Youth Employment
2013	Structural Transformation and Natural Resources
2014	Global Value Chains and Africa's Industrialization
2015	Regional Development and Spatial Inclusion
2016	Sustainable Cities and Structural Transformation
2017	Entrepreneurship and Industrial Development
2018	Infrastructure and Its Financing
2019	Integration for Africa's Economic Prosperity

HIGHLIGHTS

This year's African Economic Outlook examines recent macroeconomic developments and the prospects for inclusive growth (chapter 1). It next discusses developing education and skills for the workforce of the future and identifies success stories for countries to emulate (chapter 2). It then looks at the four main sources of finance for education and training—governments, households, the private sector, and external donors—and recommends ways to mobilize additional resources and increase the efficiency of spending (chapter 3).

AFRICA'S GROWTH: PERFORMANCE, OUTLOOK, AND INCLUSIVENESS

Growth is stable and forecast to pick up

Economic growth in Africa is estimated at 3.4 percent for 2019, about the same as in 2018. Although stable, this rate is below the decadal average of 5 percent growth for the region. The slower than expected growth is partly due to the moderate expansion of the continent's big five—Algeria, Egypt, Morocco, Nigeria, and South Africa, which jointly grew at an average rate of 3.1 percent, compared with the average of 4.0 percent for the rest of the continent. Growth is forecast to pick up to 3.9 percent in 2020 and 4.1 percent in 2021.

Africa's estimated growth masks significant cross-regional and cross-country variation. East Africa maintained its lead as the continent's fastest growing region, with average growth estimated at 5.0 percent in 2019. North Africa is the second fastest, at 4.1 percent. West Africa's growth rose to 3.7 percent in 2019, from 3.4 percent the year before. Central Africa is estimated to have grown at 3.2 percent in 2019, from 2.7 percent the year before. Southern Africa's growth slowed from 1.2 percent to 0.7 percent, dragged down by the devastation of cyclones Idai and Kenneth.

Investments and exports are increasingly driving growth

Growth's fundamentals have improved, as its drivers are gradually shifting toward investments and net exports, and away from private consumption. In 2019, for the first time in a decade, investment expenditure accounts for a larger share (more than half) of GDP growth dynamics than consumption. Net exports were also a strong contributor, especially among commodity exporters, as oil prices recovered. Since 2011, and particularly following the end of the commodity price supercycle in 2014, the divergence between gross savings and total investment has been widening for Africa. Nonresource-intensive countries have driven the widening gap in the continent's average and thus the growing current account deficits.

Risks to the outlook skew to the downside

Africa's growth materialized despite a challenging external environment. Global trade volumes slowed from annual growth of 5.7 percent in 2017 to 1.1 percent in 2019, with the slowdown especially acute for metals and food, two of Africa's major export commodities. Extreme weather events—particularly the type of devastating storms and floods that afflicted Southern Africa in the first half of 2019 and the expected return of El Niño conditions to East Africa—could usher in severe droughts and suppress agricultural output and growth. In countries holding elections in the next two years, there may be sociopolitical pressures to increase public spending, which could undermine fiscal consolidation plans. And risks associated with terrorism, conflict, insurgency, and social unrest may also weigh on economic activity in some countries.

Although many countries have experienced strong growth episodes, relatively few have posted significant declines in extreme poverty and inequality

Overall, macroeconomic stability in Africa improved

Inflation remains persistently high. However, the average inflation rate for the continent inched down by 2 percentage points, from 11.2 percent in 2018 to 9.2 percent in 2019, with notable variations across countries and economies. Central banks reacted by adjusting interest rates to manage domestic demand. In countries with downward inflationary pressures, interest rates were reduced to encourage investment and spur growth.

Fiscal balances improved in the past two years, with the weighted average deficit-to-GDP ratio in Africa declining from 5.9 percent in 2017 to 4.8 percent in 2019. This resulted mostly from a stabilization in commodity prices and higher tax and nontax revenues for large natural resource exporters. The revenue-to-GDP ratio rose by 0.3 percentage point on average for the 54 African economies, but by more than 1 percentage point among oil exporters, such as Angola, whose ratio rose 2.2 percentage points.

Debt continues to rise

Public and publicly guaranteed debt levels are high and rising in most African economies, with the median ratio of government debt-to-GDP climbing over 56 percent in 2018, up from 38 percent 10 years earlier. The upward trend in external debt ratios is partly driven by the end of the commodity supercycle and the slowing growth and export revenues, especially among commodity producers. But it also stems from a more stable macroeconomic and governance environment, which allowed more African countries to tap international bond markets for the first time, some at 30-year maturities.

African governments have had a structural shift in the composition of debt, with less reliance on concessional lending from multilateral institutions and official Paris Club creditors, broader access to long-term finance from international capital markets, and financing from emerging bilateral creditors, such as China. Similarly, higher domestic borrowing (reaching more than 35 percent of GDP) in part reflects elevated government spending and capital investment to close the infrastructure gap. But it also reflects gradually slowing inflation, greater monetary credibility, and stronger ability to market domestic currency debt to international creditors.

Only a few countries have achieved inclusive growth

Although many countries have experienced strong growth episodes, relatively few have posted significant declines in extreme poverty and inequality, which remain higher than in other world regions. On average, between 2000–05 and 2010–17, the consumption of Africa's poor has been growing slower than for the average population. While the average per capita consumption on the continent has been growing at 3.3 percent a year over the two subperiods, the mean growth rate of the poor reached only 3.0 percent. So, although poor populations have benefited from the continent's unprecedented economic growth between 2000 and 2016, their consumption growth has not been fast enough to escape poverty, which declined at much lower pace in Africa than elsewhere in the developing world.

Growth has been inclusive—registering faster average consumption for the poor and lower inequality between different population segments—in only 18 of 48 African countries with data. Considering only countries where the average

consumption growth was positive between 2000 and 2017, just 12 of 37 achieved inclusive growth. Although faster growth for most countries since 2000 was associated with increases in the living standards of poor populations, it did not significantly reduce the consumption gap between rich and poor.

If current trends persist, Africa will not eliminate extreme poverty by 2030

On current trends, Africa will remain off track to meet the target of eradicating extreme poverty by 2030. The extreme poverty rate (weighted by population) will fall from 33.4 percent in 2018 to only 24.7 percent in 2030, which is far above the 3 percent Sustainable Development Goal target. And the number of extreme poor will fall slightly by close to 8 million people, from 429.1 million in 2018 to 421.2 million in 2030. In addition, poverty rates in all regions but North Africa are expected to remain well above the 3 percent target by 2030.

However, improving the quantity and quality of growth could accelerate the pace. Africa's per capita consumption would need to grow by 10.25 percent a year to meet the 3 percent Sustainable Development Goal target by 2030. This suggests that if historical trends persist, an average African country would have to more than double its average annual consumption growth between 2018 and 2030. Unless bold policy measures are implemented to improve both the quality and quantity of growth, Africa would meet the 3 percent target only by 2045.

Policy recommendations

Deepen structural reforms to diversify Africa's productive base and revive growth

Although forecasts point to continuing recovery in 2020 and 2021, the pace of growth is weaker than previously anticipated and lower than its historical trend. Policymakers thus need to carry out deeper structural reforms that can bolster the current expansion, strengthen resilience to risks, and raise medium-term growth. Policymakers should:

- *Improve productivity by alleviating constraints in the business environment.* Growth in the region has been driven mainly by factor accumulation, while the contribution of total factor productivity has been limited and in some cases declined. The large and persistent gaps in output per worker between Africa and other world regions can be explained by inefficiencies in the allocation of production factors. Improving productivity to revive growth will require cultivating a dynamic and competitive private sector by alleviating the most binding constraints to business operations.
- *Foster structural transformation and economic diversification to speed up growth.* Growth in many countries is still driven by primary commodities, which invariably makes it volatile and vulnerable to commodity price fluctuations. Policymakers should continue to strive to diversify their economic base away from primary commodities and expand their export base. Deliberate and carefully targeted policies that seek to move productive resources away from informal low-productivity sectors to formal high-productivity sectors would help increase productivity and unlock untapped growth potential.
- *Improve competitiveness by addressing exchange rate misalignments.* Policymakers should align exchange rate policies in line with their economic structure and support the drive for structural transformation.

Five actionable policy initiatives can help policymakers improve both the level and the quality of Africa's growth

Sustain macroeconomic stability and improve public financial management

With more challenges in the external environment, policymakers need to ensure that the gains in the last two years—in macroeconomic stability, including lowering inflation rates, narrowing fiscal balances, and stabilizing exchange rate fluctuations—are sustained. Fiscal policy needs to continue to be prudent to rein in debt buildups. Monetary policy needs to continue to stimulate the economy while stemming inflation and disorderly exchange rate movements. Policymakers should:

- *Improve the quality of fiscal consolidation and create more fiscal space.* This can be achieved through increasing revenues, which is less costly for growth than cutting expenditures. African countries still have huge potential to upgrade their tax policies and tax administration systems thereby mobilize domestic resources for development without significant distortions to economic activities.

- *Better target the energy subsidies that reemerged in many countries in response to the recovery in oil prices, perhaps using price modulation mechanisms, and targeting the poor and vulnerable in society.*
- *Improve the efficiency of public investment through building capacity, strengthening expenditure governance frameworks, and properly planning and monitoring investment projects.* The efficiency of public investments in Africa is around 65 percent, implying that 35 cents on every dollar invested are lost to inefficiency in implementing a project. By improving governance frameworks, these high levels of inefficiency can be greatly minimized.
- *Find the right tradeoff between public debt and public development financing.* Although many countries still have huge development finance needs, striking the right balance between meeting needs and mitigating rising debt is important. This Outlook argues that there is no systemic risk of debt distress in Africa. Policymakers need to focus more on the types of development projects debt is applied to. When debt finances much-needed human and physical capital, it can lead to GDP gains of up to 10 percent in the medium term.

Monetary policy needs to continue to stimulate the economy while stemming inflation and disorderly exchange rate movements

Strengthen domestic capacity to cushion extreme weather events

Given the recent devastation by extreme weather events—including storms, flooding, droughts, and tropical cyclones, coupled with a coming El Niño wave in 2020 and beyond—policymakers should intensify efforts to build capacity and resilience to withstand weather shocks at macroeconomic, microeconomic, and household levels. Policy actions along these lines include:

- *Adopt climate-smart agricultural production techniques that are more resilient to extreme weather events.* Policymakers should encourage agricultural practices using crop varieties that are resilient to droughts and flooding. Other smart policy options include building infrastructure that can harvest and hold rainwater for the dry seasons and promoting the use of mobile technology by farmers to get weather forecasts.
- *Provide platforms for contingent and aggregate risk sharing by households.* Initiatives such as the African Risk Capacity mechanism—established by the African Union as a multilateral risk-sharing mechanism to help countries insure against damage and crop failures caused by extreme weather events—can be replicated at the micro-level. Preemptive contingent risk-sharing instruments can protect households, which would be required to make small contributions and get minimum income guarantees in case of an extreme weather event.

Address obstacles to labor mobility to enhance growth's inclusiveness

Within-sector productivity growth and cross-sector labor reallocations reduce poverty in Africa. By simply allowing labor to move freely across sectors, African countries could increase incomes and reduce poverty and inequality. Policymakers should:

- *Reform labor regulations and employment policies to ensure the free movement of labor.* In addition, while labor movement within countries is less prone to restrictions, cross-border labor mobility is often discouraged on the ground of protection of local labor markets. Implementing transnational agreements such as the African Continental Free Trade Area can help remove most obstacles to the free movement of workers between countries.
- *Increase the transferability of skills and qualifications across sectors or the acquisition of sets of new skills and qualifications to meet the requirements of receiving sectors.* Since skills in low-productivity sectors are not necessarily complementary with those needed in high-productivity sectors, scaling up programs facilitating cross-sector skill transitions is important.

Expand social safety nets and increase the efficiency of existing programs

Social safety nets (SSNs)—in the form of conditional cash transfers, social protection programs, targeted subsidies, or supports to address spatial, gender, and education inequality—can complement country efforts to tackle poverty and inequality. SSN transfers have been estimated to reduce the incidence of absolute poverty by 36 percent and relative poverty (the bottom 20 percent) by 8 percent. Clearly, better planning, execution, and

monitoring of existing programs can do much to tackle poverty and inequality.

EDUCATION AND SKILLS FOR THE WORKFORCE OF THE FUTURE

Africa faces daunting education and skills challenges

Many African countries have yet to catch up with the rest of the world in basic skills and education. Literacy and numeracy continue to be binding constraints to competitiveness. Low skills and education lead to low-quality jobs, poverty, and inequality. Developing education and skills to advance economic growth requires clearly defining the type of skills that African countries need. While expanding efforts to develop the basic skills of the workforce is a stepping stone, focusing on the skills relevant for the workforce of the future can lead to faster and more inclusive growth. Key job-relevant skills are problem-solving, learning, communications, and social and personal skills.

The quality of education lags behind other world regions

African students have lower average test scores than students in other world regions. Against global harmonized test scores ranging from 300 to 625, the average African student scored only 374 in 2017. Some countries, however, performed well relative to their income. Kenya and eSwatini, with scores of 455 and 440, respectively, are above the world average of 431 for upper-middle income countries. Similarly, some low-income counties, such as Burundi, Burkina Faso, Guinea, and Senegal had scores above the average for lower-middle income countries in Asia and upper-middle income countries in Latin America.

Quality-adjusted years of schooling are generally lower than completed years of schooling. Comparing education outcomes based only on quantity can overestimate real achievement. To account for the varying quality of education, years of schooling can be adjusted by test scores. Based on the adjusted measure, advanced economies tend to have both high average years of schooling and high test scores. This positive relationship between quantity and quality is also seen in African countries. For some African countries, the quality of schooling is very low despite having higher than the regional average years of schooling.

Human capital contributes less to labor productivity and economic growth in Africa than in other developing regions

Human capital is a key driver of economic growth, through its effect on productivity. The role of education in increasing labor productivity at the aggregate level has been relatively limited in Africa. This is due partly to the low quality of education, lack of complementary physical capital, and widespread skill and education mismatches. Investing in the quality of education, therefore, can increase the productivity of African workers and firms.

Skills and qualifications are not adequately utilized in Africa's labor markets

Another reason for the low contribution of human capital to labor productivity in Africa is the mismatch between young workers' skills or education and the needs of employers. A skill mismatch is the discrepancy employees perceive between their skills and the skills needed to perform their job competently.

Skill and education mismatches are more prevalent among youth in Africa than in other regions. Close to half of Africa's employed youth perceive their skills as mismatched to their jobs, while around two-thirds of youth are either overeducated or undereducated. The undereducated share (nearly 55 percent) is considerably higher than in other regions (36 percent). So, in addition to skill and education shortfalls, African countries do not appear to be taking full advantage of the available skills and qualifications of their employed youth.

Skill and education mismatches affect wages, job satisfaction, and job search

Skill and education mismatches affect the labor productivity of youth indirectly through wages, job satisfaction, and job search. Overeducated African youth earn on average 18 percent less than

While expanding efforts to develop the basic skills of the workforce is a stepping stone, focusing on the skills relevant for the workforce of the future can lead to faster and more inclusive growth

youth with the same level of education who work in jobs that match their education. In addition, youth who believed that they were overskilled for their job were 3.4 percent less likely to be satisfied with their current job.

Youth who are less satisfied with their job because of a skill mismatch may also be less productive. The dissatisfaction arising from skill–job mismatches is more likely to motivate searching for a new job, particularly among overeducated youth. When asked why they would like to change their current job, 22 percent of overskilled youth responded that they wanted a job that would use their skills efficiently; only 5 percent of underskilled youth mentioned the same reason.

African countries need a national strategy for education and skill development

Enrollment in private schools is growing but remains small

Private education service providers also deliver education—from preprimary to higher and aspects of technical and vocational education and training—and such ancillary services as teacher training and supplementary education (after-school tutoring, language learning, and test preparation).

While still a small fraction of total education providers, private schools are catching up quickly in Africa, almost doubling in a decade, but they are less prevalent than in Asia and Latin America. The share of enrollment in private primary schools grew from an estimated 6 percent in 2007 to 11 percent in 2017, and that in secondary schools from 8 percent to 15 percent. Enrollments in private higher education institutions increased fivefold, from 3 percent to 16 percent. The growth of private education may, in part, reflect perceptions about the poor quality of public schools.

Strategies and policies to build the workforce of the future

Make strategic choices to anticipate and build a flexible and productive workforce

African countries will need to anticipate and build a flexible and productive workforce to meet future challenges. To strengthen worker employability, firm productivity, and inclusive growth, African countries need a national strategy for education and skill development, and to make growth more inclusive, these strategies should focus not only on young people but also on adult workers, school dropouts, workers in the informal economy, and workers in economically and socially disadvantaged groups.

A first step for most countries on the continent will be to integrate education and skill development strategies into their development plans. A poorly skilled and educated labor force is typically the top constraint mentioned by global executives when considering manufacturing investments in Africa.

Because "soft skills" are likely to become increasingly important, education and training institutions should be encouraged to inculcate and reinforce positive values, starting with young children. These attributes include a strong work ethic, honesty, tolerance, respect for authority, punctuality, and pursuit of excellence. These are the intangible characteristics of a high-quality workforce.

Governments will need to invest in building the infrastructure needed to enable the development of appropriate skills. This includes basic infrastructure, such as reliable and affordable power supply, transport infrastructure, and postal address systems—as well as digital infrastructure, such as high-speed internet, mobile virtual networks, and interoperable systems.

Governments can also accelerate investments in the development of critical future skills, such as:

- Job-specific digital skills, including computer programming and technology design.
- Job-neutral digital skills, including data analysis and safe internet browsing.
- Soft skills, including communication and analytical and critical thinking, to enable workers to adapt to different tasks in a rapidly changing technological environment.
- Ancillary skills related to manufacturing that will remain important for supporting the digital economy, including physical skills that require dexterity, and lower skills such as sales, repair, and maintenance.

Improve education outcomes

To reduce dropout rates and improve education outcomes, countries can:

- Improve access to schools in remote areas. One of four children in Africa lives two or more kilometers from the nearest school, with no reliable means of transportation. Conditions are

even worse for households in rural areas and in low-income countries. Irregular attendance eventually leads to grade repetition and dropouts. Increasing access to schools by reducing the average distance to a school and improving ground transportation can reduce dropout rates and irregular attendance, especially in remote areas.

- Offer incentives such as free school uniforms and textbooks and daily meals to improve learning abilities and potentially reduce school dropout rates.
- Introduce mandatory education, at least at the primary school level, and ban child labor (and enforce the ban). Legal mandates can help overcome cultural and other barriers that increase dropout rates, while bans on child labor can increase school completion rates.
- Increase secondary school enrollment and completion. With substantial progress made toward universal primary education, African countries now need to determine how to ensure greater access to secondary education. One policy option to increase secondary school enrollment and completions is to make scholarships available to students in need, which can ease the transition from primary to secondary education.
- Implement pedagogical reforms, increase education standards, reform education governance, and implement effective incentives such as making teachers' contract renewal conditional on performance or encouraging teaching in the local language.

Align education and training with the labor market

To align education and training systems with the labor market and enable better matching of the skills of the workforce with job opportunities, governments need to develop a demand-driven education system in synch with employers' needs. Policies to increase alignment include:

- Partnering with universities, training institutions, and firms to build a workforce that is better synchronized with labor demand.
- Reducing the high transaction costs of job search, particularly in urban areas. High costs (such as transport costs to consult vacancy boards and to print resumes and cover letters) often prevent youth from learning about job opportunities and from applying for jobs that match their skills and qualifications. By establishing or improving public job search agencies that centralize information on available jobs and provide advice on job opportunities, African countries could reduce job-search costs and improve job matching.
- Ensuring that the education system is in tune with rapidly emerging jobs in high demand in the private sector (such as software engineers, marketing specialists, writers, financial advisors, and data analysts).
- Strengthening public–private sector collaboration. To be more effective, vocational training and apprenticeship programs need to be part of a strong and collaborative system with industry, to ensure that training institutions are demand driven and impart skills that meet labor market demand.
- Emphasizing the digital skills that enable African youth to contribute fully to the digital economy. The African Development Bank, for example, has launched the Coding for Employment program to nurture a new generation of digitally enabled African youth. The program aims to support the establishment of 130 innovation centers across Africa by 2025.
- Making soft skill training an integral part of the national education strategy. Youth entering an increasingly competitive workforce often lack essential soft and interpersonal skills (communication, teamwork, and problem-solving). These skills can be developed as part of the curriculum and also built though government-sponsored internship programs in collaboration with private firms.

Governments need to develop a demand-driven education system in synch with employers' needs

Invest in nutrition

The link between nutrition and the cognitive skills of the workforce is straightforward: a hungry child cannot learn properly. Yet nutrition is typically neglected and remains critically underfinanced by both governments and donors. A person's IQ may be reduced by 5 percentage points from low birth weight, by 5–11 percentage points from stunting, and by as much as 10–15 percentage points from iodine deficiency. In 2017, Africa had more than a

third of the world's stunted children under the age of five, with stunting rates ranging from 36 percent in East Africa to 17 percent in North Africa. And the number of stunted children in Africa has been rising.

To build cognitive skills, African governments need to invest in better nutrition, starting with infants in the womb. While the effects of malnutrition are preventable, they are almost always irreversible, especially in young children. The first 1,000 days from conception to age 2 are a critical window for nutrition. The lack of key nutrients during this time results in stunted children (below-average height for age) who grow into adulthood permanently shorter and weaker and with cognitive deficits.

Governments should also take advantage of the very high economic returns to investing in nutrition. For example, the benefit–cost ratio for investments that reduce stunting is estimated to be at least 15:1. Eliminating anemia results in a 5–17 percent increase in adult productivity, which adds up to as much as 2 percent of GDP in the worst affected countries. As a complement to nutrition initiatives, governments can promote early childhood education.

The Fourth Industrial Revolution will place increasing demands on education systems that are not producing graduates versed in these skills

Invest in science, technology, engineering, and mathematics

Africa needs to build skills in information and communication technology and in science, technology, engineering, and mathematics. The Fourth Industrial Revolution (4IR) will place increasing demands on education systems that are not producing graduates versed in these skills.

Investments in high-speed internet and the spread of smartphones are making it possible for Africa to innovate on digital and mobile fronts. Innovation hubs are burgeoning, with more than 600 active tech hubs across the continent in 2019, up 40 percent from the year before.

Governments have also been accelerating investments in experimental research and development, to push out the knowledge frontier and address local challenges. These investments can be important mechanisms for boosting innovation in Africa, which lags behind other regions in R & D spending. Between 2012 and 2016, average gross expenditure on research and development was about 0.23 percent of GDP in Africa, only one-third of the level in Latin America of 0.68 percent.

Governments can collaborate with the private sector and education institutions in developing apprenticeships and training programs. Approaches include subsidizing internships, co-funding training centers with industries, and corporate funding of research and innovation in universities.

FINANCING EDUCATION AND SKILL DEVELOPMENT

There are four main sources of financing for education and skill development in Africa: government, households, international donors, and the private sector. The government is the largest provider and financier of education, and households also invest their own resources in education and training. International donors have contributed to education financing, especially in low-income countries, and the private sector's role, though small, has been rising. The current amount of financing from these four sources is not enough, however, to meet critical and growing education needs in Africa.

Africa's education spending as a share of GDP is high among developing countries

Over 2010–17, African countries allocated an average of 5 percent of GDP and 16 percent of government budget to education—just above the UN recommended lower limit of 4 and 15 percent, respectively. Twenty countries in a sample of 42 African countries met both UN recommended targets, by allocating 15 percent or more of their government budgets to education and 4 percent or more of their GDP. Seven countries met only one of the criteria, while 15 countries met neither.

Yet per student spending is the lowest in the world

While many African governments are allocating a substantial share of resources to education, the amount spent on education relative to size of the student population is low. Indeed, the amount of government spending per student in Africa is the lowest in the world, at only $533 for primary

school and $925 for secondary school (in purchasing power parity terms). The low spending per student can be a result of low GDP and high proportions of school-age cohorts due to rapidly growing youth populations.

At the primary school level, African countries spend on average a quarter of the resources per student, compared with Latin American countries and a fifth compared with Asian countries. At the secondary school level, Africa spends less than half the resources per student that Latin America spends and about a fifth what Asia spends. Such low levels of spending could partly explain the poor quality of education outcomes in many African countries.

African governments allocate the largest share of their education budgets to primary education (38 percent) and secondary education (37 percent), with higher education at 20 percent. Just 4 percent goes to technical and vocational education and training and 2 percent to preprimary education. This pattern is similar to that of other developing regions, such as Asia.

Africa could reach near universal primary enrollment by improving the efficiency of public spending on education

Africa is on average the least efficient region for education spending, with a 58 percent efficiency score for primary and 41 percent for secondary. This low efficiency has important implications. At the primary school level, a 58 percent efficiency score means inefficiency in education spending of around 42 percent, indicating that African countries could improve primary education by 42 percent without increasing spending. More concretely, the primary education completion rate could rise from its average of 79 percent in 2016 to 98 percent if efficiency levels in Africa matched those in developing Asia. In other words, African countries could achieve universal primary enrollment by improving the efficiency of education spending.

Direct household spending on education is high

While more than half of African countries have abolished school fees for primary and secondary school, families still spend a considerable proportion of their income on their children's education. In 2015, African households spent, on average, 35 percent of the household budget on food, 3.5 percent on out-of-pocket health care, and 2.5 percent on education.

Given that fees have been abolished in many African countries, education expenses—such as books, materials, transport, and private tutoring—make up the bulk of spending. Rising household demand for better quality schooling may also play a part in high household education spending. In some countries, private tutoring accounts for a considerable share of household education spending.

Remittances are a substantial and growing source of income for many African households. Between 2005 and 2018, remittances rose from $33.4 billion to $82.8 billion, accounting for close to 3.5 percent of Africa's GDP. Remittances from internal and international migrants are an important source of education financing for many households, and defraying the cost of education is often a key motivation for migration. Households receiving remittances from abroad spent 22 percent of it on education in Nigeria, 12 percent in Burkina Faso, 10 percent in Kenya, and 3 percent in Senegal.

Government spending per student in Africa is the lowest in the world, at $533 for primary school and $925 for secondary school

Official donors also contributed an important share of education financing in Africa

After a sharp decline in 2011, donor financing for education began to rise, reaching $14.8 billion in 2017. Africa received $5.4 billion, or 36 percent of the total. In some African countries, including Burkina Faso, Mali, and Zambia, the share of aid in government education budgets is higher than 25 percent.

By education level, the largest share over 2013–17 went to postsecondary education, at 30 percent. Next was general support to the education system, at 27 percent, distributed among education facilities and training, education policy and administrative management, teacher training, and education research. Basic education received 25 percent of international aid. The bulk of that went to primary education. Early childhood education and basic life skills for youth received about 13 percent of primary education aid. The lowest share went to the secondary school level,

at 18 percent. Around 22 percent of aid to education was in the form of scholarships or training in the donor country.

The effectiveness of international aid can be improved

Aid to education, targeting different education levels and using different aid modalities, has been channeled into interventions such as school feeding programs, classroom construction, teacher training, girls' scholarships, programs to reduce student dropout, and curriculum development. An analysis of aid effectiveness in education found that the impact was greatest when aid was used for school facilities and teacher training. In addition, there were complementarities between aid for primary and secondary education, possibly driven by an incentive effect that induces children to complete primary schooling if there are strong prospects for being able to continue at the secondary level.

Investing in both education and infrastructure will have a greater growth payoff than investing exclusively in either

Private financing is rising but still limited

Private financing can complement government funding in public education institutions. There is limited research on private financing of education in Africa. Case studies reveal that private, nonhousehold sources represent only a small portion of total education funding. For example, nongovernmental organizations and private organizations contributed only 1 percent of total financing for education in Uganda, compared with 57 percent from households and 34 percent from the government.

There are substantial opportunities for private sector financing of education, including by impact investors, philanthropists, and entrepreneurs. Opportunities with social and economic potential abound in low-cost primary and secondary education, where governments have challenges in meeting the demand; higher education; technical and vocational education; and student and institutional finance.

The private sector underinvests in skill training

Although market failures depress private sector financing, private sector involvement is larger in skill training. Since skills acquired through training can be used productively by other firms, a worker's current firm will not incur the cost of training without an enforceable contract to prevent "poaching" by a competitor. And although workers would be ready to bear the costs of training to fully capture the benefits in higher wages, they may be unable or unwilling to pay for training because of liquidity constraints, risk aversion, or inability to commit to not quitting after employer-financed training. If workers do not take into account the social returns to training (such as higher productivity of coworkers, and higher current and future gains to employers), underinvestment in training can be the result. Similarly, since the benefits to future employers are not taken into account by the current firm, the level of investment by the current firm will be suboptimal from a social perspective.

Policy recommendations

Invest more in both education and infrastructure for the highest returns in long-term GDP growth

Investing in both education and infrastructure will have a greater growth payoff than investing exclusively in either. The reason is that both types of investment strongly complement each other. Because building physical and human capital can be costly, policymakers need to consider both the public finance implications and the macroeconomic and distributional effects.

Modeling undertaken for this Outlook shows that a mixed investment program, featuring a 1 percent of GDP increase in investment allocated across basic education (34 percent), upper-level education (33 percent), and physical infrastructure (33 percent) is superior to any program focusing only on an individual sector due to strong complementary effects. Mixed investment increases net national income by almost 28 percentage points, real wages in the informal sector by 29 percentage points, and real income of the previously poor by 36 percentage points.

Enhance efficiency through education spending audits and reviews

Among developing regions, Africa spends the second highest share of GDP on education. But the efficiency of public spending is low, and government spending on education appears to have

been more successful in boosting the quantity of education than the quality. Africa's challenge is to expand the education and skills of its people by improving both the quantity and the quality of education, despite the government's limited financial space to maneuver. A more effective allocation of resources can benefit both quantity and quality.

Poorly targeted or misused education financing represents a source of inefficiency and can diminish improvements intended to increase education access and quality. While education expenditure diagnostic tools (such as budget and operational audits, public expenditure tracking surveys, and public expenditure reviews) can improve efficiency by reducing "leaks" in education financing and guiding public financial management reforms, they have not always been successful. Some key initiatives to increase the likelihood of success are to:

- Involve the ministries of education at all stages of the process, to build ownership and ensure that recommendations are implemented.
- Avoid analyzing too many flows (expenditures) or combining a tracking survey with other investigations.

Reduce school repetition and dropout rates

Reducing school repetition and dropout rates depends on better quality teaching. Although teacher compensation is typically the largest expenditure item in the education budget, low qualification, absenteeism, and poor performance of teachers contribute to the poor quality of education. To improve teaching quality, governments should:

- Recruit a higher proportion of qualified teachers.
- Provide more professional development for teachers.
- Solicit more feedback on school performance from a range of stakeholders, such as parents, students, and local authorities.
- Give schools more autonomy to allocate resources and recruit the teachers they need.
- Design better policies and strategies for recruiting and retaining able personnel.
- Improve school management and governance support programs.

Use performance-based financing

By aligning incentives with outcomes, results-based financing, which conditions financial payments on the achievement of a verifiable outcome, is a promising instrument for strengthening education system performance. Independent third-party verification of pre-agreed results is a key component of results-based financing and requires strong monitoring and information systems for tracking indicators of results.

Examples of results-based financing in education include performance-based incentives, pay for performance, performance-based contracting, conditional cash transfers, and cash on delivery. Financing can be used to affect both supply-side agents, such as ministries, provincial authorities, districts, schools, and teachers, and demand-side beneficiaries, such as students and parents.

Results-based financing has recently been used in education projects in several African countries, including Cameroon, Democratic Republic of Congo, Mozambique, and Tanzania, but it is too early to evaluate long-term impacts. (The African Development Bank approved a results-based financing instrument in November 2017.)

Improve aid targeting to enhance education quality

Donor financing for education to developing countries, while rising in recent years to $14.8 billion in 2017, is still less than half the estimated education financing gap of $39.5 billion over 2015–30. The effectiveness of education aid needs to be increased as well as the amount. That requires two major shifts in policy thinking: away from project-based aid toward systemic support and a greater focus on education quality and student learning. A shift toward systemic support requires greater use of government budget support for the education sector to align donor and recipient country incentives and objectives as laid out in education sector plans or national development plans.

While basic supports to education (new classrooms, more teachers and instructional materials) are essential, so is a focus on education quality and student learning. This requires systemwide reforms relating to a commitment to education quality from national leaders, relevance of curricula and learning materials, school location and amenities, school management and leadership, teacher training, status of the teaching profession, and parent and community involvement in schools.

Africa's challenge is to expand the education and skills of its people by improving both the quantity and the quality of education

Foster public–private partnerships in education and training

Public–private partnerships enable the government and the private sector to join in providing education infrastructure, products, and services and in sharing costs and resources. Examples of public–private partnerships in education include voucher schemes, loans, and scholarships to expand school choice beyond public schools. The private sector is also involved in supporting activities such as teacher training, tutoring, textbook provision, and school construction. Such knowledge and skill exchanges can benefit both parties as well as society.

The government's role in public–private partnerships is as direction-setter, regulator, and partner

The government's role in public–private partnerships is as direction-setter, regulator, and partner. As direction-setter, it can work with the private sector to increase the provision of education services in priority sectors or locations, in line with the national development plan or industrial policy. As regulator, it should ensure that the business environment in which firms emerge and evolve is conducive to business and investment in education. As a partner, it has considerable potential to expand access and improve quality and relevance. These collaborations can contribute to education infrastructure, products, and services while sharing related costs and resources, through initiatives such as:

- Exploring the use of service contracts or charter schools, which are publicly funded but independently managed by the private sector.
- Encouraging private firms to forge long-term collaborative partnerships with universities to fund research in specific domains of interest.
- Establishing a regulatory environment and monitoring mechanisms to ensure that public–private partnerships are in line with the country's development objectives, and creating an investment climate conducive to such partnerships in education, including the possibility of long-term finance facilities.
- Establishing reliable standards of quality within public and private education and training institutions, with quality assurance mechanisms for performance monitoring.

Where public technical and vocational education and training budgets are limited, private sector involvement may be needed to cover shortfalls. And the private sector may be more in tune with market demands for skills. Public policies to improve vocational education and training should include:

- Supporting apprenticeships and training by encouraging partnerships among the private sector, the public sector, and education and training institutions.
- Opening a training market through competitive contracting with private training bodies and nongovernmental organizations.

Facilitate philanthropic financing of private education

Philanthropy is a potential education financing source that has barely been tapped in Africa. Endowments and foundations could be promoted to fund higher education and research on the continent. For example, leading US universities have multibillion-dollar endowments that generate millions in interest annually, while corporations could contribute to education financing through corporate responsibility programs.

African schools and universities could also mobilize funds through alumni associations. Dues and donations can be used to improve the school's facilities and curriculum and provide financial support to members of disadvantaged groups. Alumni associations could also be deployed to lobby governments for more effective education policies.

Develop the student loan market, targeted financial assistance, and cost-sharing mechanisms

Student loan and financial assistance schemes for higher education can be a key component of cost-sharing initiatives aimed at easing the pressure on government budgets. Because student financial assistance and loan programs in Africa have a mixed record, better policies are needed to enhance their effectiveness in expanding access to higher education for disadvantaged groups. Among these should be:

- Diversifying sources of funding to reduce reliance on government financing.
- Establishing a robust monitoring system (by collecting and maintaining reliable data on students) to identify students who are in need of financial assistance.
- Allowing private sector student loans to make education more affordable.

- Reducing the loan default rate through legal reforms that make it easier to recover loans from recipients with a demonstrated ability to repay. A combination of social, practical, and legal incentives can also be put in place to reduce defaults.

Another popular instrument for financing secondary and higher education is the education savings plan, implemented through bank accounts, with specific government-granted benefits. Because the funds are earmarked to finance a child's education in the future, they are typically invested to generate growth over the longer term. As mobile money and banking expand in Africa, more households will be able to benefit from such plans.

Explore innovative finance options to channel more international private capital into education

Additional capital could be leveraged to finance education using such innovative finance options as social or development impact bonds, while maintaining a focus on results. Social impact bonds and pay-for-success financing use private capital to finance social services. Repayment is made by the government conditional on achievement of a specified outcome. Development impact bonds are similar, except that a donor agency or foundation rather than the government repays the loans once the outcome is achieved.

The International Financing Facility for Education (IFFEd) is an important part of international efforts to address the global education financing gap and to attract new funding for education. The IFFEd financial mechanism will be implemented through four participating multilateral development banks (African Development Bank, Asian Development Bank, Inter-American Development Bank, and World Bank). The facility is expected to raise $2 billion in contingent financing and grants from donor countries and is currently seeking a AAA bond rating from Standard & Poor's. Another innovative financing initiative is the African Education Fund, spearheaded by the African Development Bank.

Address inequality in spending by using "progressive universalism" as a guiding principle for financing education

Progressive universalism includes prioritizing the poor or disadvantaged, prioritizing lower levels of education first where social returns are highest, and supporting the complementary role for private financing and cost recovery for higher levels of education where appropriate.

To address inequality in education spending, governments seeking to pursue progressive universalism should consider:

- Greater use of formula funding of schools (use of a formula to calculate the public resources school districts will receive, based on specific indicators).
- Needs-based components that can be used to channel resources to geographic locations and schools that most require improvement.
- Expanding research on the use and impact of formula funding and on the distribution of financial responsibilities across levels of government to improve the delivery of education.

Promote education-linked conditional cash transfers to girls and poor families

Children from the poorest backgrounds are more likely to be out of school and less likely to complete primary school than children from better-off households. The factors that prevent the most disadvantaged children and youth from completing school need attention. A root cause is likely to be out-of-pocket education costs that the poorest households cannot afford. Free primary education and conditional cash or nonmonetary transfers could alleviate this constraint.

Many developing countries have used targeted conditional cash transfers to increase household investment in education, health, and nutrition. The transfers are targeted because they identify eligible households who are poor or vulnerable and have school-age children, and they are conditional because households must send their children to school to receive the transfer.

Evidence for Africa shows a positive impact of conditional cash transfer programs on education outcomes. While the financial transfers in most programs represent a significant share of poor households' income, even small transfers can have large effects. Expanding such programs could be an effective demand-side education development tool.

Targeted conditional cash transfers can increase household investment in education, health, and nutrition

1

AFRICA'S GROWTH: PERFORMANCE, OUTLOOK, AND INCLUSIVENESS

KEY MESSAGES

- **Africa's economic growth has stabilized and is expected to pick up but remains below historical highs.** Since 2014, Africa's growth has slowed down from a decadal average of 5 percent to around 3 percent. This moderate growth continued in 2019, stabilizing at 3.4 percent, the same as in 2018. Growth is forecast to pick up to 3.9 percent in 2020 and 4.1 percent in 2021.
- **There is significant regional and country variation in growth, with several "success stories."** In 2019, East Africa was the fastest growing region, and North Africa continued to make the largest contribution to Africa's overall GDP growth, due mainly to Egypt's strong growth momentum. Six African countries are among the world's 10 fastest-growing economies: Rwanda at 8.7 percent, Ethiopia 7.4 percent, Côte d'Ivoire 7.4 percent, Ghana 7.1 percent, Tanzania 6.8 percent, and Benin 6.7 percent.
- **Growth fundamentals have improved, as its drivers gradually shift toward investments and net exports and away from private consumption.** In 2019, for the first time in a decade, investment spending accounts for a larger share (more than half) of GDP growth than consumption. Net exports were also a strong contributor, particularly among commodity exporters, as oil prices recovered. As macroeconomic stability and monetary credibility have improved, inflation has also eased, but remains high.
- **Long-term growth is driven mainly by physical capital accumulation, but human capital plays an important complementary role.** Growth decomposition shows that fixed capital formation is the primary driver of rising worker productivity on the continent. Human capital development has the greatest impact when combined with high physical capital investment.
- **Africa's economic growth has not been inclusive, however, as reflected in persistently high inequality.** Only about a third of African countries have achieved inclusive growth. Countries with better education outcomes and higher rates of structural change are more likely to achieve inclusive growth. Ending extreme poverty by 2030 remains a challenge in most African countries. Countries with active inequality-reducing policies have better prospects of reducing extreme poverty more by 2030.
- **To accelerate growth in Africa and enhance its inclusiveness, policies should aim at:**
  - Deepening structural reforms to diversify the continent's productive base and unleash growth potential.
  - Sustaining macroeconomic stability while improving public financial management.
  - Strengthening domestic capacity to cushion extreme weather events.
  - Addressing obstacles to labor mobility, within and across countries and industries.
  - Expanding social safety nets and increasing their efficiency.

MACROECONOMIC PERFORMANCE AND PROSPECTS

Economic growth in Africa is estimated at 3.4 percent for 2019, about the same as in 2018. Although stable, this growth rate is 0.6 percentage point less than the rate projected in the 2019 African Economic Outlook. It is also below the decadal average growth for the region (5 percent).

The slower than expected growth is due partly to the modest expansion of the continent's big five—Algeria, Egypt, Morocco, Nigeria, and South Africa—which jointly grew at an average rate of only 3.1 percent, compared with the average of 4.0 percent for the rest of the continent's economies. Africa's GDP growth is marginally above the world average of 3.0 percent for 2019 and well above the average for advanced economies at 1.7 percent. It also exceeds that of emerging and developing economies outside Africa, excluding China and India (figure 1.1).

The slower than expected growth is due partly to the modest expansion of the continent's big five—Algeria, Egypt, Morocco, Nigeria, and South Africa

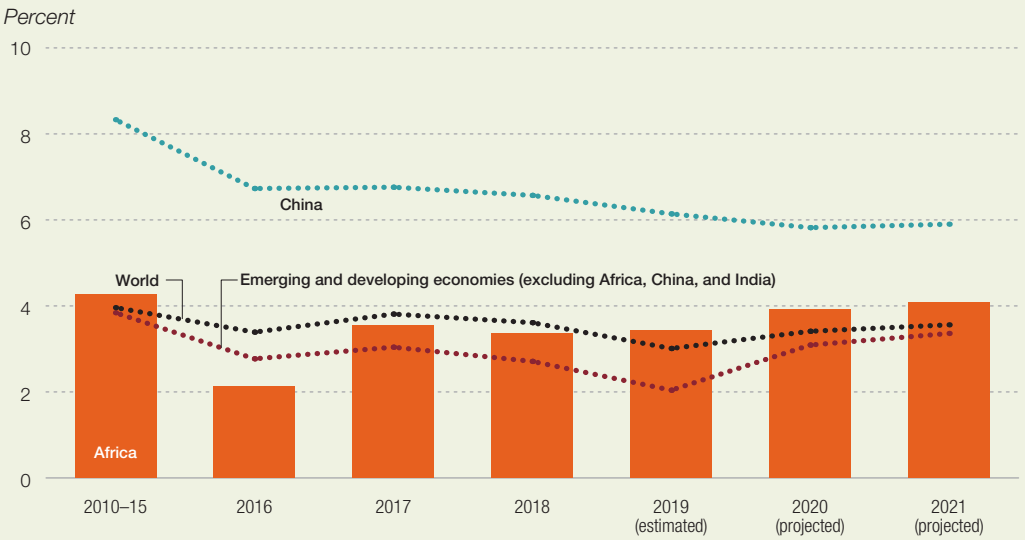
Growth is vulnerable to global downside risks

Africa's moderate growth reflects an increasingly difficult external environment. Global trade volumes slowed from annual growth of 5.7 percent in 2017 to 1.1 percent in 2019 (figure 1.2, left panel). The slowdown in trade has been especially acute for metals and food, two of Africa's major export commodities. The global industrial production index continued to show signs of weakness in the first three quarters of 2019. This softening is explained partly by the slowdown in China and Europe, the uncertainties about a hard Brexit, and the slowdown in the United States and its trade tensions with China.

Despite the challenging global environment, several external factors have helped stabilize Africa's growth and offset the effects of negative shocks. Commodity prices have been broadly stable after falling in the last quarter of 2018 (figure 1.2, right panel). Lower oil production due to supply cuts by the members of the Organization of the Petroleum Exporting Countries (OPEC),[1] and the attacks on Saudi Arabia's oil infrastructure, were offset by increased production by the United States and other non-OPEC countries, keeping oil prices sticky around $60 a barrel in 2019. Overall, the terms of trade for both energy and nonenergy exporters in Africa have been strengthening since 2016 (figure 1.3).

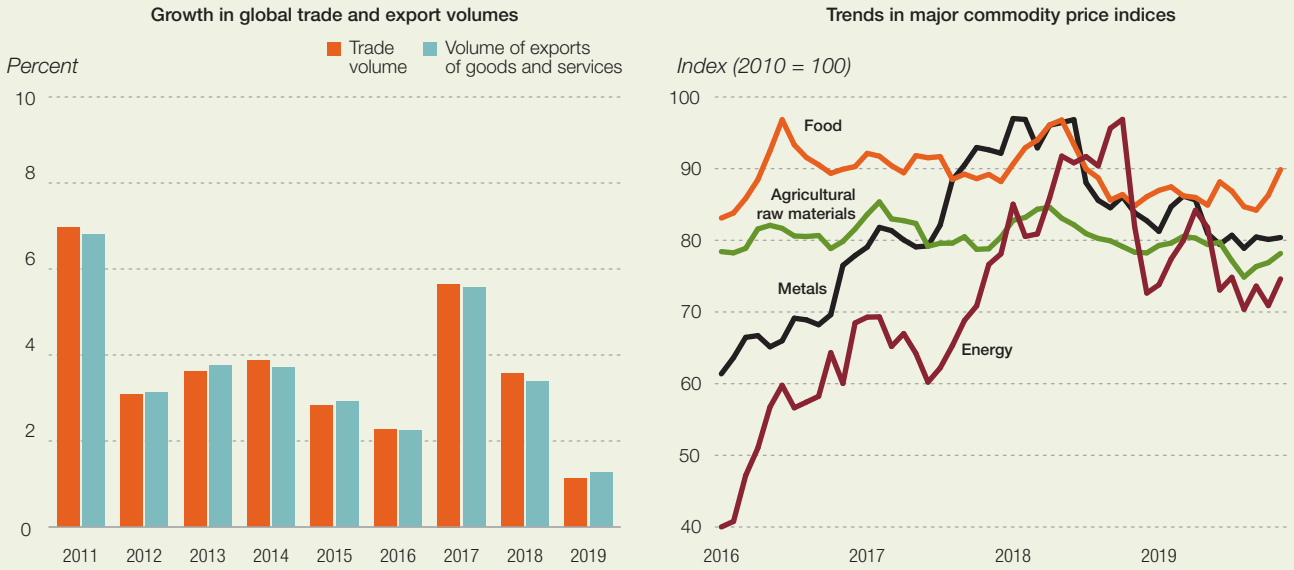
Moreover, global financial conditions have eased, following a shift toward more accommodative monetary policy by central banks in advanced

FIGURE 1.1 Africa's GDP growth is above the world average



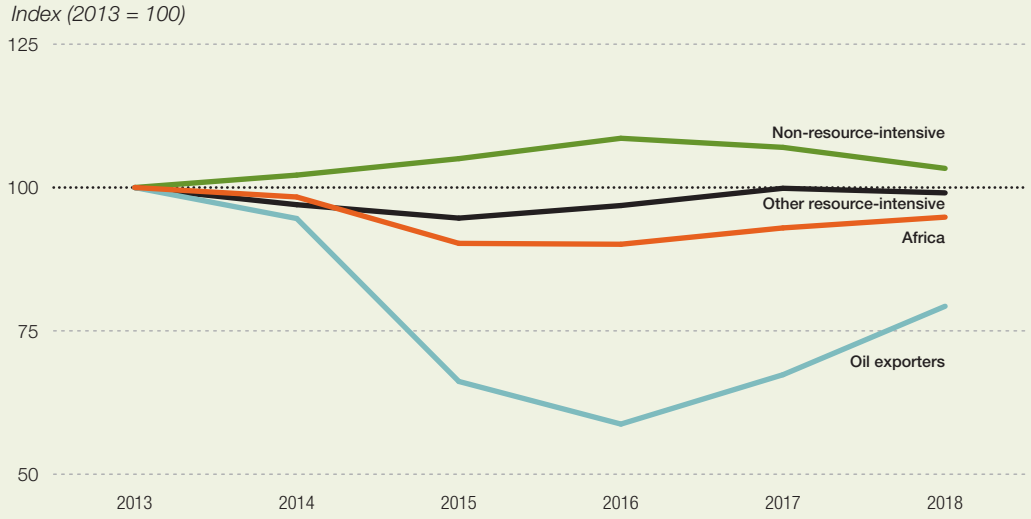
Source: African Development Bank statistics and IMF World Economic Outlook database.

FIGURE 1.2 The global economic environment is changing



Source: African Development Bank statistics and IMF World Economic Outlook database.

FIGURE 1.3 The terms of trade for oil exporters in Africa have strengthened in recent years



Source: African Development Bank statistics and World Development Indicators.

economies. The declining yields on long-term debt instruments have improved external financing conditions for African countries. Market sentiments are improving. Portfolio and capital inflows are recovering. And African frontier market bond yields and spreads are narrowing.

Growth displays significant cross-regional and cross-country heterogeneity

Africa's estimated 3.4 percent growth masks significant cross-regional and cross-country variation (table A1.1.1 in annex 1). East Africa maintained

its lead as the continent's fastest-growing region with estimated growth of 5.0 percent in 2019, with Rwanda, Ethiopia, and Tanzania leading. South Sudan's growth accelerated from 0.5 percent in 2018 to 5.8 percent in 2019, mainly as a result of increased oil production following the peace agreement in September 2018. But growth slowed in Kenya from 6.5 percent to 5.9 percent, with the winding down of the fiscal stimulus from previous years.

North Africa is the second-fastest-growing region, with average growth estimated at 4.1 percent for 2019. Its performance is explained by the growth momentum in Egypt (from 5.3 percent in 2018 and 5.6 percent in 2019), driven by the vigorous implementation of economic reform programs and gas extraction in the Zohr field. Other countries with growth accelerations include Algeria (from 1.4 percent in 2018 to 2.3 percent in 2019) and Mauritania (3.6 percent to 6.7 percent). However, the region's performance was weighed down by slower growth in Libya, from 7.8 percent in 2018 to 4.0 percent in 2019, owing to disruptions in oil production as a result of deteriorating security, weak growth in the nonoil sector, and poor public utility provision, especially in electricity.

Stronger investment and net exports underpin recent growth in Africa

In West Africa, growth picked up from 3.4 percent in 2018 to 3.7 percent in 2019. Top performers include Ghana (from 6.3 percent to 7.1 percent), driven largely by growth in the mining and petroleum sectors in addition to strong agricultural growth; and Côte d'Ivoire (7.4 percent in both years), spurred by sustained public investments. Nigeria continued to recover gradually to 2.3 percent in 2019 from 1.9 percent in 2018.

In Central Africa, growth is estimated to have increased from 2.7 percent in 2018 to 3.2 percent in 2019. Most countries in the region witnessed growth accelerations between 2018 and 2019, except for the Democratic Republic of Congo, where growth slowed from 5.8 percent to 4.3 percent, due primarily to uncertainties over the political transition and to the Ebola outbreak in late 2018 and its persistence into 2020.

In Southern Africa, growth slowed from 1.2 percent in 2018 to 0.7 percent in 2019, dragged down by cyclones Idai and Kenneth and the devastation of infrastructure and agriculture in Malawi, Mozambique, and Zambia (box 1.1), combined with the weak growth in Zimbabwe, South Africa, Angola, and Namibia. Zimbabwe slipped from growth of 3.4 percent in 2018 to a contraction of 12.8 percent in 2019, due mainly to monetary issues related to currency convertibility that have distorted the efficient functioning of goods and factor markets. Growth in South Africa remains lackluster, slowing to 0.7 percent in 2019, dragged down by the slow recovery in commodity prices and the fiscal risks associated with unbudgeted bailouts for ailing parastatal utilities.

Oil exporters still lag behind net oil importers, though the gap has started to narrow. In 2016, the gap was 1.5 percentage points, but by 2019 it was 0.3 percentage point—suggesting that oil exporters are gradually improving their macroeconomic and structural environment and mitigating the resource curse.

The contribution to Africa's growth is skewed to a few regions and countries

The relative contribution to Africa's growth is skewed to a few regions. North Africa continues to be the largest contributor, accounting for 44 percent of Africa's growth in 2019, due partly to Egypt's large share in Africa's economy and relatively robust growth in 2019. East Africa's contribution has shrunk, from more than 32 percent in 2016 to less than 20 percent in 2019, as has Southern Africa's, from 6 percent to 4 percent. West Africa's contribution has increased over the last few years—from below 7 percent to more than 28 percent, primarily as a result of Nigeria's recovery from recession (figure 1.4).

The five largest economies contributed more than half of Africa's growth in 2019 (figure 1.5). Egypt contributes the most, accounting for about one-third (1.1 percentage point of the aggregate growth rate of 3.4 percent), thanks to the bold implementation of economic reform programs and the earlier than expected production from the Zohr gas field.

Investments and exports are increasingly driving growth

Stronger investment and net exports underpin recent growth in Africa. Since 2011, and particularly following the end of the commodity price supercycle in 2014, divergence has been widening between gross savings and total investments for

BOX 1.1 Extreme weather events, disaster preparedness, and economic consequences

The March 2019 tropical cyclone Idai that pummeled Southern Africa was one of the deadliest storms ever to hit the Southern Hemisphere. The storm's catastrophic flooding and landslides decimated physical infrastructure and farmland across Malawi, Mozambique, and Zimbabwe and affected more than 2.6 million people. In addition, the above-average rainfall in East and Southern Africa and the 2016 droughts induced by El Niño brought to the fore the economic and social costs of extreme weather shocks in Africa. If not well managed, they could have significant welfare implications.

Weather shocks are associated with a 2 percentage point contraction in GDP growth over the short and long run. Disasters interrupt transportation systems, damage infrastructure, and divert government resources. African regions with more human capital experience a less adverse effect on output. And higher government effectiveness and higher per capita incomes are also associated with a significantly lower macroeconomic cost. The government effectiveness is attributed to the efficiency of policy interventions and efficient government response in shaping private sector response to the disaster. In Southern Africa, Malawi, Mozambique, and Zimbabwe must make tough decisions in fiscal and monetary policy, with current public budgets already insufficient to provide adequately for necessities.

Sound fiscal policies, government institutions' effectiveness, and sustained public investment at adequate levels could mitigate the adverse effects of weather shocks. Investment in adaptation strategies—such as well-targeted social safety nets, climate-smart infrastructure, and appropriate technology—can increase resilience to weather shocks. Social protection programs that can be flexibly adjusted in times of disasters are also important and can dramatically improve the outlook and the futures of the affected people.

Here are some successful coping strategies.

The Ethiopian government introduced the Productive Safety Net Program in 2006 in collaboration with international financial partners. The program provides cash or food to households in need, particularly in the lean season (June–August), contingent on active participation in rehabilitating land, improving water sources, and constructing roads and hospitals. With 8 percent of the Ethiopian population participating, the program is considered the largest weather adaptation program in Africa. It has reduced soil loss by almost 40 percent and improved land productivity by up to 400 percent. The program has also reduced the damage from seasonal flooding and droughts.

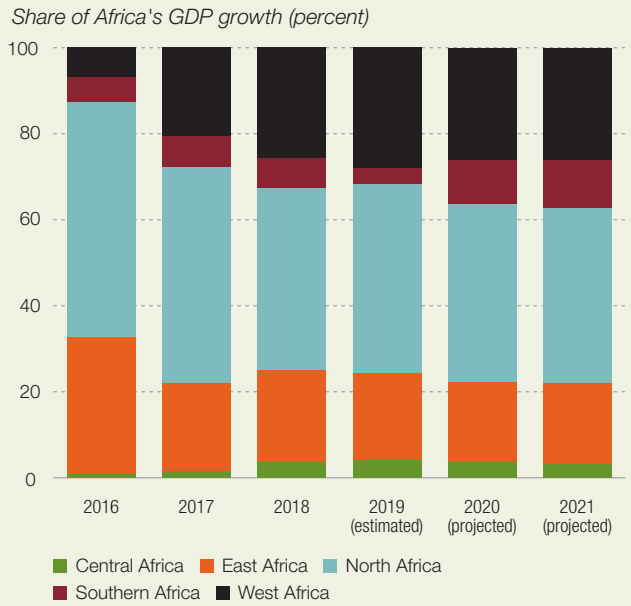
Established by the African Union in 2012, the African Risk Capacity (ARC) is a multilateral risk-sharing mechanism to help African members insure against crop failure caused by extreme weather events and natural disasters. By pooling climate-related risks, ARC helps countries strengthen their disaster risk management and access to vulnerable populations. It provides African members with capacity building and access to state-of-the-art early warning technology, contingency planning, and risk pooling and transfer facilities. It has reduced the volatility of food consumption for the most vulnerable households. And since 2014, it has paid out more than $36 million to countries affected by drought. It has also helped reduce the need for fire sales of assets in distressed regions.

The Climate-Smart Agriculture initiative, developed in 2018 by the Technical Centre for Agricultural and Rural Cooperation, improves the resilience, food security, and income of smallholder farmers in member countries by promoting widespread adoption of practices most aligned with national policy priorities. About 75,000 farmers benefited from a bundle of climate-smart agricultural solutions in the first year. By the end of 2020, around 140,000 small-scale farmers in Malawi, Zambia, and Zimbabwe will have adopted a range of climate-smart strategies to help them cope with drought and erratic weather patterns.

nonresouce exporters (figure 1.6). When countries are classified according to their resource intensity, nonresource-intensive countries have driven the widening gap in the continent's average, and thus the increasing current account deficits. For oil exporters and other resource exporters, the savings-investment gaps have narrowed, leading to declining current account deficits. Interestingly, fragile states have witnessed the fastest acceleration in investments, though they also have the lowest savings (figure 1.7).

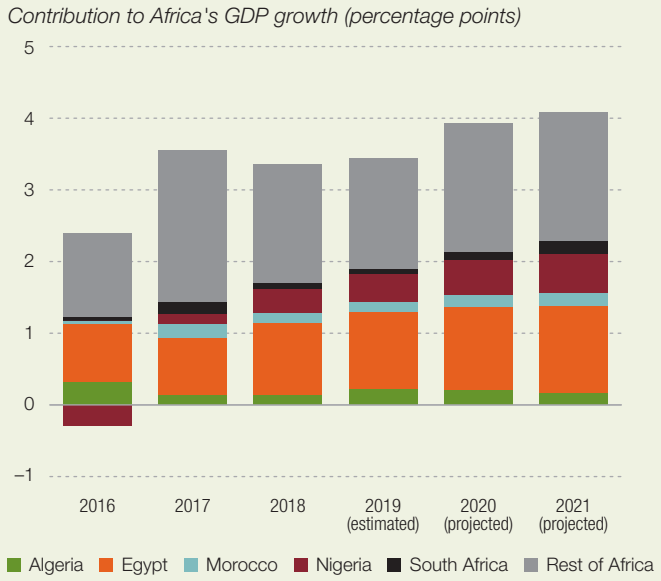
Decomposing Africa's GDP growth shows that the shift from consumption toward investment and net exports observed in previous years has

FIGURE 1.4 West Africa's contribution to Africa's GDP growth has been increasing over the past few years—from below 7 percent to above 28 percent



Source: African Development Bank statistics.

FIGURE 1.5 The big five economies of Algeria, Egypt, Morocco, Nigeria, and South Africa jointly accounted for 55 percent of Africa's growth in 2019



Source: African Development Bank statistics.

continued and strengthened. In 2019, for the first time in a decade, investment expenditure explains more of GDP growth than consumption expenditure (54 versus 31 percent) (figure 1.8, left panel). And growth in net exports has contributed more to aggregate growth than in previous years, rising from 1 percent in 2018 to 6 percent in 2019. Similarly, the production and value-added approach shows that improvements in services are the primary driver, explaining more than 50 percent of growth in the region (figure 1.8, right panel).

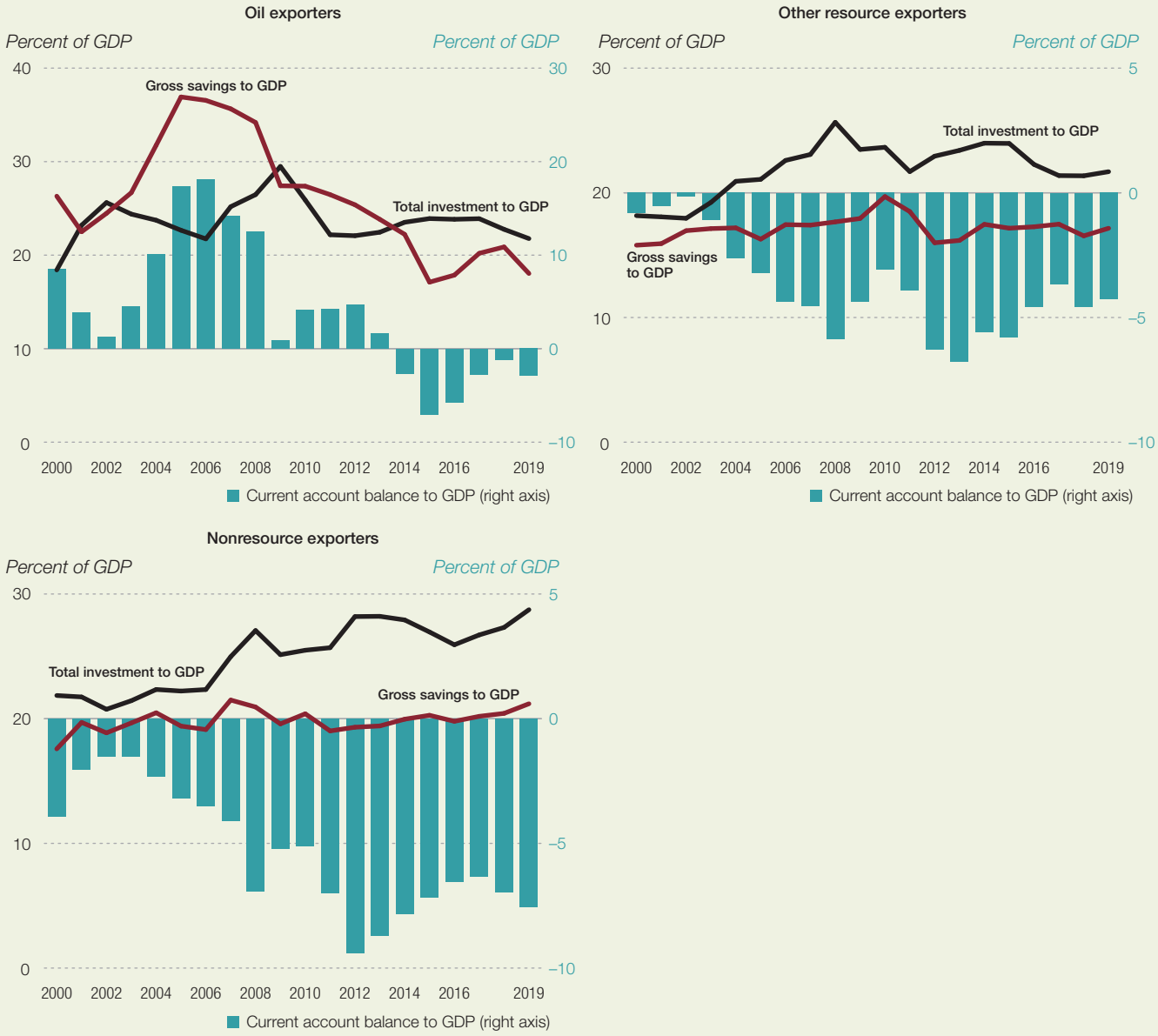
Risks to the outlook are skewed to the downside

The outlook for growth in the short and medium terms remains moderate. Growth is forecast to pick up mildly to 3.9 percent in 2020 and 4.1 percent in 2021. This modest pickup is supported by demand-side components, especially a pickup in exports from the expected impact of the African Continental Free Trade Area, sustained public infrastructure investments, and strong private consumption. On the supply side, it is supported by improvements in the quality of human capital (see chapter 2), increases in the production of hydrocarbons (Egypt, Ghana, and Uganda), and increases expected in commodity prices, which are helping to improve the terms of trade for major commodity-intensive economies.

Domestic risks are particularly elevated. Extreme weather events—particularly the type of devastating storms and floods that afflicted Southern Africa in the first half of 2019 and the expected return of El Niño conditions to East Africa—could usher in severe droughts and suppress agricultural output and growth. In countries holding elections in the next two years, there may be sociopolitical pressures to increase public spending, which would undermine plans for fiscal consolidation. And risks associated with terrorism, armed conflict, insurgency, or social unrest in some countries may also weigh on economic activity.

On the external front, global economic activity is projected to slow in major economies, including China, the United States, Europe, and India, with strong trade and investment links with Africa. That would hurt Africa's growth through lower export demand and investment flows. Further escalation of trade tensions between the United States and China, which jointly account for more than half of

FIGURE 1.6 Savings, investment, and current account interactions for African exporters



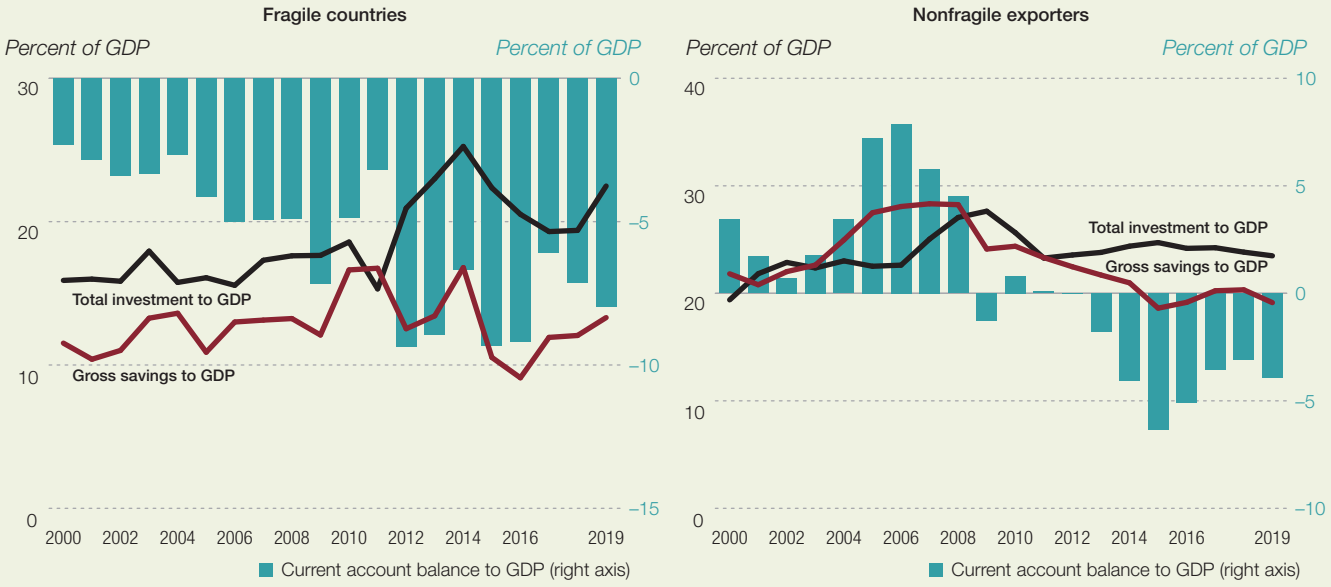
Source: African Development Bank statistics and IMF World Economic Outlook database.

global demand for metals, could reduce global trade volumes and hit metal-exporting economies (Ghana, Niger, Zambia). In addition, faster-than-expected accommodation of monetary policy by advanced countries' central banks could spur an inflow of "hot money" into Africa with associated macroprudential risks and disorderly exchange rate effects, especially in countries with liberalized but underdeveloped financial and foreign exchange markets.

Macroeconomic and stabilization policy

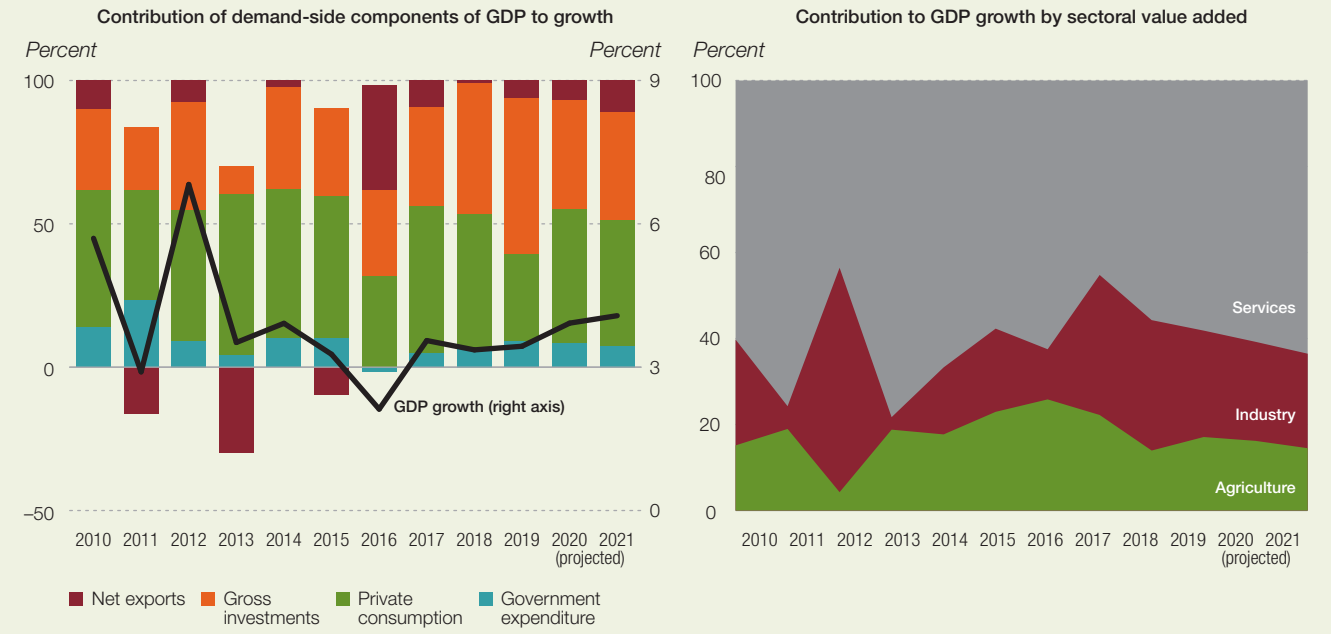
Inflation remains high despite moderate declines. Overall, macroeconomic stability in Africa improved in the last four years. The average inflation rate for the continent inched down by 2 percentage points, from 11.2 percent in 2018 to 9.2 percent in 2019, with notable variations across countries and economies. Of 54 countries,

FIGURE 1.7 Savings, investment, and current account interactions for fragile and nonfragile exporters



Source: African Development Bank statistics and IMF World Economic Outlook database.

FIGURE 1.8 Contributions to GDP growth by demand-side components and value added



Source: African Development Bank statistics.

32 managed to rein in inflation in 2019 from 2017 levels, while 22 countries registered an increase in inflation. Lower inflationary pressure is underpinned by stabilizing energy prices and falling food prices driven by higher agricultural production. But large fluctuations in exchange rates in some countries (Angola, Sudan, Zambia, and Zimbabwe) have spurred inflationary pressures. Inflation eased somewhat in oil-exporting countries from 15.6 percent in 2018 to 11.3 percent in 2019, but inched up in oil-importing countries from 5.3 percent to 6.4 percent.

Central banks reacted by adjusting interest rates to manage domestic demand. In countries with downward inflationary pressures, interest rates were reduced to encourage investment to spur growth. Examples include Egypt, where interest rates declined by 150 basis points in August, Nigeria and Namibia by 50 basis points in March, and Botswana by 25 basis points in August. In contrast, Zimbabwe raised interest rates by 2,000 basis points in September to contain runaway inflation of more than 200 percent, and Sudan raised interest rates by 220 basis points in July to rein in inflation above 60 percent.

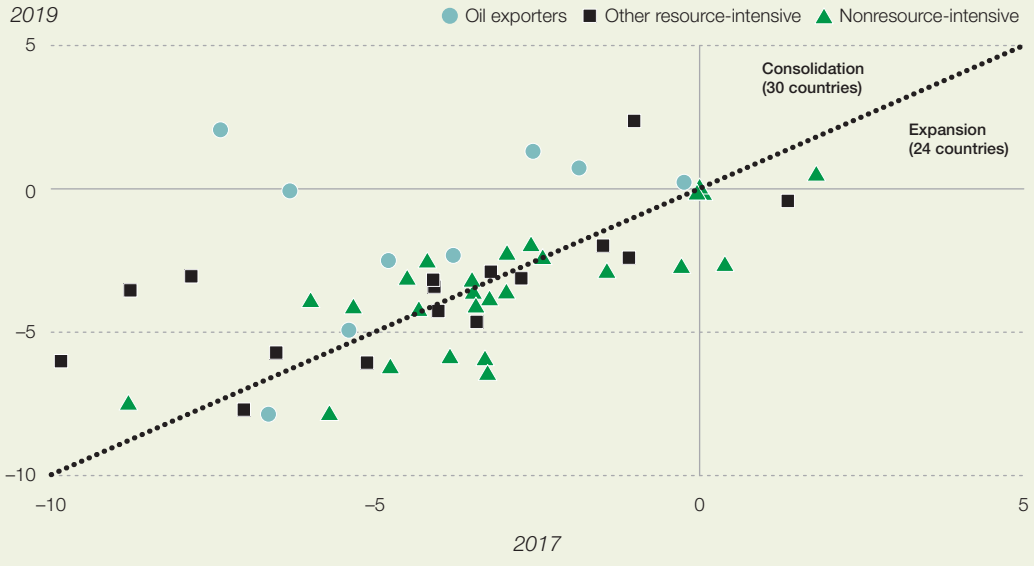
Fiscal positions improved, but deeper domestic resource mobilization is needed

Fiscal balances improved somewhat in the past two years, with the weighted average overall deficit-to-GDP ratio inching down to 4.8 percent in 2019 from 5.9 percent in 2017 (figure 1.9). This resulted mostly from a stabilization in commodity prices and higher tax and nontax revenues for large natural resource exporters. The revenue-to-GDP ratio rose by 0.3 percentage point on average for the 54 African economies, but by more than 1 percentage point among oil exporters, such as Angola, whose ratio rose 2.2 percentage points.

Several nonoil intensive countries also managed to narrow deficits in the past two years, a result of winding down large fiscal expansions and improving domestic resource mobilization. Others had to cut spending in the face of mounting debt burdens. Among those with the largest reductions in expenditure-to-GDP ratios in 2019 were Congo (8 percentage points) and Zambia (4 percentage points), both driven by significant fiscal consolidation efforts to contain debt. A majority of African countries reduced expenditure-to-GDP ratios in

Lower inflationary pressure is underpinned by stabilizing energy prices and falling food prices

FIGURE 1.9 Oil exporters and other resource-intensive economies managed to narrow fiscal deficits



Source: African Development Bank statistics.

2019, although exceptions such as South Sudan remained. Priorities for reform include shifting the balance from current spending toward funding infrastructure gaps and improving medium-term planning.

Structurally large fiscal deficits remain a source of concern for African economies, where they stem mostly from a lack of improvement in revenue mobilization in nonresource-abundant economies. The continent still exhibits lower revenue to GDP ratios than peer low- and middle-income economies, and progress has stalled in key areas, such as implementing comprehensive income tax reforms and rolling out sales or value-added taxes to encourage formal business registration in the informal sector. Moreover, the lack of counter-cyclical policy instruments such as progressive taxation, reserve funds, social insurance, or business cycle–contingent fiscal rules implies that fiscal balances remain volatile and subject to external shocks. Efforts to streamline public financial management, design credible medium-term spending frameworks, and improve transparency and governance in reporting baseline and contingent liabilities are policy levers of paramount importance.

Higher domestic borrowing reflects elevated government spending and capital investment needs to close the infrastructure gap

Debt continues to rise

Public and publicly guaranteed debt levels are high and rising in most African economies, with the median ratio of government debt-to-GDP climbing over 56 percent in 2018, up from 38 percent 10 years earlier. The continent's total external debt burden reached nearly $500 billion, with eurobonds more than a fifth of that. The upward trend in external debt ratios is partly a by-product of the end of the commodity supercycle, and slowing growth and export revenues, especially among commodity producers. But it also stems from a more stable macroeconomic and governance environment, which allowed more African countries to tap international bond markets for the first time, some at 30-year maturities.

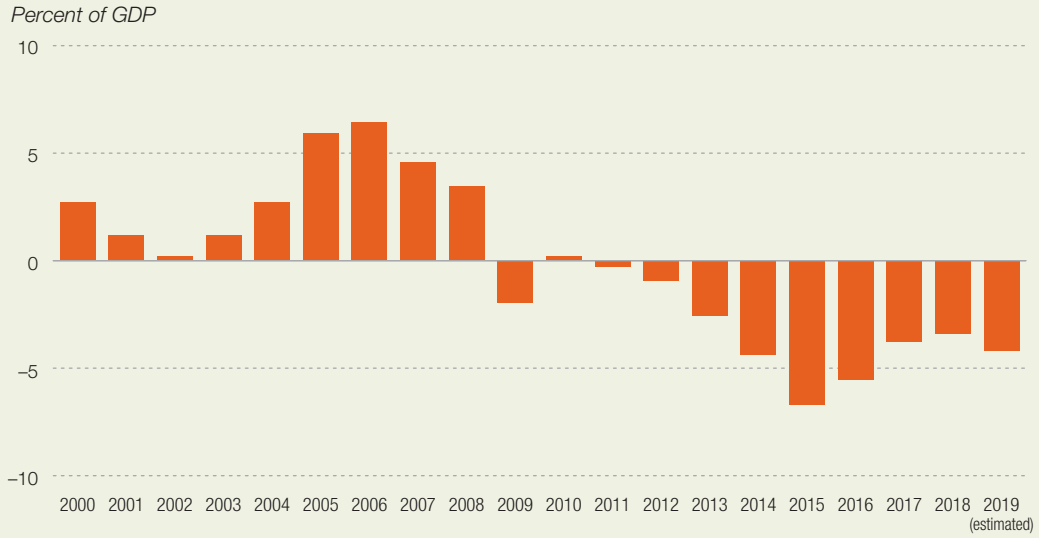
African governments have had a structural shift in debt composition, with less reliance on concessional lending from multilateral institutions and official Paris Club creditors, broader access to long-term finance from international capital markets, and increased access to financing from emerging bilateral creditors, such as China. Similarly, higher domestic borrowing (reaching more than 35 percent of GDP) in part reflects elevated government spending and capital investment needs to close the infrastructure gap. But it also reflects gradually slowing inflation, greater monetary credibility, and stronger ability to market domestic currency debt to international creditors.

The rising debt trend across African countries masks substantial heterogeneity. In 2017, the ratio of external debt to exports ranged from around 5 percent of exports of goods and services (Algeria) to more than 400 percent (Ethiopia) and even more than 600 percent (Sudan). On 31 August 2019, the IMF's Debt Sustainability Assessment report for Africa's low-income countries showed 8 countries classified in debt distress[2] and another 11 countries at high risk of debt distress.[3] For these economies, debt burdens could undermine long-term growth prospects, especially if foreign funding dries up suddenly as monetary policy normalizes in advanced economies. The continent's other 18 low-income countries all had moderate to low risk of debt distress. While Africa is not experiencing a systemic debt crisis, there is a substantial need to improve the debt–investment and investment–growth links to ensure long-run debt sustainability. Leveraging their increased borrowing capacity to fund crucial infrastructure investment while sharing macroeconomic risk with creditors, and improving the transparency, timeliness, and governance of debt burdens, are two levers for African countries to guarantee an efficient use of government borrowing.

Weakening external positions are expected to improve in the short term

Africa's average current account deficit is estimated at 4.2 percent of GDP for 2019, around 0.8 percentage point wider than the 3.4 percent in 2018 (figure 1.10). When the current account is decomposed into the trade balance, current transfers, and net income on production factors, it becomes clear that the previous improvement since 2015 was mainly due to substantial increases in current transfers, notably remittances

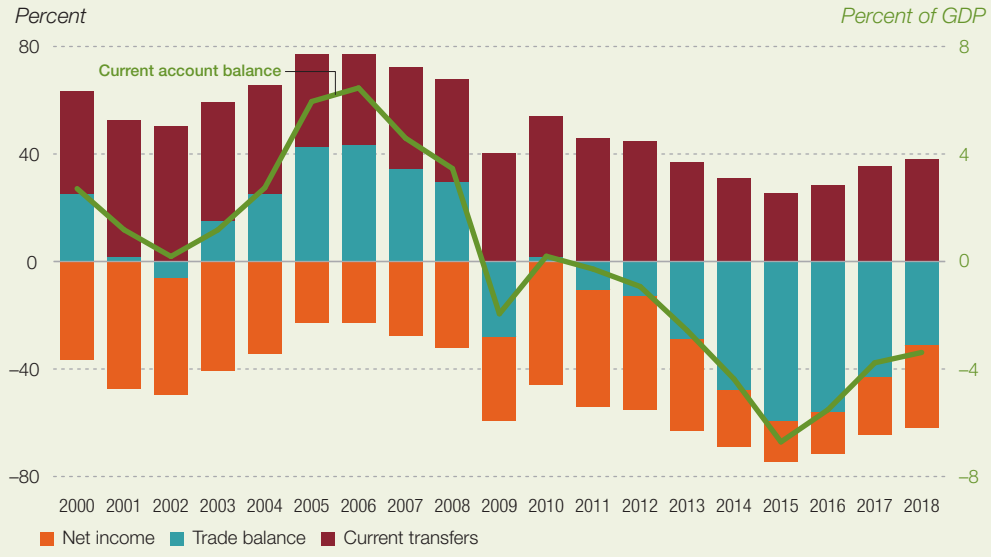
FIGURE 1.10 Africa's 2019 current account deficit is estimated at 4.2 percent of GDP



Source: African Development Bank statistics.

Weakening external positions are expected to improve in the short term

FIGURE 1.11 Current account decomposition for Africa



Source: African Development Bank statistics.

and foreign aid (figure 1.11). The trade balance improved slightly over the past year, with net exports of goods and services accounting for a deficit of around 5.5 percent of GDP in aggregate, close to that in 2014. Net income payments to foreign factors—particularly investment income accruing to foreign corporations operating in the natural resource and manufacturing sectors—contributed substantially to external deficits in 2018 (see figure 1.11).

REMITTANCES AND FOREIGN DIRECT INVESTMENT DOMINATE FINANCIAL FLOWS TO AFRICA

Total external financial inflows to Africa remained flat in 2018 at $205.7 billion, with some shifts in the relative importance of the financing sources. Remittances and FDI dominated external financing in 2018 against the backdrop of the global economic upswing that began mid-2016. Remittances took the lead, reaching $82.8 billion, up 7 percent from 2017. FDI picked up in 2018 by 10.9 percent, reaching $45.9 billion but remaining below its 2015 high of $56.9 billion. Portfolio flows declined by 18.9 percent and official development assistance by 4 percent in 2018 (figure 1.12).

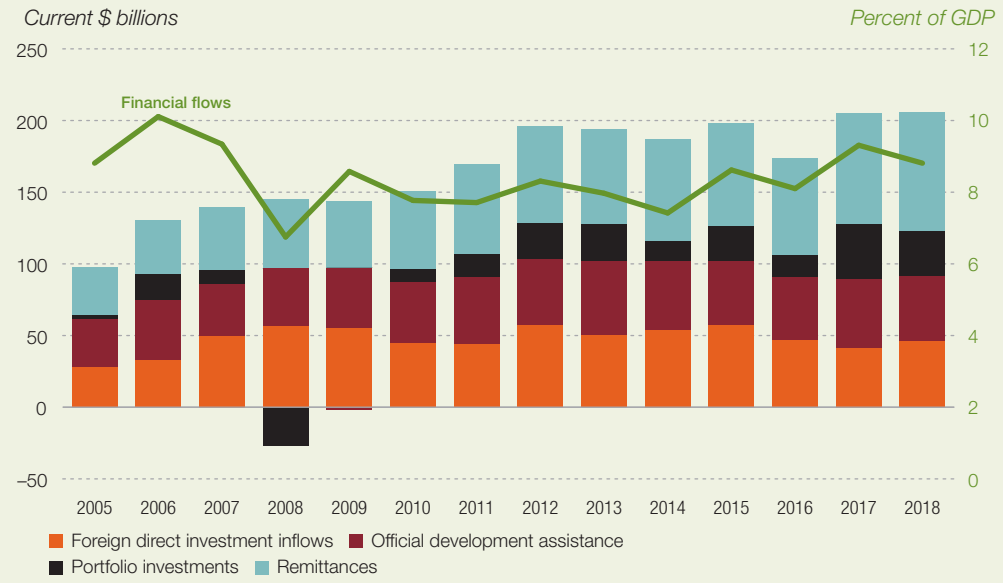
Remittance inflows to Africa have been rising since 2016, reaching new highs on the back of a pickup in global economic growth in 2017 and 2018 and rising migration (which almost doubled between 2000 and 2019).[4] Egypt and Nigeria followed by Morocco, Ghana, and Kenya account for 76.2 percent of the remittances in 2018. This is not surprising since they make up 44 percent of international migration from Africa to high-income countries.[5] Adjusting for the size of the economy, remittances represented more than 10 percent of GDP in Lesotho, Gambia, Cabo Verde, Liberia, Comoros, and Egypt (figure 1.13).

Remittance inflows to Africa have been rising since 2016, reaching new highs on the back of a pickup in global economic growth in 2017 and 2018

Africa experienced the fastest growth globally in FDI flows in 2018 (11 percent), from $41 billion to $46 billion, compared with negative global flows (–13 percent) and flows to developed economies (–27 percent)[6] and Asia (+4 percent).[7] The increase was supported by continued resource-seeking inflows, some diversified investments, and a recovery in South Africa after several years of low inflows. FDI in Africa is likely to increase by 15 percent in 2019, with an expected modest acceleration in economic growth and advances in regional integration.[8] FDI returns rebounded to 6 percent in 2017 and recovered further in 2018 to 6.5 percent after a long decline since 2010.

FDI increased in both North Africa and Southern Africa in 2018—boosted by flows to Morocco (35.5 percent) and South Africa (165.8 percent)—and stagnated or declined in the other three regions. Morocco continues to benefit from relatively stable economic performance and a diversified economy, attracting foreign investment in finance, renewable energy, infrastructure, and the

FIGURE 1.12 Foreign direct investment and remittances have increased



Source: African Development Bank statistics.

automotive industry. It also introduced reforms to improve the investment climate including a new investment law (2016) and finance law (2017).[9] South Africa also sought to improve its environment for doing business by adopting the Protection of Investment Act in 2015, launching the National Invest One-Stop Shop in 2017, and introducing reforms making it easier to start a business and get electricity.[10]

Sources of FDI are becoming more diversified. Investors from the United States, United Kingdom, and France still have the largest stock of direct investment in Africa, but the Netherlands, Italy, China, Singapore, India, and South Africa are among the top 10 investors. FDI is still concentrated in primary sectors, but greenfield investments in 2018 were more concentrated in services (34 percent) and manufacturing (44 percent). Manufacturing projects jumped 60 percent in 2018 to $33 billion, particularly in higher-skill industries and natural resource processing.[11]

GROWTH AND DEVELOPMENT ACCOUNTING IN AFRICA

Africa's recent growth performance partly reflects macroeconomic adjustments, transitory shocks to the terms of trade, and changes in the fiscal and external balances, as well as global spillovers. But they also embody longer-term factors supporting growth across African economies. To better understand these longer-term drivers of growth performance and to explain the differences across countries, a growth and development accounting decomposition focuses on the relative roles of physical capital, human capital, labor force mobilization, and total factor productivity. It explains the levels and dynamics of GDP per capita and GDP per worker over the last four decades.

This accounting exercise helps to identify the sources of the differences in the economic performance of African economies and the determinants of long-run growth.[12] The role of human capital in driving productivity growth is stronger in countries that have had faster growth in physical capital per worker, highlighting a potential capital–skill complementarity. So governments need to associate investments in schooling with better matching of educated workers to productive equipment and infrastructure.

Development accounting

Measured output per worker increased rapidly in North Africa after 2000, but its rise was more limited in the rest of the continent, especially in Southern, Central, and West Africa (annex 1.2). GDP per capita, by contrast, improved more uniformly across regions after 2000, as an increased employment-to-population ratio offset slower productivity growth in West and Southern Africa. Heterogeneity in productivity growth per worker was partly muted by a stronger mobilization of the labor force in lower productivity-growth regions.

Egypt, Mauritius, Algeria, and Gabon have the highest total factor productivity (TFP), while Zimbabwe, Liberia, and the Central African Republic are closer to the bottom of the scale in efficiency (figure 1.14).

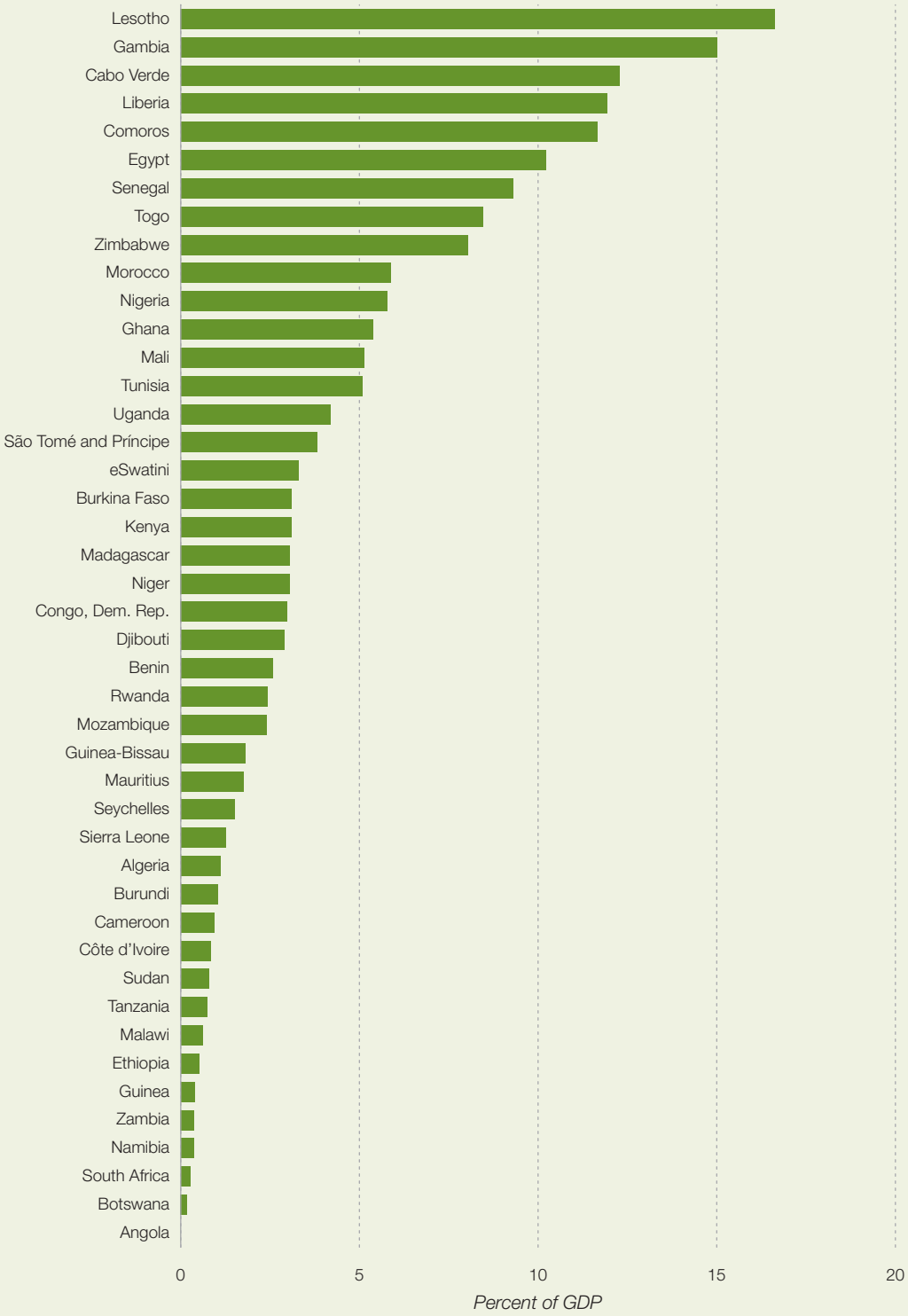
Over the past three decades, physical capital growth has been the primary driver of GDP growth across 50 African economies (figure 1.15). Employment growth contributed somewhat, as did the rise in years of schooling. And TFP mostly had a negative or zero contribution (based on estimated elasticities in the aggregate production function). Physical capital growth, in particular, has been a major driver of improvements in GDP and GDP per worker after the turn of the millennium, as rising global capital inflows and domestic investment rates played a central role in Africa's global economic integration. The positive, though limited, impact of human capital, by contrast, presents a key policy question for African policymakers: How can increased educational attainment be translated into stronger contributions of skills to value added to generate the social returns commensurate with the substantial investment in greater access to schooling?

Physical capital growth has been the primary driver of GDP growth

Capital and labor are complementary in Africa's long-term growth

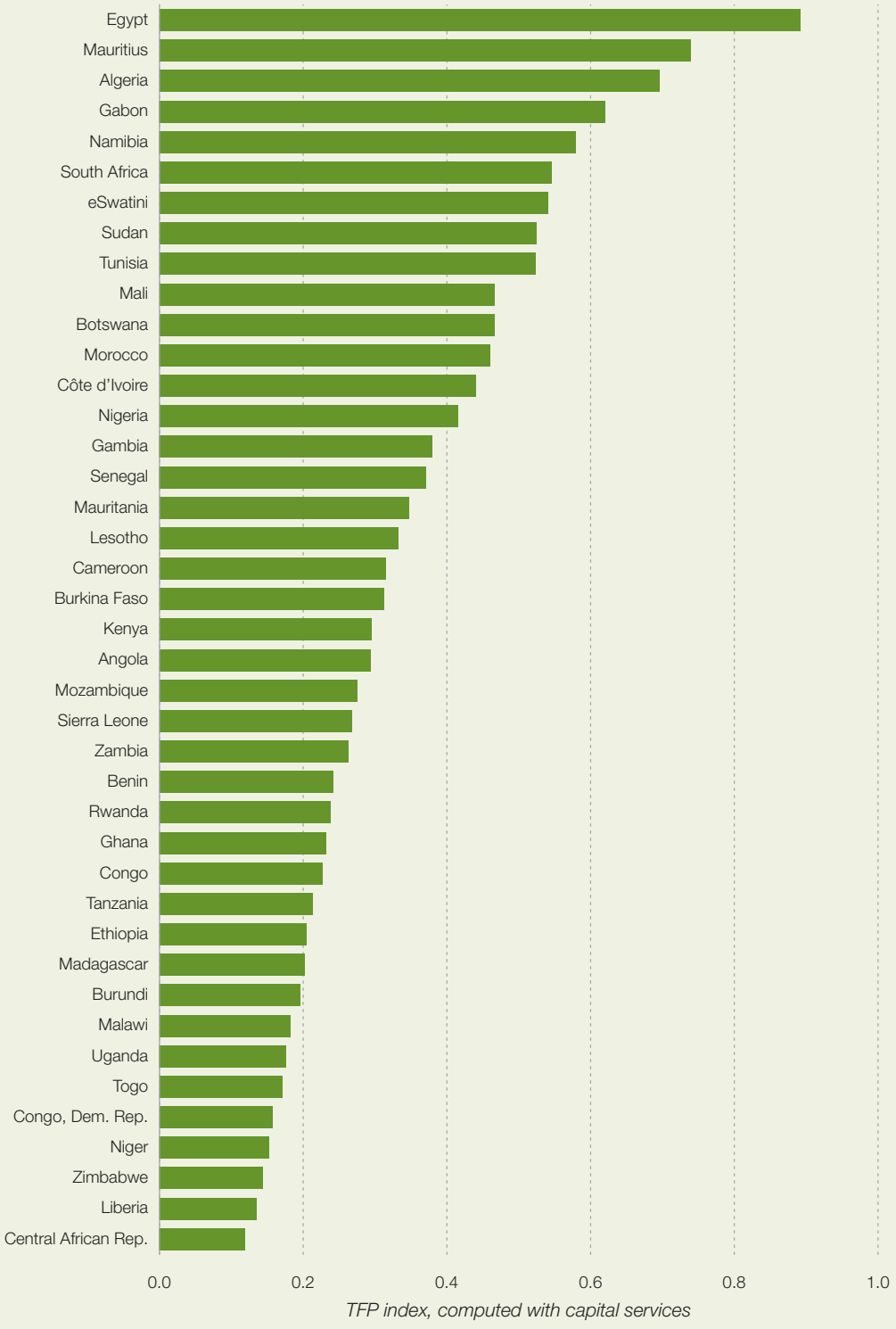
Human capital appears, at first sight, to have been less of a driver of growth in measured productivity than physical capital over the last 20 years in Africa. Countries with greater increases in physical capital formation over the last 20 years reached substantially higher growth rates of GDP per

FIGURE 1.13 Remittances in 2018 represented more than 10 percent of GDP in Lesotho, Gambia, Cabo Verde, Liberia, Comoros, and Egypt



Source: African Development Bank statistics.

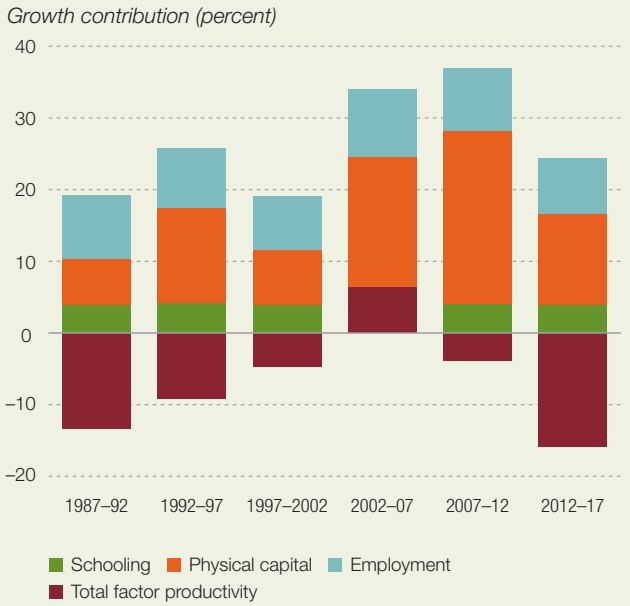
FIGURE 1.14 Egypt, Mauritius, Algeria, and Gabon have the highest total factor productivity, and Central African Republic, Liberia, and Zimbabwe the lowest



Note: TFP is computed as the residual in measured productivity, after taking into account the contribution of capital, labor, and human capital (annex 1.2).

Source: Staff computations using Penn World Tables.

FIGURE 1.15 Physical capital has been the main driver of long-term GDP growth, 1987–2017



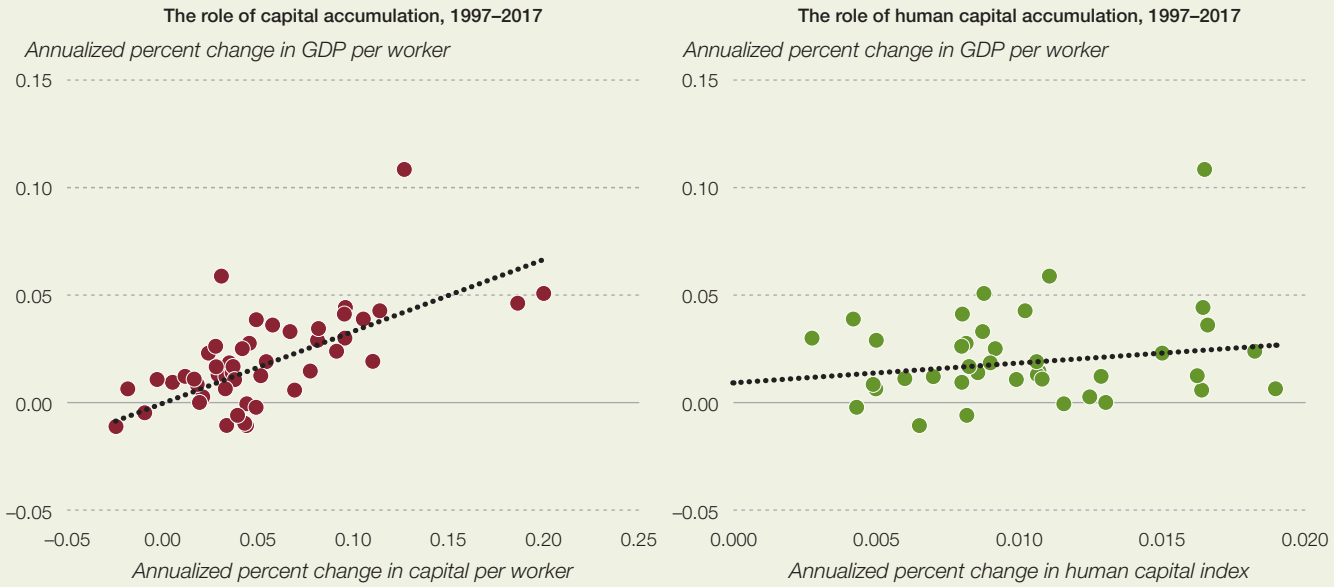
Source: Staff computations using Penn World Tables.

worker and GDP per capita over the same period. But in growth terms, human capital accumulation in 1997–2017 was much less strongly correlated with growth in GDP per worker than physical capital (figure 1.16).

But the complementarity between physical and human capital appears to have played a strong role in explaining patterns of growth. The association between human capital growth and GDP per worker increase was much more robust in the 20 countries that had above-median growth in their physical capital stock than in those with below-median physical capital stock growth (figure 1.17).

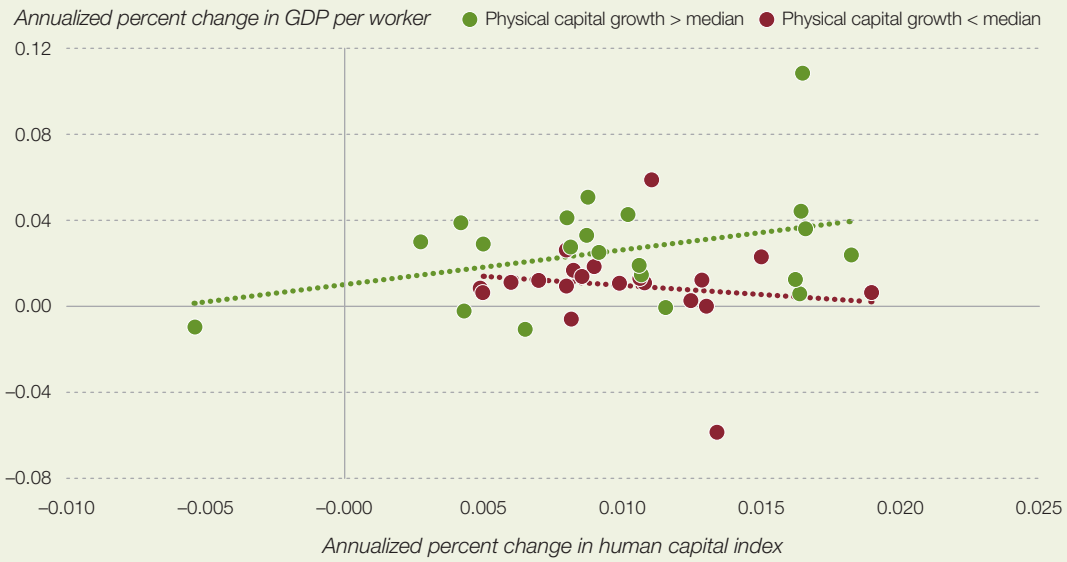
Physical and human capital thus appear to be complementary drivers of improvements in worker productivity in recent decades, consistent with Hulten's (2017) reflections on development accounting. This relationship holds within Africa, as shown in figure 1.17, which plots the long-run growth specification, from 1997 to 2017, distinguishing countries that experienced above-median physical capital growth during the period from those experiencing below-median physical capital accumulation. The former group also witnessed a stronger association between growth in

FIGURE 1.16 Human capital was much less strongly correlated with the growth in GDP per worker than physical capital, 1997–2017



Source: Staff computations using Penn World Tables.

FIGURE 1.17 **Physical and human capital growth appear to be complementary in driving improvements in worker productivity, 1997–2017**



Source: Staff computations using Penn World Tables.

GDP per worker and growth in the human capital per worker index: the macroeconomic returns to increased years of schooling, in terms of measured productivity per worker, appear to be significantly higher in countries where the stock of physical capital also increased at the same time.

Over the recent period, growth in physical capital per worker and human capital appear to have been negatively correlated. This could result from limited government spending on education and infrastructure. Because the capital stock did not rise sufficiently to increase the marginal product of higher-skilled labor, capital–skill complementarity may have dampened the growth in productivity per worker, despite substantial improvements in the average years of schooling.

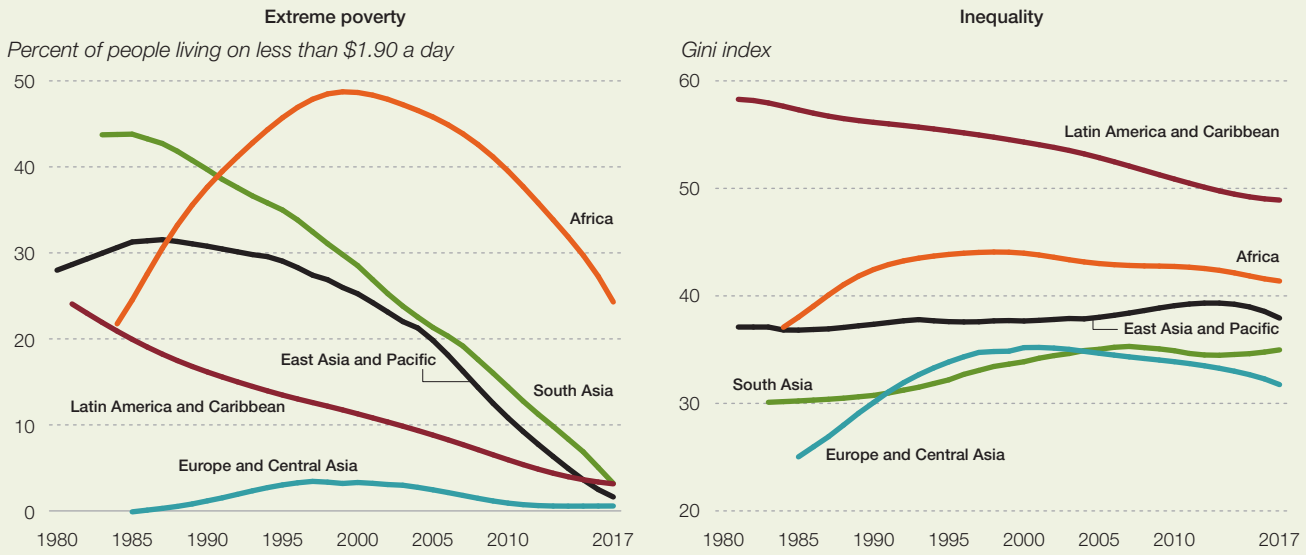
HAS AFRICA'S GROWTH BEEN INCLUSIVE?

Between 2000 and 2014, Africa achieved one of its longest episodes of sustained economic growth since the 1960s. And despite a sluggish global economy after 2014, Africa's growth has remained resilient. But what really matters for the populations is not only the level of growth (quantity of growth) but also its quality: has Africa's growth performance been equitable and inclusive? Although many countries have experienced strong growth episodes, relatively few have posted significant declines in extreme poverty and inequality, which remain higher than in other world regions (figure 1.18).[13]

Growth is generally considered inclusive if its benefits are widely shared across all the segments of the population—that is, if it simultaneously reduces extreme poverty and inequality. Growth will reduce poverty if the mean income or consumption of the poor rises and inequality if the welfare of the poor grows faster than that of the rest of the country. Graphically, inclusive growth can be illustrated using a growth incidence curve that captures the annualized growth rate of per capita consumption for every percentile of the distribution between two points in time.[14] We analyze inclusive growth both in absolute and in relative terms. In absolute terms, growth will be inclusive if it increases the mean consumption of the poor (pro-poor growth), irrespective of the average growth of the entire population. In relative terms, inclusive growth implies that the mean consumption of the poor increases more proportionately

Although many countries have experienced strong growth episodes, relatively few have posted significant declines in extreme poverty and inequality

FIGURE 1.18 Extreme poverty and inequality are higher in Africa than in other world regions, 1980–2017

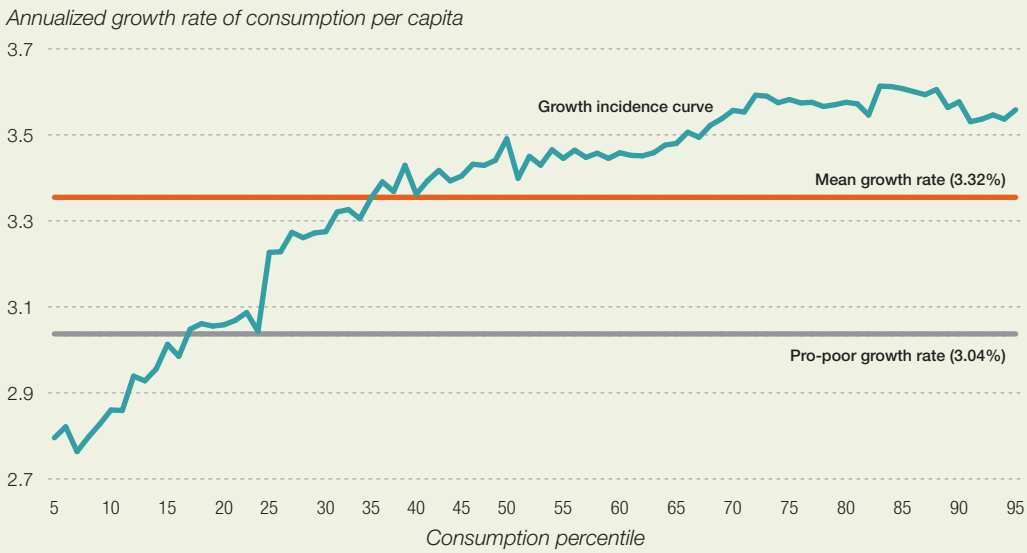


Source: Staff computations based on World Bank data.

than the overall consumption in a country, leading to a negatively sloped growth incidence curve (pro-poor and inclusive growth).[15]

On average, between 2000–05 and 2010–16,[16] the consumption of Africa's poor has been growing slower than the average population (figure 1.19). In

FIGURE 1.19 Africa's growth incidence curve between subperiod 1 (2000–05) and subperiod 2 (2010–16)



Note: The reported growth incidence curve is truncated at the 5th and 95th percentiles.
Source: Staff computations using PovcalNet data.

fact, while the average per capita consumption on the continent has been growing at 3.32 percent a year over the two subperiods, the pro-poor growth rate reached only 3.04 percent. So, although poor populations have benefited from the continent's unprecedented economic growth between 2000 and 2016, their consumption growth has not been fast enough to help them catch up with the average or richer segments of the populations. Rich households have seen their living standards increase much faster than those of poor populations: consumption of the poorest 20 percent grew only 2.9 percent a year, compared with 3.5 percent for the richest 20 percent. In addition, since inequality remains high in Africa and has leveled off since the 2000s, the growth of most African countries can be described only as inequality (or distribution) neutral.

Growth has been inclusive in only a few countries…

Growth has been inclusive in only 18 of 48 African countries with data, leading to faster average consumption for the poor and lower inequality between different population segments (table 1.1).[17] In these countries, the average rate of pro-poor growth reached 3.6 percent a year against 1.5 percent for the average population, inducing reductions in both poverty (0.7 percent a year) and inequality (0.5 percent a year). But considering only countries where the average consumption growth was positive between 2000 and 2017, only 12 of 37 achieved inclusive growth.[18] This suggests that, despite faster growth for most countries since 2000, increases in the living standards of poor populations in most countries have not significantly reduced the consumption gap between rich and poor.

…while some countries have improved the inclusiveness of their growth

To get insights on progress by African countries to improve the inclusiveness of their growth, the period 2000–17 is subdivided into two subperiods (2000–05 and 2010–17), keeping only countries having surveys at least five years apart (to allow enough time for changes).[19] In Benin and Zambia, growth was neither pro-poor nor inclusive in both periods, while Egypt remained the only country with a pro-poor but noninclusive growth in each subperiod (table 1.2). Only seven African countries had both pro-poor and inclusive growth in each subperiod. Côte d'Ivoire, Djibouti, and Togo improved the inclusiveness of their growth, while Ghana, Liberia, Madagascar, and Niger had growth that was pro-poor and inclusive in the first subperiod, but anti-poor and noninclusive in the second.

Increases in the living standards of poor populations in most countries have not significantly reduced the consumption gap between rich and poor

TABLE 1.1 Poverty, inequality, and growth's inclusiveness, 2000–17

	Number of countries	Mean consumption growth rate (percent)	Rate of pro-poor growth (percent)	Annualized poverty growth (percent)	Annualized Gini growth (percent)
Pro-poor but noninclusive growth	22	2.69	0.73	–0.84	0.82
Pro-poor and inclusive growth	18	1.50	3.64	–0.70	–0.49
Of which: only countries with positive mean growth	12	3.11	5.05	–1.58	–0.40
Neither pro-poor nor inclusive growth	8	–1.49	–0.03	0.02	–0.01
Average/total	48	2.01	1.82	–1.46	0.05

Note: The rate of pro-poor growth represents the average consumption growth rate of the poor. Annualized growth rates are obtained by calculating the growth rate between the latest- and first-year values. This growth rate is then annualized by dividing by the number of intervening years. Countries with pro-poor but noninclusive growth are those where per capita consumption growth of the poor is positive but lower than the average consumption growth. Countries with neither pro-poor nor inclusive growth have a pro-poor growth rate that is both negative and smaller than the average consumption growth.

Source: Staff computations based on World Bank data.

TABLE 1.2 Few countries have improved the inclusiveness of their growth

		Subperiod 2 (2005–10 and 2010–17)		
		Neither pro-poor nor inclusive growth	**Pro-poor but noninclusive growth**	**Pro-poor and inclusive growth**
Subperiod 1 (2000–05 and 2005–10)	**Neither pro-poor nor inclusive growth**	Benin, Zambia	Cameroon, Ethiopia	Côte d'Ivoire, Djibouti, Togo
	Pro-poor but noninclusive growth	Senegal, South Africa	Egypt	Morocco, Tanzania, Tunisia
	Pro-poor and inclusive growth	Ghana, Liberia, Madagascar, Niger	Mozambique, Namibia	Botswana, Burkina Faso, Gambia, Mali, Mauritania, Rwanda, Uganda

Note: For each country, we use three surveys available between 2000 and 2017, with each survey at least five years apart from the others: the first survey took place between 2000 and 2005, the second between 2005 and 2010, and the last between 2010 and 2017.

Source: Staff computations based on World Bank data.

African countries have much to gain from improving education to achieve inclusive growth

EDUCATION, STRUCTURAL CHANGE, AND INCLUSIVE GROWTH

While there is no broad agreement on the basic policies for fostering inclusive growth, human capital (especially education) and the creation of jobs in high-productivity sectors have been consistently found to play a key role.[20]

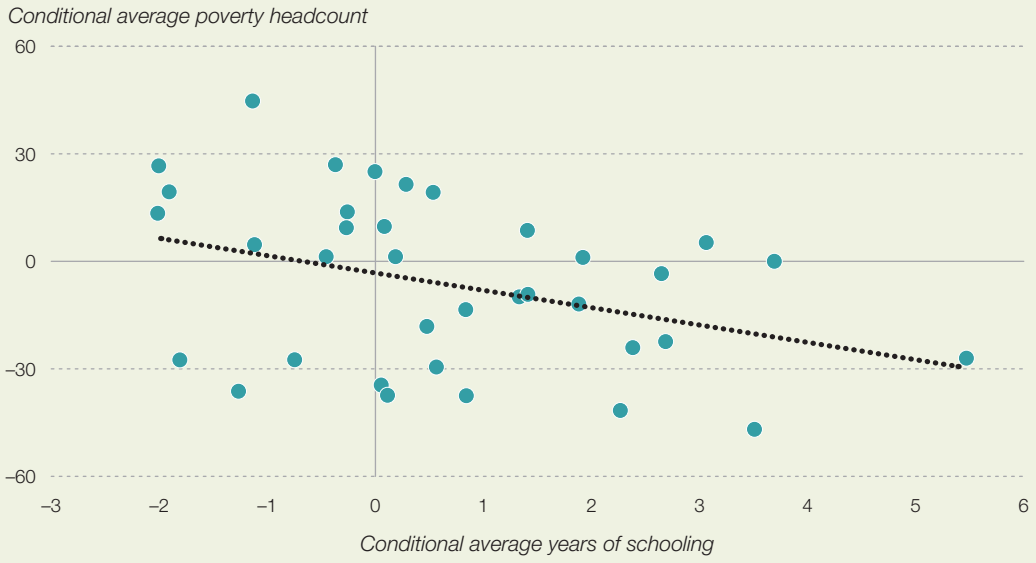
Education matters in addressing poverty and inequality

Using average years of schooling to approximate education quantity, the association between poverty and years of schooling is negative (figure 1.20). African countries with higher average years of schooling are also characterized by lower levels of poverty, after accounting for initial GDP. This correlation remains significant even when using initial and average (unconditional) years of schooling. In addition, other education indicators such as government spending on education and the enrollment rates in primary, secondary, and tertiary education are negatively associated with poverty, suggesting important linkages between education and poverty (figure 1.21). From a theoretical point of view, education can reduce poverty by increasing the stock of human capital of the population, inducing higher labor productivity and subsequently faster growth and lower poverty.

African countries have much to gain from improving education to achieve inclusive growth. But many education indicators have stagnated and even deteriorated, and without a rapid acceleration of progress, the continent will remain off track to achieve key education commitments by 2030. Dropout and out-of-school rates are higher in Africa than in other world regions. And on current trends, Africa will fail to bring all children to school by 2030.[21] Among African children of primary school age (typically 6–11 years), on average 14.7 percent were out of school over 2015–18, as were 31.9 percent of adolescents of lower secondary school age (12–14 years) and 50.2 percent of youth of upper secondary school age (15–17 years).

Beyond its poverty-reducing effect, building human capital can also reduce inequality. Higher educational attainment and lower inequality in education can reduce income inequality.[22] By fostering social mobility, education gives greater opportunity to people to change their social status with better earning opportunities than their parents (see annex 1.4). African countries with a larger share of secondary or higher educated populations have lower wealth inequality (figure 1.22). This negative correlation is stronger for the bottom 40 percent (orange line) than for the top 40 percent (blue line), and the overall correlation is driven more by the effect from the highest wealth segment.

FIGURE 1.20 African countries with higher average years of schooling also have lower levels of poverty, 2000–17



Note: The figure reports conditional (residualized) average poverty headcount and average years of schooling. Both average poverty headcount and years of schooling were first regressed over the initial GDP to account for potential convergence effects between countries. Only the residuals of these regressions are used in the figure.
Source: Staff computations using various sources.

High income inequality can be explained partly by high education inequality

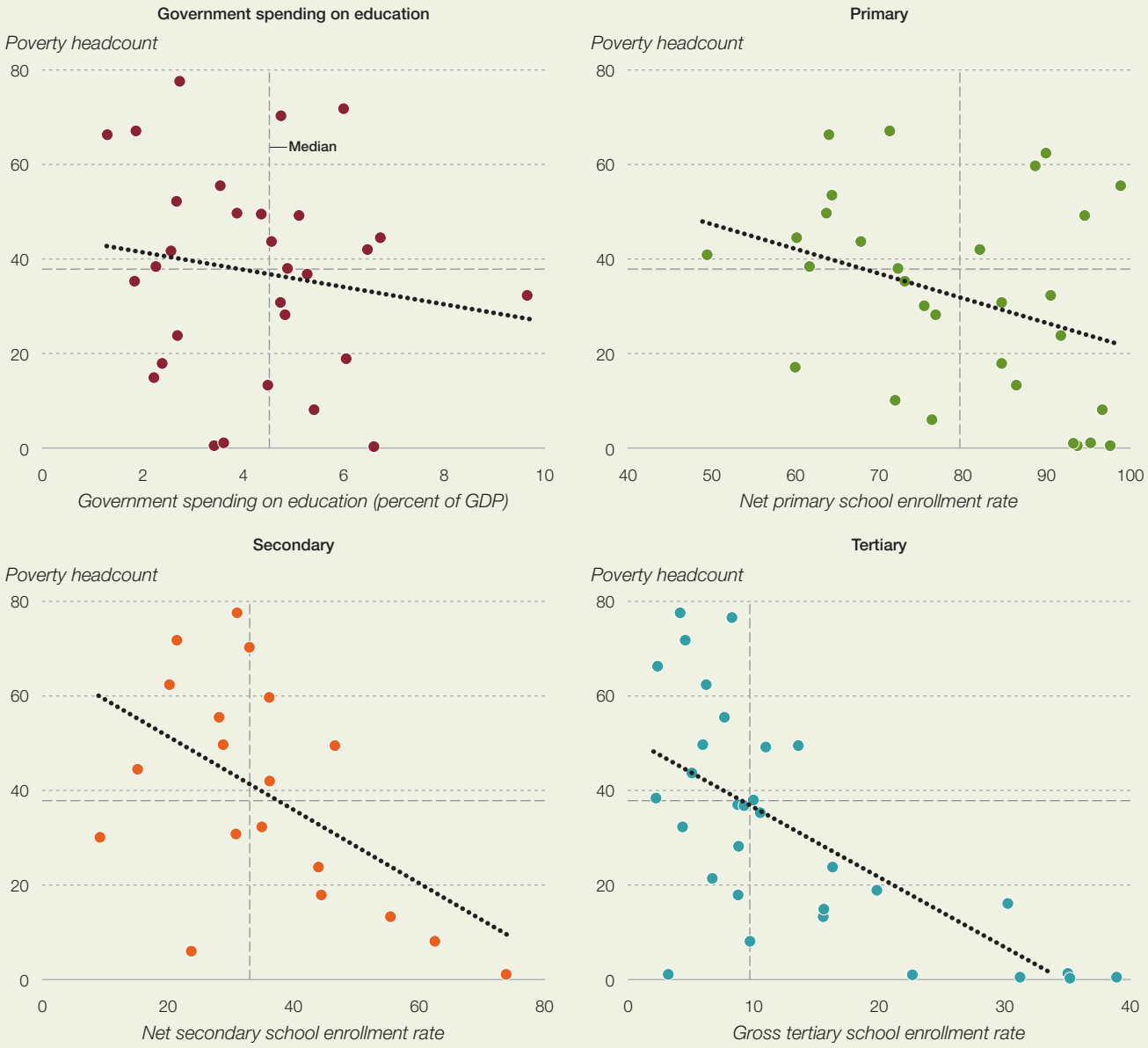
How much could poverty or inequality be reduced with improvements in education? Between 13 percent and 26 percent of the cross-country poverty variation can be explained by education, either the gap in returns to education and education premium between the bottom 40 percent and the highest 40 percent, or the mean years of schooling (table 1.3).[23]

Higher earning premiums on education reduce inequality

High income inequality can be explained partly by education inequality (unequal access to education) and unequal earning opportunities between the bottom and top segments of the wealth distribution. Indeed, additional education in the bottom 40 percent does not give the same opportunity of earning better income as in the top 40 percent (figure 1.23).[24] In addition, the gap in access to education between the bottom and highest segments has been consistently high since 1985. In most countries, the returns to education and the education premiums are much higher for the top 40 percent than for the bottom 40 percent. A few countries—such as Ethiopia, Namibia, and Uganda—exhibited a reverse pattern.

The negative correlation between the returns to education in the bottom 40 percent and the overall wealth inequality supports the assertion that countries with higher returns to education in the bottom 40 percent tend to have lower inequality in the wealth distribution (figure 1.24, left panel). When considering countries with longer spells (10 years on average), countries with higher initial returns to education in the bottom 40 percent tend to achieve greater reductions in their wealth inequality. These two correlations suggest that higher returns to education in the bottom segment is an important factor in the way education affects inequality and poverty in Africa. And the gap in returns to education between the bottom and the highest segments may be lowering the education effect on the continent. This gap can be reduced by providing equal access to quality education and promoting equal job opportunities for populations in different wealth groups.

FIGURE 1.21 Government spending on education and enrollment rates in primary, secondary, and tertiary education are negatively associated with poverty, 2000–17



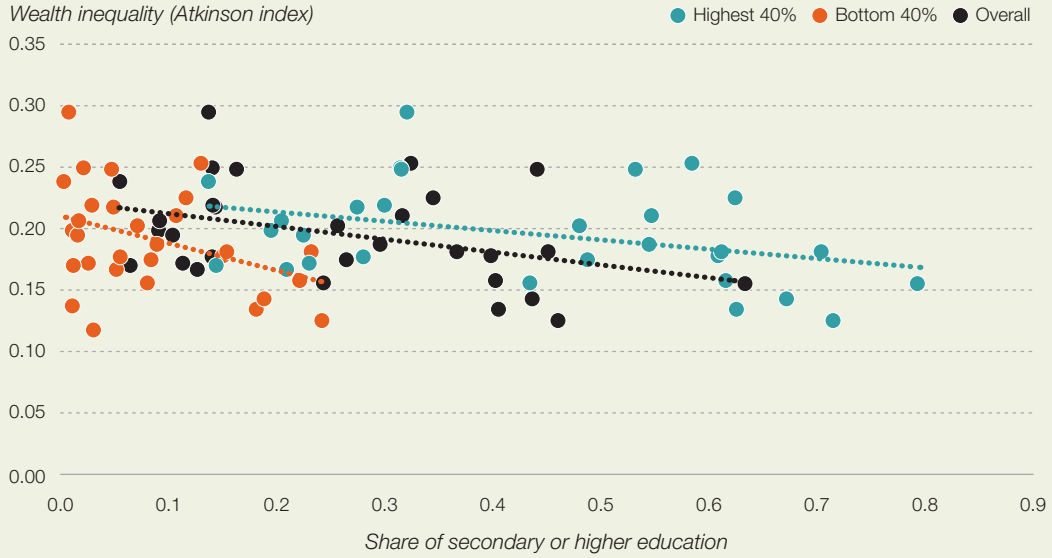
Note: The dotted line refers to the fitted linear regression between poverty and education indicators. Dashed horizontal and vertical lines refer to the sample median values.

Source: Staff computations based on PovcalNet and World Development Indicators data.

Increasing the pace of structural change would reduce poverty

Structural change is a key driver of economic growth and entails both within-sector productivity growth and cross-sector labor movement. To get insights into the effect of structural change on poverty, table 1.4 simulates different paths of structural transformation and analyzes their differential effects on poverty trends, assuming a 2–3 percentage point growth in the contribution of manufacturing to GDP for 11 African countries.[25]

FIGURE 1.22 African countries with larger secondary and higher educated populations have lower wealth inequality, 2011–15



Source: Staff computations using Demographic Health Survey data.

TABLE 1.3 Poverty and inequality decomposition by education

	Wealth inequality—Atkinson index (percent)	Poverty (headcount percent)	Consumption Gini (percent)
Returns to education and education premium	21	20–26	20–32
Returns to education gap between the bottom 40 percent to the top 40 percent	18	13	—
Mean years of schooling		18	—

Note: — indicates that data are unavailable.

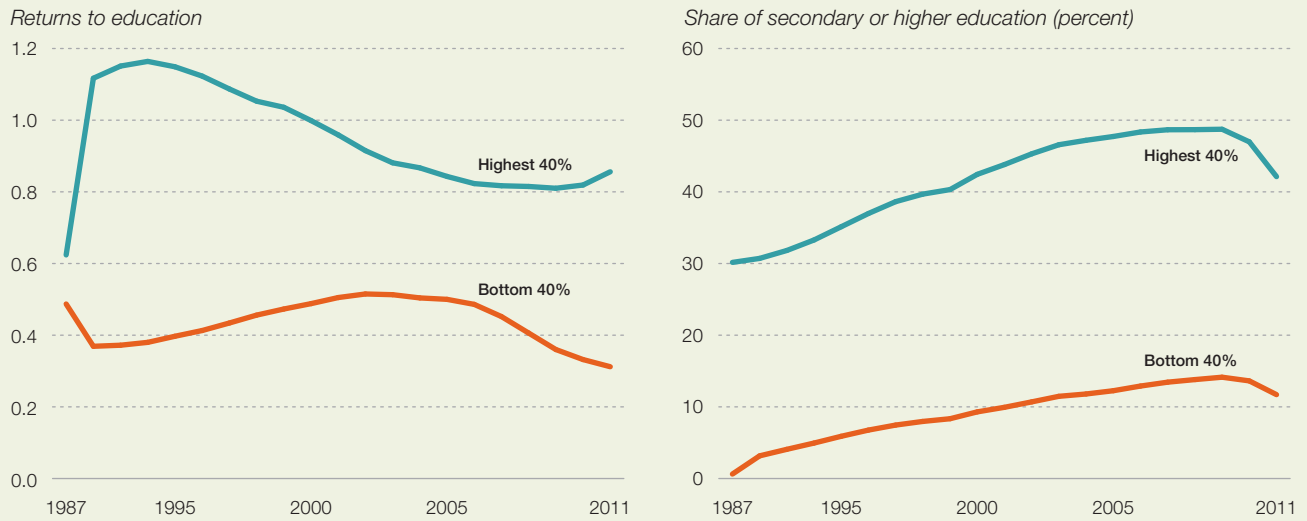
Source: Staff computations, using a variance decomposition to decompose the cross-country variation.

In the baseline model (sectoral growth rate equal to the historical performance of each country in the period of simulation), all countries would have reduced poverty—from 0.8 percent in Malawi to 9 percent in Egypt. The simulation of cross-sector labor mobility (employment shift from agriculture to either industry or services, while keeping constant within-sector productivity) shows that in the majority of the countries, labor mobility to industry or services sectors would have more impact on poverty than the status quo, though the difference is less than 1 percentage point in both cases.

Two main ingredients could drive the effects of labor mobility: the initial size of agriculture in employment and the productivity of the receiving sector. In countries with a large agriculture sector, as in most African countries, labor mobility to services or industry tends to reduce poverty more than in the baseline model, and this effect is greater when the receiving sector is growing faster than agriculture. Finally, when assuming both labor mobility and an additional 2 percentage points in productivity growth, the effects on poverty increase but are larger when labor mobility is toward services than industry.

Two main ingredients could drive the effects of labor mobility: the initial size of agriculture in employment and the productivity of the receiving sector

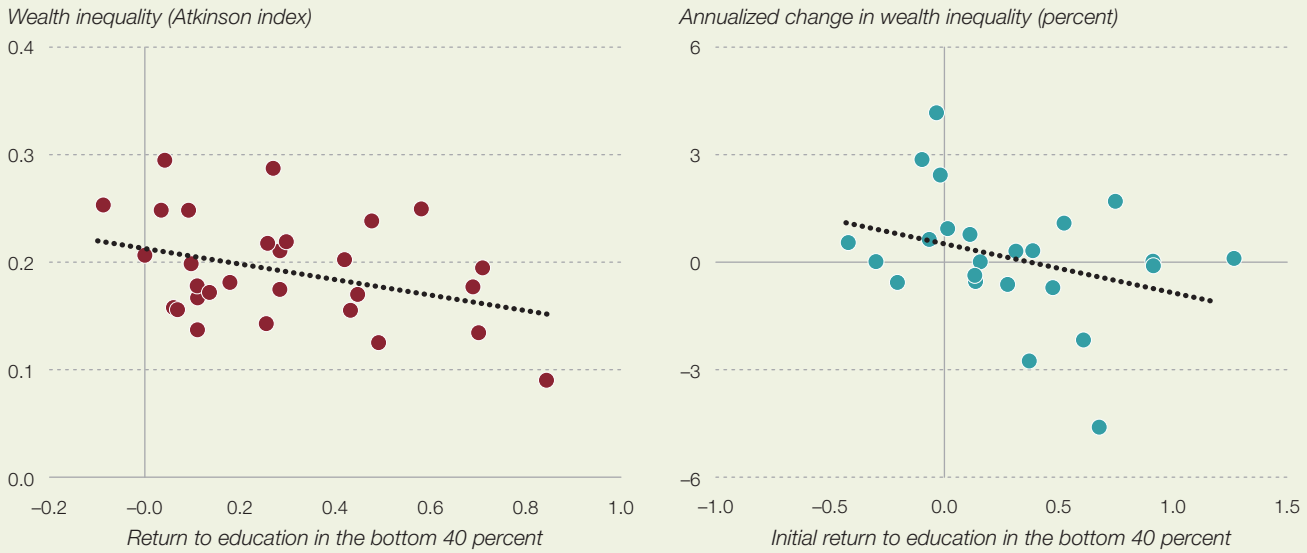
FIGURE 1.23 The gap in the returns to education and the education premium is wide between the bottom 40 percent and the top 40 percent, 1987–2011



Note: The returns to education were estimated by replacing wages in the Mincerian type regressions by a wealth index (see endnote 23). They represent the impact of one additional year of schooling on the wealth index.

Source: Staff computations using Demographic Health Survey data.

FIGURE 1.24 Countries with lower wealth inequality tend to have higher returns to education



Source: Staff computations using Demographic Health Survey data.

Given the importance of structural change in stimulating poverty reduction and ensuring growth inclusiveness in Africa, governments should aim at accelerating its momentum. Improving education quantity and quality is considered a key factor.[26] When the human capital index is correlated with both sectoral employment shares and sectoral contributions to GDP, countries with a higher human

TABLE 1.4 Structural change and poverty reduction simulations between 2006 and 2016

	Agriculture share (percent)				Labor mobility		Labor mobility and productivity increase		
	In GDP	In employment	Actual poverty reduction	Baseline reduction	Services	Industry	Services	Industry	Services and industry
Egypt	12	28	–10.49	**–9.1**	–10.3	–10.2	–12.9	–11.1	–11.1
Ghana	25	47	–5.40	**–9.1**	–9.3	–9.7	–11.5	–10.0	–10.3
Senegal	14	38	—	**–5.9**	–5.9	–6.6	–9.3	–7.3	–8.0
Rwanda	29	74	–1.87	**–5.0**	–5.8	–4.4	–6.3	–5.3	–5.7
Tanzania	26	70	–4.85	**–4.1**	–5.4	–4.8	–5.9	–5.1	–5.5
Nigeria	23	40	—	**–4.1**	–5.3	–5.5	–7.0	–4.2	–4.2
South Africa	2	5	—	**–3.5**	–3.6	–3.6	–3.8	–3.6	–5.0
Togo	34	37	–1.35	**–3.1**	–4.8	–4.7	–6.2	–5.1	–5.6
Mali	35	66	–0.99	**–1.5**	–1.7	–1.2	–2.0	–1.8	–1.8
Uganda	24	71	–2.71	**–1.2**	–2.0	–1.5	–2.6	–1.8	–2.2
Malawi	29	73	–0.36	**–0.8**	–1.1	–0.9	–1.3	–0.9	–1.1

Source: Staff computations using household surveys.

capital index tend to have more shifts of employment from agriculture to services and industry and larger contributions of secondary and tertiary sectors to country GDP (figures 1.25 and 1.26).

PATHWAYS TO ENDING EXTREME POVERTY IN AFRICA

While African countries have made commendable efforts in fighting extreme poverty, there is room for improvement, particularly if the continent aims to meet the Sustainable Development Goal of ending extreme poverty by 2030 ($1.90 a day). Ten years on the way to the 2030 deadline, it is time to check whether African countries remain on track to achieve their poverty commitments and how targeting growth inclusiveness could help accelerate the pace.

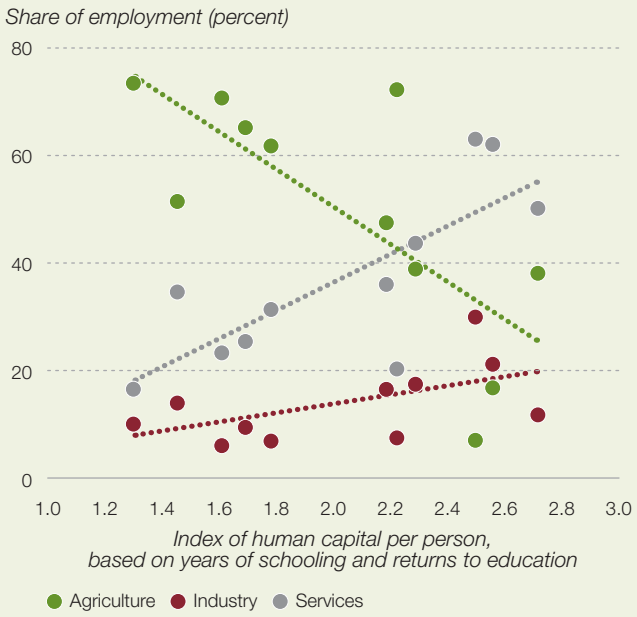
The scenarios explored here are as follows. In the baseline scenario, a country's average per capita consumption grows according to its average annualized growth rate of GDP per capita between 2008 and 2018 without changes in consumption inequality. In the alternative scenario 1, the average per capita consumption grows according to the projected average GDP per capita growth between 2018 and 2030 without changes in consumption inequality. In the alternative scenario 2 ("best case" scenario), the average per capita consumption growth is 2 percentage points higher than growth projections from World Economic Outlook (WEO) and consumption growth of the poorest 40 percent is 2 percentage points higher than the average growth. In the alternative scenario 3 ("worst case" scenario), the average per capita consumption growth is 2 percentage points lower than growth projections from WEO and consumption growth of the poorest 40 percent is 2 percentage points lower than the average growth (see annex 1.3).

If historical trends persist, Africa will not eliminate extreme poverty by 2030

Under the baseline scenario (see annex 1.3), Africa would remain off track to meet the target of eradicating extreme poverty by 2030 (table 1.5). The extreme poverty rate (weighted by population) would fall from 33.4 percent in 2018 to 24.7 percent in 2030 but remain far above the 3 percent target. In this case, the number of extreme poor would fall slightly by close to 8 million people, from 429.1 million in 2018 to 421.2 million in 2030. In addition, poverty rates in all regions but North Africa are expected to remain well above the 3 percent target by 2030. Under the baseline scenario, the poverty rate will remain the highest in

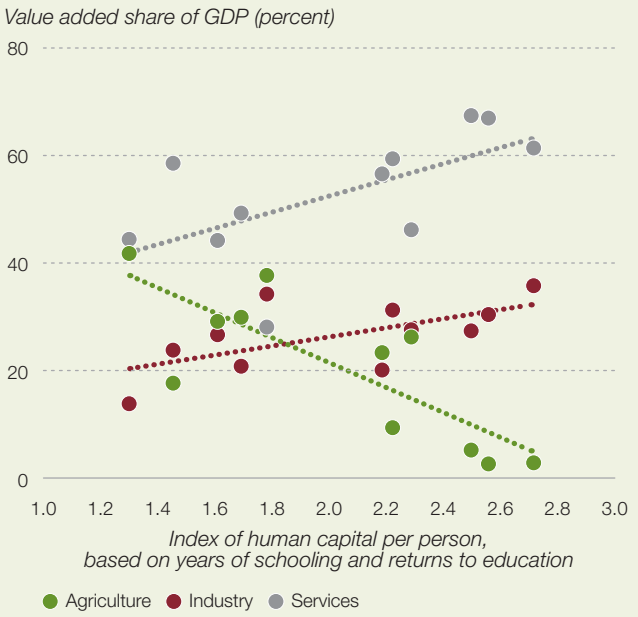
Poverty rates in all regions but North Africa are expected to remain well above the 3 percent target by 2030

FIGURE 1.25 Countries with a higher human capital index tend to have bigger shifts of employment from agriculture to services and industry…



Source: Staff computations using data from Groningen Growth and Development Centre.

FIGURE 1.26 …and larger contributions of secondary and tertiary sectors to country GDP



Source: Staff computations using data from Groningen Growth and Development Centre.

TABLE 1.5 Projected trends in extreme poverty and number of extreme poor in Africa between 2018 and 2030

	Scenario	2018	2019	2020	2025	2030
Extreme poverty rate (percent)	Baseline	33.35	32.51	31.71	27.95	24.74
	Alternative scenario 1		32.66	32.01	29.16	26.88
	Best case scenario 2		31.37	29.42	20.44	13.48
	Worst case scenario 3		34.02	34.66	37.87	40.92
Number of extreme poor (millions)	Baseline	429.10	428.69	428.50	425.11	421.15
	Alternative scenario 1		430.75	432.63	443.50	457.52
	Best case scenario 2		413.65	397.63	310.80	229.43
	Worst case scenario 3		448.59	468.38	575.98	696.55

Note: 2018 is the initial year for the simulation. Projected extreme poverty rates and numbers of extreme poor are measured using the poverty line of $1.90 a day in 2011 purchasing power parities (see annex 1.3).
Source: Staff computations based on African Development Bank, United Nations, and World Bank databases.

Central Africa, where it would fall from 55.7 percent in 2018 to 45.3 percent in 2030. Even under the best case scenario, Central Africa does not catch up with the other regions, and its poverty rate would reach 30 percent by 2030. The high poverty rate in the region is mainly driven by

Democratic Republic of Congo, which has both the biggest projected population of the region (from 84 million in 2018 to 120.4 million in 2030) and the highest rate of extreme poverty (from 69.8 percent in 2018 to 40.9 percent in 2030 in the baseline case). Under the most optimistic scenario, East Africa would reduce its rate of extreme poverty from 30.2 percent in 2018 to 6.7 percent by 2030 and West Africa from 40.0 percent to 16.1 percent.

Under alternative scenarios, extreme poverty will be reduced significantly

Under the first alternative scenario, the share of extreme poor would increase by 2.2 percentage points from the business-as-usual (baseline) scenario, from 24.7 percent to 26.9 percent, adding 36.4 million poor people with the number reaching 457.5 million in 2030 (see annex 1.3). In the best case scenario, the proportion of extreme poor would decline to 13.5 percent by 2030 (191.7 million fewer poor) but remain higher than the 3 percent target. In the worst case scenario, Africa's extreme poverty rate would increase to 40.9 percent, with 696.6 million Africans living in extreme poverty in 2030.

These projections highlight the relevance of addressing inequality and increasing average consumption. Distribution-neutral scenarios are projected to reduce the rate of extreme poverty (and the number of extreme poor) less than inequality-reducing scenarios for the same level of consumption growth. For instance, while extreme poverty would fall to 19.3 percent by 2030 if average consumption growth is 2 percentage points higher than initially projected, it would fall further to 13.5 percent (best case) if the above-average consumption growth were also accompanied by a growth premium of 2 percentage points. In this case, by reducing inequality between the poorest 40 percent and the average population, Africa would take 99.5 million people out of extreme poverty by 2030.

African countries will need more time to eradicate extreme poverty, but improving the quantity and quality of growth could accelerate the pace

Africa's per capita consumption would need to grow by 10.25 percent a year to meet the 3 percent target by 2030 (figure 1.27). This suggests that if historical trends persist, an average African country would have to more than double its average annual consumption growth between 2018 and 2030. Unless bold policy measures are implemented to improve both the quality and quantity of growth, the continent would remain off track to eliminate extreme poverty by 2030. Even under the best case, Africa would meet the 3 percent target only by 2045, 15 years after the Sustainable Development Goal 2030 cut-off year. However, Cabo Verde, Gabon, Gambia, Guinea, Mauritania, and eSwatini are already growing faster than the growth required for each of them and thus have better prospects to eradicate extreme poverty by 2030.

POLICY RECOMMENDATIONS

This chapter has shown that although Africa's growth performance has been stable and moderate over the last few decades, the quality of the growth has not been adequate. Only about a third of countries have managed to achieve inclusive growth and cater for the poor and vulnerable in society.

Africa's growth in the past two decades has disproportionately benefited the middle class and the rich more than the poor. Under business-as-usual scenarios, many countries in Africa would not achieve the Sustainable Development Goal of eradicating extreme poverty (reducing it to 3 percent) by 2030.

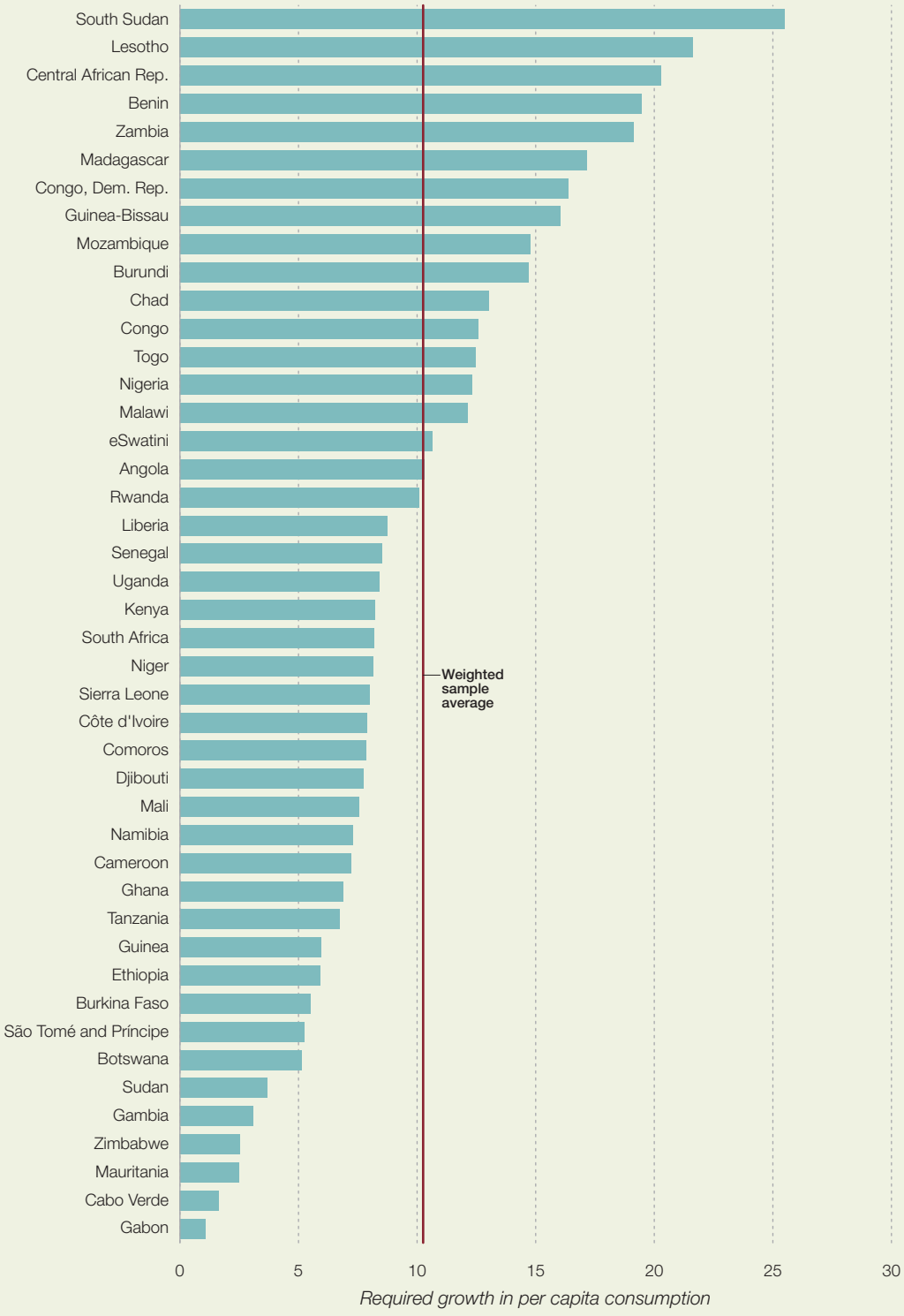
Bold and pragmatic actions are needed to accelerate progress. Policymakers need to address a combination of macroeconomic and structural rigidities to accelerate Africa's growth and to improve its quality and inclusiveness. Here are five actionable policy initiatives that can help policymakers both improve the level and the quality of Africa's growth.

Deepen structural reforms to diversify Africa's productive base and revive growth

Although the baseline growth in Africa is stable and the forecasts point to continued recovery in 2020 and 2021, the pace of growth is weaker than previously anticipated and lower than its historical

Africa's per capita consumption would need to grow by 10.25 percent a year to meet the 3 percent target by 2030

FIGURE 1.27 For the continent, per capita consumption would need to grow 10.25 percent a year to meet the 3 percent poverty target by 2030



Note: The required consumption growth is driven largely by the current level of extreme poverty, suggesting that middle-income countries are on average at the bottom of the list, requiring a relatively low growth rate.
Source: Staff computations based on African Development Bank, United Nations, and World Bank databases.

trend. Policymakers thus need to carry out deeper structural reforms that can bolster the current expansion, strengthen resilience to risks, and raise medium-term growth. Specifically, policymakers should:

- *Improve productivity by alleviating constraints in the business environment.* The results from the growth accounting show that growth in the region has been driven mainly by factor accumulation, while the contribution of total factor productivity has been limited and in some cases declining. The large and persistent gaps in output per worker between Africa and other world regions can be explained by inefficiencies in the allocation of factors by firms. Improving productivity to revive growth will require cultivating a dynamic and competitive private sector by alleviating the most binding constraints to business operations. Recent analysis by the African Development Bank shows that Africa loses close to 3 million jobs due to the low entry, early exit, and stagnation of existing firms.[27] Particularly worrisome is the "missing middle" of medium size firms. In most economies, small and large firms predominate. The main constraints limiting firm survival and growth in Africa tend to be symptoms of poor governance—poor contract enforcement, delayed court hearings, unreliable property rights, and poor infrastructure—and an inadequately educated labor force. Alleviating these constraints can help to boost productivity and revive growth.
- *Foster structural transformation and economic diversification to speed up growth.* Growth in many countries in Africa is still being driven by primary commodities, which invariably makes it volatile and vulnerable to commodity price fluctuations. Policymakers should continue to strive to diversify their economic bases away from primary commodities and expand their export base. Deliberate and carefully targeted policies that seek to migrate productive resources away from informal low-productivity sectors to formal high-productivity sectors would help increase productivity and unlock untapped growth potential in the continent.
- *Improve competitiveness by addressing exchange rate misalignments.* Policymakers should adopt exchange rate policies that are most appropriate to their economic structure and that support the drive for structural transformation.

Sustain macroeconomic stability and improve public financial management

With more challenges in the external environment, policymakers need to ensure that the gains achieved in the last two years—in macroeconomic stability, including lower inflation rates, narrowing fiscal balances, and stabilizing exchange rate fluctuations—are sustained and used as the bedrock to drive further growth and development. Fiscal policy needs to continue to be prudent to rein in the debt buildup. Monetary policy needs to continue to stimulate the economy while stemming inflation and disorderly exchange rate movements.

Monetary policy needs to continue to stimulate the economy while stemming inflation and disorderly exchange rate movements

- *Improve the quality of fiscal consolidation and create more fiscal space.* This can be achieved through increasing revenues, which is less costly than cutting expenditures. Africa still has the lowest revenue-generating capacity. The tax gap is estimated at between 3 and 5 percent of GDP, leaving much potential for most countries to improve tax effort by upgrading their tax policies and tax administration systems, creating a taxpayer identification number for each citizen, building the tax base, simplifying the tax system, and tackling exemptions and incentives.
- *Address the re-emergence of energy subsidies in many countries in response to the recovery in oil prices by refocusing subsidies,* perhaps using price modulation mechanisms, and targeting the poor and vulnerable segments of society.
- *Improve the efficiency of public investments through capacity building, strengthening expenditure governance frameworks, and proper planning and monitoring of investment projects.* The efficiency of public investments in Africa is around 65 percent, implying a 35 percent efficiency gap and that 35 cents on every dollar invested are lost to inefficiency in implementing the project. By improving governance frameworks, these high levels of inefficiency can be greatly minimized.

- *Find the right tradeoff between public debt and public development financing.* Although many countries still have huge development finance needs, striking the right balance between meeting needs and mitigating rising debt levels is important for policymakers. This Outlook maintains that there is no systemic risk of debt distress in Africa. Policymakers need to focus more on the types of development projects debt is applied to. Research from the African Development Bank has shown that when debt is used to finance much-needed human and physical capital infrastructure, it can lead to potential GDP gains of up to 10 percentage points increase in the medium term (see chapter 3). Again, what really matters about debt is the quality of investments that debt is used for and not just its level.

Policymakers should intensify efforts to build capacity and resilience to withstand weather shocks

Strengthen domestic capacity to cushion extreme weather events

Given the recent devastation as a result of extreme weather events in the continent—including storms, flooding, droughts, and tropical cyclones, coupled with the prediction of a coming wave of El Niño in 2020 and beyond—policymakers should intensify efforts to build capacity and resilience to withstand weather shocks, at macroeconomic, microeconomic, and household levels. Specific policy actions for consideration along these lines include:

- *Adopt climate-smart agricultural production techniques that are more resilient to extreme weather events.* Policymakers should encourage agricultural practices using crop varieties that are resilient to droughts and flooding. Other smart policy options include building infrastructure that can harvest and hold rainwater for the dry seasons and promoting the use of mobile technology by farmers to get weather forecasts (as in Ethiopia, Kenya, and Rwanda), thus mitigating the impacts of extreme weather events.
- *Provide platforms for contingent and aggregate risk sharing by households.* Initiatives such as the African Risk Capacity mechanism —established by the African Union as a multilateral risk-sharing mechanism to help countries insure against damage and crop failures caused by extreme weather events—can be replicated at the micro-level. Preemptive contingent risk-sharing instruments can protect households, which would be required to make small contributions to the fund and get minimum income guarantees in case of an extreme weather event.

Address obstacles to labor mobility within and between countries to enhance growth's inclusiveness

Within-sector productivity growth and cross-sector labor reallocations both reduce poverty in Africa. By simply allowing labor to move freely across sectors, African countries could increase the income of the population and reduce poverty and inequality.[28]

- *Reforming labor regulations and employment policies to ensure the free movement of labor can help countries address obstacles to labor mobility.* In addition, while labor movement within countries is less prone to restrictions, cross-border labor mobility is often discouraged on the ground of protection of local labor markets. Implementing transnational agreements such as the African Continental Free Trade Area can help remove most obstacles to the free movement of workers between countries.
- *Labor reallocations will, however, be efficient only if there are possibilities either for the transferability of skills and qualifications across sectors or for the acquisition of sets of new skills and qualifications to meet the requirements of the receiving sectors.* Since skills in low-productivity sectors are not necessarily complementary with or a substitute for those needed in high-productivity sectors, scaling up programs facilitating cross-sector skill transitions will be important.

Expand social safety nets and increase the efficiency of existing programs

If historical trends persist, it is highly implausible that African countries can eradicate extreme poverty by 2030. Social safety nets (SSNs)—in the form of conditional cash transfers, social protection programs, or targeted subsidies that address spatial, gender, and education inequality—can complement country efforts to tackle poverty

and inequality. Sub-Saharan Africa spends about 1.5 percent of its GDP on SSN programs, behind Europe and Central Asia with 2.2 percent.[29] By comparing beneficiary welfare before and after SSN transfers, empirical studies have found significant effects of transfers on poverty. In 79 countries with data, SSN transfers have been estimated to reduce the incidence of absolute poverty by 36 percent and relative poverty (the bottom 20 percent) by 8 percent. In South Africa, it has been estimated that the poverty headcount of SSN beneficiaries fell by 40 percent compared with nonbeneficiaries, in Liberia by 2.5 percent, and in Chad by 0.1 percent. Clearly, better planning, execution, and monitoring of existing programs can do much to tackle poverty and inequality.

ANNEX 1.1 ASSUMPTIONS OF THE AEO FORECAST

In producing the forecasts for growth and other macroeconomic variables, a number of common assumptions were made and incorporated into the African Economic Outlook model in addition to several country-specific assumptions:

- Oil prices at the international market would sell at an average of $63 per barrel in 2020 and $63.5 dollars per barrel in 2021 (based on IMF WEO).
- Real domestic demand would grow by 1.5 percent and 1.4 percent in the eurozone for 2020 and 2021, respectively, and by 1.9 percent in 2020 and 2 percent in 2021 for the rest of the world (based on OECD projections).
- Inflation would remain below target in the eurozone at 1.5 and 1.6 percent in 2020 and 2021, but would inch higher for the rest of the world at 2.1 and 2.2 percent for 2020 and 2021.

All assumptions are considered working hypotheses rather than forecasts, and the uncertainties surrounding them add to the error margins of the projections contained in the Outlook.

TABLE A1.1.1 Classification of countries by economic characteristics

Oil exporters	Other-resource exporters	Nonresource exporters	Fragile countries	Nonfragile countries
Algeria	Botswana	Benin	Burkina Faso	Algeria
Angola	Burkina Faso	Burundi	Central African Republic	Angola
Cameroon	Central African Republic	Cabo Verde	Chad	Benin
Chad	Democratic Republic of Congo	Comoros	Comoros	Botswana
Congo	Ghana	Côte d'Ivoire	Congo	Burundi
Egypt	Guinea	Djibouti	Côte d'Ivoire	Cabo Verde
Equatorial Guinea	Liberia	Eritrea	Democratic Republic of Congo	Cameroon
Gabon	Mali	Ethiopia	Djibouti	Egypt
Libya	Namibia	Gambia	Eritrea	Equatorial Guinea
Nigeria	Niger	Guinea-Bissau	Guinea	Ethiopia
South Sudan	Sierra Leone	Kenya	Guinea-Bissau	Gabon
	South Africa	Lesotho	Liberia	Gambia
	Sudan	Madagascar	Madagascar	Ghana
	Tanzania	Malawi	Mali	Kenya
	Zambia	Mauritania	Mozambique	Lesotho
	Zimbabwe	Mauritius	São Tomé and Príncipe	Libya
		Morocco	Sierra Leone	Malawi
		Mozambique	Somalia	Mauritania
		Rwanda	South Sudan	Mauritius
		São Tomé and Príncipe	Sudan	Morocco
		Senegal	Togo	Namibia
		Seychelles	Zimbabwe	Niger
		Somalia		Nigeria
		eSwatini		Rwanda
		Togo		Senegal
		Tunisia		Seychelles
		Uganda		South Africa
				eSwatini
				Tanzania
				Tunisia
				Uganda
				Zambia

ANNEX 1.2 DEVELOPMENT ACCOUNTING FOR AFRICA

We perform a development accounting exercise for Africa. We start from a Cobb-Douglas, constant returns to scale, aggregate production function for each country:

$$Y_{it} = A_{it}K_{it}^{\alpha K}(H_{it}L_{it})^{\alpha L}$$

satisfying $\alpha_L + \alpha_K = 1$. L_{it} corresponds to total employment, H_{it} is a human capital index computed from mean years of schooling in the population,[30] and K_{it} is a measure of the capital stock.[31] A_{it} is a structural measure of total factor productivity where: $H_{it} = e^{A_t + A_i + \varepsilon_{i,t}}$, so that we rewrite the production function in log terms, defining $EL_{it} = H_{it}L_{it}$ as equipped labor:

$$\ln(Y_{i,t}) = A_t + A_i + \alpha_K \ln(K_{i,t}) + \alpha_L \ln(EL_{i,t}) + \varepsilon_{i,t}$$

This corresponds to a level regression of GDP on production factors, with time and country fixed effects, where A_t represents the worldwide country-invariant component of TFP, and A_i the country-specific, time-invariant component. Table A1.2.1 shows results for this specification across various samples: for the world or Africa only, and for 1970–2017 or 1980–2017 only.

Given the results, we use $\alpha_K = 0.4$ and $\alpha_L = 0.6$ as the baseline calibration, consistent with constant returns to scale and traditional growth accounting. One can then infer TFP as:

$$A_{it} = \frac{Y_{it}}{K_{it}^{\widehat{\alpha K}}(H_{it}L_{it})^{\widehat{\alpha L}}} = \frac{Y_{it}}{K_{it}^{0.4}(H_{it}L_{it})^{0.6}}$$

Long-term drivers of growth can be backed out from the estimated production function, which assumes common returns to labor and human capital. Estimated $\widehat{\alpha_L}$ and $\widehat{\alpha_K}$ allow us to compute the relative contribution of each term to GDP growth in Africa. Given the Cobb-Douglas production function, TFP growth is the residual GDP growth not explained by the rise in physical capital, employment, or human capital.[32] We then perform a growth decomposition between labor, human and physical capital, and TFP, using $\widehat{\alpha_L} = 0.6$ and $\widehat{\alpha_K} = 0.4$, for all nonoverlapping five-year growth spells from 1987 to 2017.

Including an interaction term between the growth in physical and human capital

Going beyond the Cobb-Douglas specification, we include an interaction term between the growth in physical and human capital, allowing for capital-skill complementarity.[33] We run "growth regressions" in annualized terms, for each five-year period from 1997 to 2017 in a sample of 144 economies, as follows:

$$g_{i,t,t+n} = [\ln(Y_{i,t+n}) - \ln(Y_{i,t})]/n = \alpha + \gamma_t + \beta_K g_{i,K,t,n} + \beta_L g_{i,L,t,n} + \beta_H g_{i,H,t,n} + \eta g_{i,H,t,n} \times g_{i,K,t,n} \varepsilon_{i,t,n}$$

The results confirm a traditional finding in the growth accounting literature: physical capital is a more robust driver of growth in measured output per worker than human capital. The correlation of growth with human capital is not statistically distinguishable from zero. Including an interaction term for growth in physical and human capital, however, suggests systematic support for complementarity between human and physical capital growth. When including such an interaction term (table A1.2.2), *growth in human capital* has a stronger impact on *GDP per worker growth* when *physical capital growth* is higher, making both complements in our estimated production functions,[34] and suggesting that improvements in education have higher returns where the available stock of capital allows workers to put to their best use the skills they acquire. The estimated interaction term is consistent in magnitude for all countries or for Africa only, although it is more noisily estimated in the subset of African economies.

TABLE A1.2.1 Level regressions, main specifications

	All countries, 1970–2017	Africa, 1970–2017	All countries, 1980–2017	Africa, 1980–2017
Capital stock	0.444**** (0.0439)	0.408**** (0.0714)	0.408**** (0.0455)	0.373**** (0.0678)
Equipped labor	0.169*** (0.0514)	0.596*** (0.197)	0.297**** (0.0708)	0.690*** (0.224)
Year fixed effects	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes
Adjusted *R*-square	0.985	0.965	0.987	0.968
Observations	6,341	1,811	5,313	1,558
Clusters	144	41	144	41

Note: Standard errors are in parentheses, clustered at the country level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$, **** $p < 0.001$.

TABLE A1.2.2 Growth regressions, 1997–2017, with an interaction

	All countries			Africa only		
	Output (model 1)	Output (model 2)	Output per worker	Output (model 1)	Output (model 2)	Output per worker
Employment	0.588**** (0.0939)	0.591**** (0.0964)		0.766** (0.306)	0.874*** (0.277)	
Physical capital	0.349**** (0.0461)	0.207*** (0.0747)		0.310*** (0.0916)	0.0558 (0.133)	
Human capital	–0.0612 (0.303)	–1.207** (0.544)	–1.202*** (0.429)	0.374 (0.491)	–1.770 (1.162)	–1.294 (0.841)
K × H interaction		**14.26* (7.262)**			**25.44 (16.00)**	
Capital per worker			0.155* (0.0808)			0.00731 (0.140)
K/L × H interaction			**19.96** (8.096)**			**29.54* (17.15)**
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted *R*-square	0.394	0.403	0.307	0.240	0.270	0.240
Observations	576	576	576	164	164	164
Clusters	144	144	144	41	41	41

Note: Standard errors are in parentheses, clustered at the country level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$, **** $p < 0.001$.

ANNEX 1.3 SCENARIOS FOR ELIMINATING POVERTY BY 2030

The section uses data from 50 African countries to simulate a set of scenarios for poverty projections between 2018 and 2030 under different growth and inequality assumptions. For each country, we take the latest available data on per capita consumption provided by World Bank's PovcalNet database. If the latest available data are prior to 2018, we first bring the data to 2018 by assuming that per capita consumption had changed following the country's growth rate of real per capita GDP without affecting the consumption distribution.

The different scenarios are summarized in table A1.3.1. Our baseline scenario assumes that the average consumption per capita in each country will grow according to the country's average annualized growth rate of GDP per capita between 2008 and 2018 without changes in consumption inequality (distribution-neutral growth). Our first alternative scenario considers that each country will now grow according to its average GDP per capita growth (projected by the IMF WEO) between 2018 and 2030 while keeping unchanged consumption inequality.[35] In our alternative scenarios 2 and 3, we relax the distribution-neutral assumption and assume both inclusive and noninclusive scenarios. Under the inclusive growth scenario ("best case" scenario), the average per capita consumption growth is 2 percentage points higher than growth projections from WEO and consumption growth of the poorest 40 percent (growth premium) is 2 percentage points higher than the average growth.[36] Finally, under the noninclusive growth scenario ("worst case" scenario), average consumption grows 2 percentage points slower than WEO projected growth and the consumption of the poorest 40 percent grows by 2 percentage points lower than the mean for the population.

TABLE A1.3.1 Scenarios for poverty projections in Africa between 2018 and 2030

		Alternative scenarios		
Assumptions on:	**Baseline scenario**	**Alternative scenario 1**	**Alternative scenario 2 ("best case" scenario)**	**Alternative scenario 3 ("worst case" scenario)**
Per capita consumption	Average annualized growth rate of GDP per capita between 2008 and 2018	Average projected per capita GDP growth between 2018 and 2030	Alternative scenario 1 plus 2 percentage points increase in per capita consumption growth	Alternative scenario 1 minus 2 percentage points increase in per capita consumption growth
Inequality	No change in inequality	No change in inequality	Plus 2 percentage points premium of the poorest 40 percent	Minus 2 percentage points premium of the poorest 40 percent

Note: Plus (minus) 2 percentage points premium means that per capita consumption growth of the poorest 40 percent is 2 percentage points higher (lower) than the average per capita consumption growth in the country.

ANNEX 1.4 EDUCATION AND STRUCTURAL CHANGE WITHIN AND BETWEEN GENERATIONS

What is the probability of a head of a household working in the nonagriculture sector if his father was in agriculture? Household data from Ethiopia were used to construct household-level datasets, with information on the head and his biological parents—age, education level, sector of activity, and urban or rural place of residence. A dummy variable took the value 1 if the household head is in services or industry and his father was in agriculture. A logistic regression of this dummy was run on the dummy of education levels—primary and more than primary (secondary and tertiary)—controlling for the place of residence and the head's age.

The regression coefficients can be converted into odds ratios by computing their exponential. Everything else been equal, the odds of a household head working in a nonagriculture sector while his father was in agriculture is almost 20 times higher if he had a secondary or tertiary degree, and three times higher if he only had primary education (table A1.4.1). Living in the urban sector increases the head's chance to work outside agriculture even if the parents are in agriculture: the odds ratio is 45. The results do not change when parents' education is controlled for. The effect of age is negative and significant, but we cannot interpret this as a reduction in the probability of intergenerational structural change. Asserting that would require knowing the household head's age when he decided to make the change, but that is unknown here. If the same model is run with the sample household living in rural and urban areas, the effect of primary education is lower in the rural area (odds ratio of 1.7) than the urban one (4), but secondary and higher education in the rural area give more chances to switch to nonagricultural work than in an urban area. This suggests that primary education in rural areas is not enough to accelerate structural change. People in richer consumption segments have more chances to switch to nonagricultural sectors than those in the poorer segments, in either urban or rural areas (figure A1.4.1). This result indicates barriers to labor

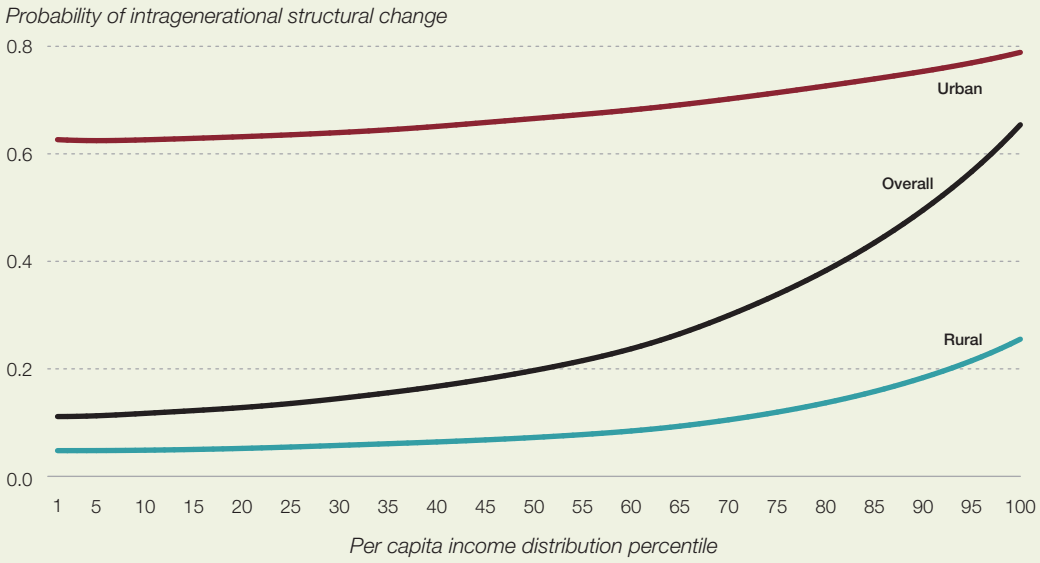
TABLE A1.4.1 Intergenerational structural change probability, Ethiopia 2016

Logistic model (y = 1: head in nonagriculture and father in agriculture)	Overall 1	Urban	Rural	Overall 2
Head age	–0.0347*** (0.00687)	–0.0166** (0.00808)	–0.0780*** (0.0138)	–0.0346*** (0.00692)
Urban	3.818*** (0.128)			3.819*** (0.128)
Head education primary	1.056*** (0.129)	1.479*** (0.177)	0.539*** (0.193)	1.045*** (0.131)
Head education secondary and more	2.981*** (0.259)	2.411*** (0.308)	2.981*** (0.271)	2.969*** (0.259)
Head father education primary				0.0940 (0.209)
Head father education secondary and more				0.261 (0.781)
Constant	–3.022*** (0.169)	0.309 (0.202)	–2.246*** (0.221)	–3.025*** (0.170)
N	3,558	887	2,671	3,557
Pseudo *R*-square	0.497	0.137	0.152	0.497
Chi^2	921.4	120.0	187.1	921.1

Note: Standard errors are in parentheses, clustered at the country level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$, **** $p < 0.001$.

Source: Staff calculations based on Living Standards Measurement Study.

FIGURE A1.4.1 Intragenerational structural change across consumption segments, Ethiopia 2016



Source: Staff calculations based on Living Standards Measurement Study.

mobility in the bottom segments and may partially explain the increase of inequality in the early stage of structural transformation.

Education and intragenerational structural transformation

Intragenerational structural change occurs when a household head switches from agriculture to nonagricultural work between two periods. In panel data from Niger between 2010 and 2014, two dummies were created identifying household heads who switched from agriculture to nonagricultural work or from nonagricultural work to agriculture. The analysis estimated the probability of switching under determinants including age, place of residence, the household head's initial education level, whether he has improved his education level from no education to primary or higher, and whether the household migrated from a rural to an urban location between the two surveys. The result is very close to the intergenerational model. Improving the head's education and moving from a rural to an urban location both increase the odds of switching to nonagricultural work and reduce the odds of switching to agriculture. As in the intergenerational model, the higher consumption segments have more chance to switch to nonagricultural labor and less chance to go from nonagricultural work to agriculture.

In these case studies from Ethiopia and Niger, education, particularly in rural areas, is an important determinant of structural change at the household level. A policy to accelerate structural change could aim to improve the rural population's access to secondary and higher education.

NOTES

1. See IEA (2019).
2. Democratic Republic of Congo, Gambia, Mozambique, São Tomé and Príncipe, Somalia, South Sudan, Sudan, and Zimbabwe.
3. Burundi, Cameroon, Cabo Verde, Central African Republic, Chad, Djibouti, Ethiopia, Ghana, Mauritania, Sierra Leone, and Zambia.
4. 2019 migration data are UN DESA estimates.
5. The source of migration data is UN DESA.
6. The sharp decline of FDI in developed economies was mainly due to large repatriations of accumulated foreign earnings by United States multinational enterprises in the first two quarters of 2018, following tax reforms introduced at the end of 2017.
7. FDI data are from the UNCTAD database.
8. UNCTAD 2019.
9. World Bank 2019.
10. UNCTAD 2019.
11. UNCTAD 2019.
12. See Caselli (2005) for a review.
13. Throughout this report, extreme poverty is defined using the international poverty line of $1.90 per person per day in 2011 PPPs. Inequality refers to the Gini index, which is a dispersion measure of a country's welfare distribution (income or consumption).
14. Ravallion and Chen 2003.
15. If the mean consumption growth is negative, then growth is considered as inclusive if consumption growth of the poor decreases less proportionately than the average consumption growth.
16. The computation of a GIC requires two surveys. Figure 1.19 was built based on 31 African countries with at least two data points between 2000 and 2017. To produce meaningful analysis, we consider only surveys that are at least five years apart: the first survey must take place between 2000 and 2005 and the second in 2010 or later.
17. Angola, Botswana, Burkina Faso, Burundi, Cabo Verde, Comoros, Gambia, Kenya, Liberia, Madagascar, Mali, Mauritania, Niger, Rwanda, São Tomé and Príncipe, Sierra Leone, Tanzania, and Uganda
18. Burkina Faso, Cabo Verde, Gambia, Kenya, Liberia, Mali, Mauritania, Niger, Rwanda, Sierra Leone, Tanzania, and Uganda
19. For each country, we use three surveys: the first is the first available survey of the country starting in 2000. The second survey is at least five years from the first survey and the last survey is at least five years from the second survey.
20. Barro and Lee 2000; Dollar and Kraay 2003; Hausmann et al. 2007; Anand et al. 2012, 2013.
21. UNESCO 2019.
22. Winegarden 1979; De Gregorio and Lee 2002; Coady and Dizioli 2017.
23. We combined DHS surveys of 37 African countries. For each country, overall and by wealth segment, we estimated the returns to education using Mincerian type of regressions by replacing the wage with the overall wealth. From the same data, we computed the wealth inequality using an Atkinson inequality aversion parameter equal to one. We merged the returns to education and asset inequality data with the Poverty and Gini data from PovcalNet and the Barro-Lee mean years of schooling. Finally, we used a post-regression variance decomposition to estimate the share of the cross-country variation explained by each factor.
24. In the first panel, we computed the returns to education (RtE) for the bottom 40 percent and the highest 40 percent separately for each country, and plotted the locally weighted average trends of these two RtE over the years. In the last two panels, we compared the RtE (education premium on the left panel) in the two segments of each country. Countries above the 45-degree line have a wider gap in the RtE between the bottom 40 percent and the higher 40 percent.
25. This is based on the African Development Bank industrialization strategy (2016–25), which advocates increasing the manufacturing sector contribution from its current level of 10–30 percent of GDP in 10 years.
26. Basu and Guariglia 2008; Michaels et al. 2012; Lee and Malin 2013.
27. AEO 2019.
28. Pritchett 2018.
29. World Bank 2018.
30. Human capital results from mean years of schooling in a given year in each country, assuming, as in Caselli (2005), piecewise linear returns to education: 13.4 percent below 4 years of schooling, 10.1 percent between 4 and 8, and 6.8 percent above 8.
31. Physical capital uses values from the Penn World Tables 9.1 following the perpetual inventory method.
32. $TFP\ growth = g_Y - \widehat{\alpha_K} g_K - \widehat{\alpha_L} g_{Emp} - \widehat{\alpha_L} g_H$.
33. This can be interpreted as a first-order approximation to a constant elasticity of substitution production

function. Evidence for such complementarity effects can be found, for example, in Duffy, Papageorgiou, and Perez-Sebastian (2004).

34. In unreported results, we find that the magnitude and statistical significance of this interaction term has been increasing in recent years: it was positive but not statistically different from zero from 1970 to 1990, but strongly positive in 2000–17.
35. We used projections from the *World Economic Outlook* (WEO) available for the period 2018–24 when writing this report.
36. This means that if the average per capita consumption in a country is growing at 2.5 percent a year, the average per capita consumption of the poorest 40 percent is hypothesized to grow by 4.5 percent a year. As a result, the richest 60 percent are growing at around 1.2 percent.

REFERENCES

African Development Bank. 2019. *African Economic Outlook 2019*. Abidjan, Côte d'Ivoire: African Development Bank.

Anand, R., S. Mishra, and S. Peiris. 2012. "Structural Transformation and the Sophistication of Production." Working Paper 12/59, International Monetary Fund, Washington, DC.

——. 2013. "Inclusive Growth Revisited: Measurement and Determinants." Working Paper 13/135, International Monetary Fund, Washington, DC.

Atkinson, A. B. 1970. "On the Measurement of Inequality." *Journal of Economic Theory* 2(3): 244–263.

Barro, R., and J. Lee. 2000. International Data on Educational Attainment Updates and Implications. Working Paper 7911, National Bureau of Economic Research, Cambridge, MA.

Basu, P., and A. Guariglia. 2008. "Does Low Education Delay Structural Transformation?" *Southern Economic Journal* 75 (1): 104–127.

Caselli, F. 2005. "Accounting for Cross-Country Income Differences." In *Handbook of Economic Growth*, 679–741. Elsevier.

Coady, D., and A. Dizioli. 2017. "Income Inequality and Education Revisited: Persistence, Endogeneity, and Heterogeneity." Working Paper 17/126, International Monetary Fund, Washington, DC.

De Gregorio, J., and J. Lee. 2002. "Education and Income Inequality: New Evidence from Cross-Country Data." *Review of Income and Wealth* 48 (3).

Dollar, D., and A. Kraay. 2003. "Institutions, Trade, and Growth: Revisiting the Evidence." Policy Research Working Paper 3004, World Bank, Washington, DC.

Duffy, J., C. Papageorgiou, and F. Perez-Sebastian. 2004. "Capital-skill Complementarity? Evidence from a Panel of Countries." *Review of Economics and Statistics* 86 (1): 327–344.

Hausmann, R., J. Hwang, and D. Rodrik. 2007. "What you export matters." *Journal of Economic Growth* 12 (1): 1–25.

Hulten, C. R. 2017. "The Importance of Education and Skill Development for Economic Growth in the Information Era." Working Paper 24141, National Bureau of Economic Research, Cambridge, MA.

IEA (International Energy Agency). *Oil 2019: Analysis and Forecast to 2024*. Executive Summary. Paris: IEA. Available at: https://www.iea.org/oil2019/.

IMF (International Monetary Fund). World Economic Outlook database. Washington, DC: IMF.

Lee, S., and B. A. Malin. 2013. "Education's Role in China's Structural Transformation." *Journal of Development Economics* 101: 148–166.

Michaels, G., F. Rauch, and S. J. Redding. 2012. "Urbanization and Structural Transformation." *The Quarterly Journal of Economics* 127 (2): 535–586.

Pritchett, L. 2018. "Alleviating Global Poverty: Labor Mobility, Direct Assistance, and Economic Growth." Working Paper 479, Center for Global Development, Washington, DC.

Ravallion, M., and S. Chen. 2003. "Measuring Pro-poor Growth." *Economics Letters* (78): 93–99.

UNCTAD (United Nations Conference on Trade and Development). 2019. *World Investment Report 2019: Special Economic Zones*. Geneva: UNCTAD.

UNESCO (United Nations Educational, Scientific, and Cultural Organization). 2019. "Meeting Commitments: Are Countries on Track to Achieve SDG 4?" Fact sheet, UNESCO Institute for Statistics, Paris.

Winegarden, C. R. 1979. "Schooling and Income Distribution: Evidence from International Data." *Economica* 46 (181): 83–87.

World Bank. 2018. *The State of Social Safety Nets 2018*. Washington, DC: World Bank.

——. 2019. *Doing Business 2019: Trading for Reform*. Washington, DC: World Bank.

2

EDUCATION AND SKILLS FOR THE WORKFORCE OF THE FUTURE

KEY MESSAGES

- **Despite progress in recent decades, Africa still lags behind other developing regions in education and skill development.** Most African countries at all levels of income exhibit lower educational attainment, both in quantity (as measured by average years of schooling) and quality (as measured by test scores or "quality-adjusted" schooling attainment). So there is significant room for many African countries to achieve higher education outcomes for their level of development.
- **The contribution of education to increasing labor productivity growth at the macro level is limited in Africa because of weak complementarity between human capital and physical capital.** This is possibly due to the low quality of education, with years of education creating little or no human capital. Investing in the quality of education can increase the productivity of African workers and firms.
- **Skills and qualifications are not adequately utilized in Africa's labor markets.** Close to half of employed youth perceive their skills as mismatched with their jobs while around two-thirds of youth have inadequate education. This high prevalence of skill and education mismatches has detrimental effects on wages, job satisfaction, and job search.
- **Improving basic literacy is as important as expanding higher education to increase economic complexity and better integrate Africa into the modern knowledge economy.** Expanding the product space and diversifying the continent's productive capacity requires improvements in basic skills of the workforce, including literacy and numeracy, and better trained, highly skilled managers to access new markets. Education and training programs should be upgraded, adapted, and expanded to keep up with the technical and higher skills demanded for the jobs of the Fourth Industrial Revolution.
- **Policy actions in the realm of education and skill development should include measures to improve both the quantity and the quality of education and align education policy with labor market needs.** Governments should improve access to schools in remote areas, increase incentives to invest in education, develop a demand-driven education system in synch with employer needs, invest in nutrition to help poorer children build cognitive skills, and build STEM and ICT capacity.
- **New technologies offer opportunities for Africa to innovate and leapfrog in education and training,** and many countries, including Kenya, South Africa, and Uganda, are hotspots of education innovation.

Africa's growth trajectory over the past two decades has raised hopes that its economies might join the ranks of middle- and high-income countries, lifting its people from abject poverty and destitution. But growth has not been inclusive because of the lack of jobs in high-productivity sectors such as manufacturing. Poverty and inequality remain stubbornly high.

Large swaths of the population are stuck in low-productivity, low-paying jobs in traditional agriculture and informal sectors. The slow pace of structural transformation stems from shortcomings in human capital reflecting low skills and education levels.

As chapter 1 notes, differences in knowledge and skills are a major source of inequality in earnings and inclusiveness. Many African countries have yet to catch up with the rest of the world in basic skills and education. Literacy and numeracy continue to be binding constraints to economic advances and competitiveness. Low skills and education lead to low-quality jobs, poverty, and inequality.

Developing education and skills to advance economic growth requires clearly defining the type of skills that African countries need. While expanding efforts to develop the basic skills of the workforce is a stepping stone, focusing on skills relevant for the workforce of the future can lead to faster and more inclusive growth. Key job-relevant skills are problem-solving, learning, communications, and social and personal skills. The Fourth Industrial Revolution will shift work toward automation and knowledge-intensive tasks. To seize the opportunities and fend off the challenges, African countries must invest in both basic and advanced job-relevant skills.

Developing education and skills to advance economic growth requires clearly defining the type of skills that African countries need

This chapter analyzes the quantity and quality of skills and education in Africa. It looks at skill mismatch and allocative inefficiency in the labor market and discusses how skills and education can boost productivity and growth. Based on product space analysis, the chapter emphasizes developing education and skills to improve current productive capability and in the knowledge-intensive global economic landscape of the future.

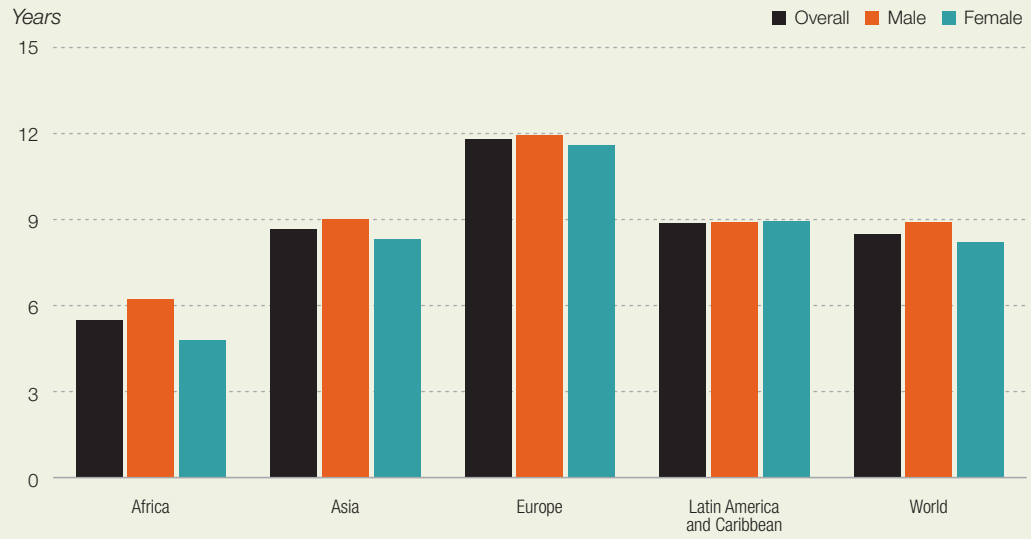
AFRICA'S EDUCATION AND SKILLS POOL

Despite progress in recent decades, Africa is still lagging behind other developing regions in education and skill development, both in quantity (average years of schooling) and quality (test scores). But some countries perform relatively well given their level of development.

Trends and patterns of education

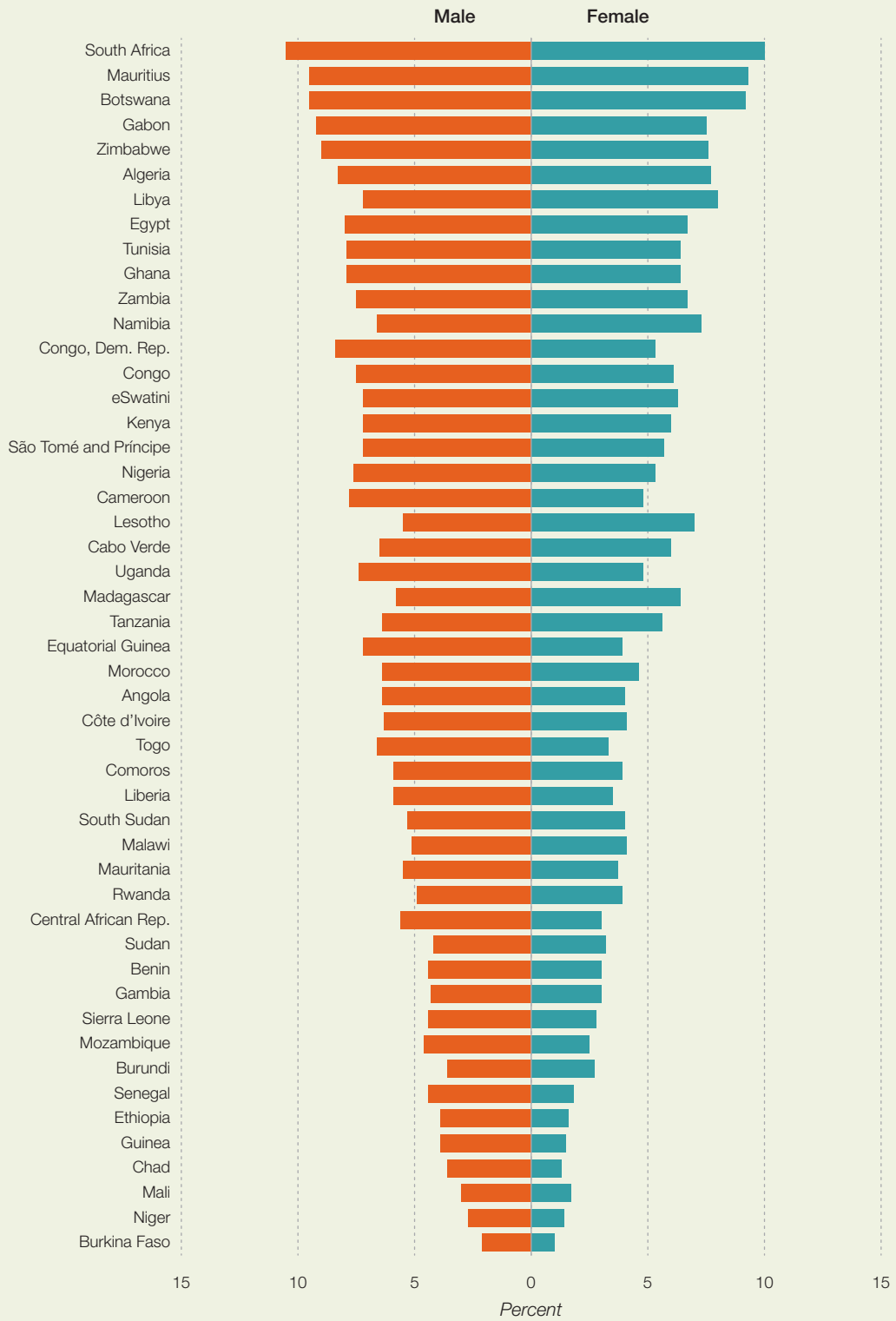
In 2018, Africans completed an average of above 5 years of schooling—5 for women and 6 for men (figures 2.1 and 2.2).[1] South Africa, Mauritius, Botswana, and Gabon averaged more than eight

FIGURE 2.1 Average years of schooling is lower in Africa than in other regions, 2018



Source: Staff calculations based on data from UNDP (2019).

FIGURE 2.2 Average years of schooling for African countries by gender, 2018



Note: Data available for 48 African countries.

Source: Staff calculations based on data from UNDP (2019).

TABLE 2.1 Trends in school enrollment rates across regions, 2000–16 (percent)

Region	Primary		Secondary		Tertiary	
	2000	2016	2000	2016	2000	2016
World	85	91	64	77	27	48
Africa	66	82	32	44	6	16
Central Africa	58	84	7	32	3	10
East Africa	54	79	35	41	2	9
North Africa	82	91		54	26	29
Southern Africa	78	90	39	47	4	18
West Africa	59	77	20	44	6	12
Asia	88	93	61	77	23	43
Europe	95	95	86	92	45	68
Latin America and Caribbean	92	92	63	78	28	53

Note: Enrollment rate for primary and secondary education is net enrollment (the ratio of children of official school age who are enrolled in school to the population of the corresponding official school age). Gross enrollment rate is used for tertiary education (it refers to the total enrollment, regardless of age, to the population of the age group that officially corresponds to that level of education).
Source: Staff calculations based on data from the World Bank World Development Indicators database.

Private education service providers also deliver education—from preprimary to higher technical and vocational education and training

years of schooling, which is comparable to schooling in upper-middle income countries in Asia, Latin America, and the rest of the world. But Burkina Faso, Niger, and Mali had about two years, much lower than the average for low-income countries in other regions.

Enrollment is another measure of the quantity of schooling. Primary enrollments increased from 66 percent in 2000 to 82 percent in 2016, driven mainly by free schooling and universal primary education programs.[2] Secondary enrollment rates rose by 12 percentage points—from 32 percent in 2000 to 44 percent in 2016, while higher education enrollments rose from 6 percent to 16 percent. Still Africa lags behind other world regions in school enrollments at all levels.[3]

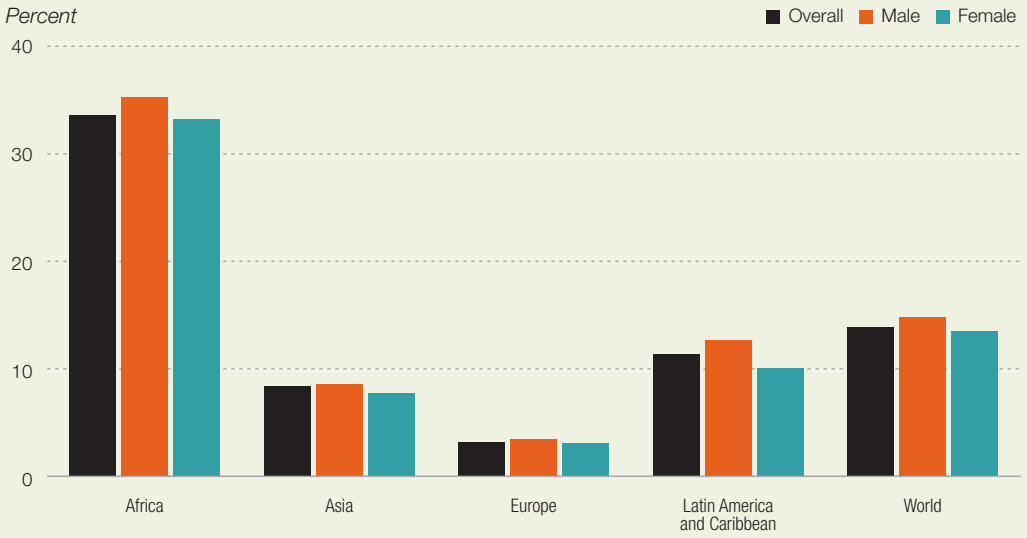
North Africa performed better than other African regions, with enrollment rates of 91 percent in primary schools (table 2.1), 54 percent in secondary schools, and 29 percent in higher education, reflecting the fact that North African countries have focused on education since the 1960s.

High dropout rates raise a red flag, however.[4] More than half the world's out-of-school children live in Sub-Saharan Africa (33 million of the 61 million). More than one-third of students in Africa dropped out between 2010 and 2017 compared with 11 percent in Latin America and 8 percent in Asia (figure 2.3). The dropout rate in Africa is 35 percent for boys and 33 percent for girls. There is, however, considerable cross-country variation. Ethiopia, Madagascar, Mozambique, and Uganda have dropout rates above 60 percent, and Algeria, Botswana, Egypt, Mauritius, and Seychelles below 6 percent. The share of out-of-school children is highest in low-income countries, and many children are not enrolled because of poverty or financial constraints.[5] In many African economies, children who do go to school are likely to drop out before finishing their primary schooling, reducing their potential to acquire further formal education (box 2.1).

Enrollment in private schools is growing but remains small

Private education service providers also deliver education—from preprimary to higher technical and vocational education and training. They also offer such ancillary services as teacher training and supplementary education (after-school tutoring, language learning, and test preparation).[6]

FIGURE 2.3 Dropping out before finishing the last primary grade is higher in Africa than in other regions, 2010–17



Note: The cumulative dropout rate is calculated by subtracting the survival rate (percentage of a cohort enrolled in the first grade of a given level of education in a given year who are expected to reach a given grade, regardless of repetition) from 100 at a given grade, where the dropout rate is the proportion of pupils from a cohort enrolled in a given grade at a given school year who are no longer enrolled in the following school year.
Source: Staff calculations based on data from UNESCO Institute for Statistics (http://data.uis.unesco.org/Index.aspx?queryid=156).

BOX 2.1 Dropping out of school in Africa

Despite the continent's progress in increasing school enrollment at primary and secondary school levels, school achievement in Africa is far below other regions of the world. The high dropout rates at primary and lower secondary education are key to the low accumulation of skills, which translates into skill gaps in the workforce. In addition, the costs to society are large.[1] High dropout rates are primarily due to poverty. However, violence, poor education quality, and perception of low returns to education have all been shown to matter.

The prevalence of violence in school can keep students away. Corporal and psychological punishment are used to discipline students in many parts of Africa. School violence and bullying also affect large numbers of students.[2] The proportion of students who report having been bullied is highest in Sub-Saharan Africa (48.2 percent) and North Africa (42.7 percent).

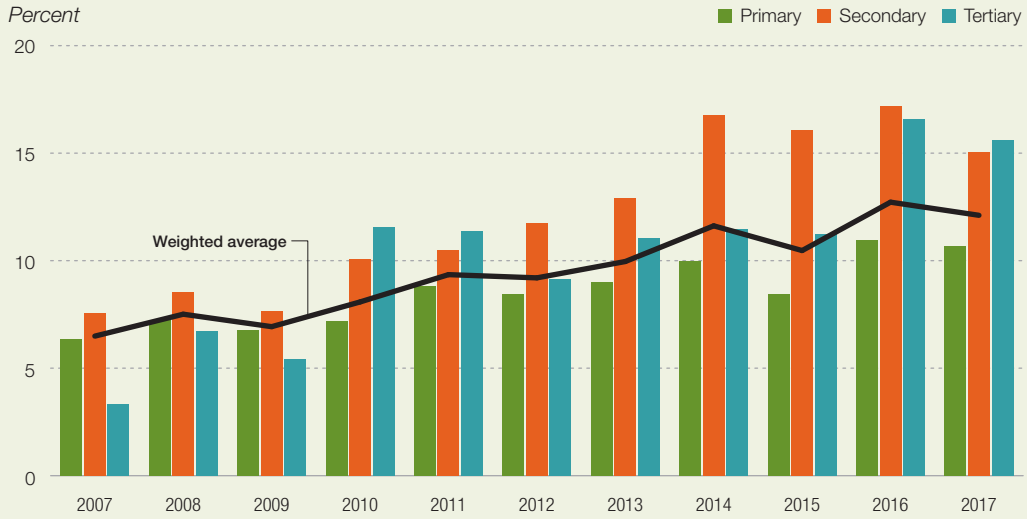
Displacement due to conflicts also increases the likelihood that a child stops attending school. Conflict-affected countries have higher dropout rates, with children in these countries 30 percent less likely to complete primary school and 50 percent less likely to complete lower secondary school.[3] About a third of Sub-Saharan African countries have been affected by conflict in recent years.[4]

Perceptions of the returns to education often determine parental decisions about whether to keep their children in school. If the perceived returns are low, parents are less likely to demand more schooling for their children, and children are less likely to be motivated to continue their schooling to higher levels.

Notes

1. Oreopoulos 2007.
2. UNESCO 2019.
3. Education Commission 2016.
4. IMF 2019a.

FIGURE 2.4 The share of private enrollment has been rising, 2007–17



Source: Staff calculations based on data from UNESCO Institute of Statistics.

Private schools are catching up quickly in Africa, almost doubling in a decade

With a small fraction of total education providers, private schools are catching up quickly in Africa, almost doubling in a decade, but they are still less prevalent than in Asia and Latin America. The share of enrollment in private primary schools grew from an estimated 6 percent in 2007 to 11 percent in 2017, and that in secondary schools from 8 percent to 15 percent (figure 2.4). Enrollment in private higher education institutions increased five-fold, from 3 percent to 16 percent. The proportion of children attending private schools ranges from less than 5 percent in Burundi, Mozambique, and South Africa to more than 30 percent in Cameroon, Mali, and Togo.[7] The growth of private education may, in part, reflect perceptions about the poor quality of public schools.

The quality of education

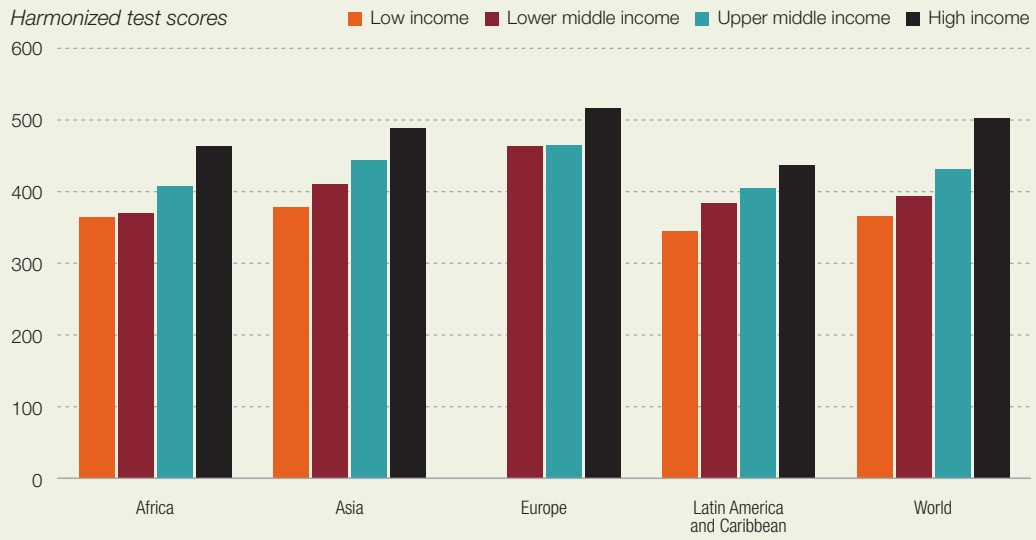
African students have lower average test scores than students in other world regions

Against the maximum global harmonized test score of 625, the average African student scored 374, although some countries are performing well relative to their GDP per capita (figures 2.5 and 2.6).[8] Examples are Kenya and eSwatini with scores of 455 and 440, respectively, which are well above the world average of 431 for upper-middle income countries. Similarly, some low-income counties, such as Burkina Faso, Burundi, Guinea, and Senegal, had scores above the average for lower-middle income countries in Asia and upper-middle income countries in Latin America.[9]

Quality-adjusted years of schooling are generally lower than average years of schooling

Comparing education outcomes based only on quantity can overestimate real achievement. To account for the varying quality of education, years of schooling can be adjusted by test scores. Advanced economies tend to have both high average years of schooling and high test scores. This positive relationship between quantity and quality is also seen in our sample of African countries. However, for some African countries, the quality of schooling is very low despite having higher than the regional average years of schooling. For example, Ghana on average has more than 7 years of schooling, above the regional average of 4.8 years, but its test scores are among the lowest in the region. So, for many African countries, the actual learning in a year of schooling is much lower than what might be expected.

FIGURE 2.5 African students have lower average test scores than students in other world regions relative to their GDP per capita, 2017



Note: Using Human Capital Index data, the World Bank harmonizes test scores across international student achievement testing programs measured in Trends in International Mathematics and Science Study TIMMS-equivalent units, where 300 is the minimal attainment and 625 is advanced attainment.
Source: Staff calculations based on Patrinos and Angrist (2018).

In general, the adjusted average years of schooling are lower than the unadjusted average

To account for the varying quality of schooling, years of schooling are adjusted by tests scores, defined as the average years of schooling multiplied by harmonized test scores, divided by 625 (figure 2.7).[10,11] This provides a better measure of schooling since it adjusts the number of years spent at school for the quality of schooling acquired. In general, the adjusted average years of schooling are lower than the unadjusted average.

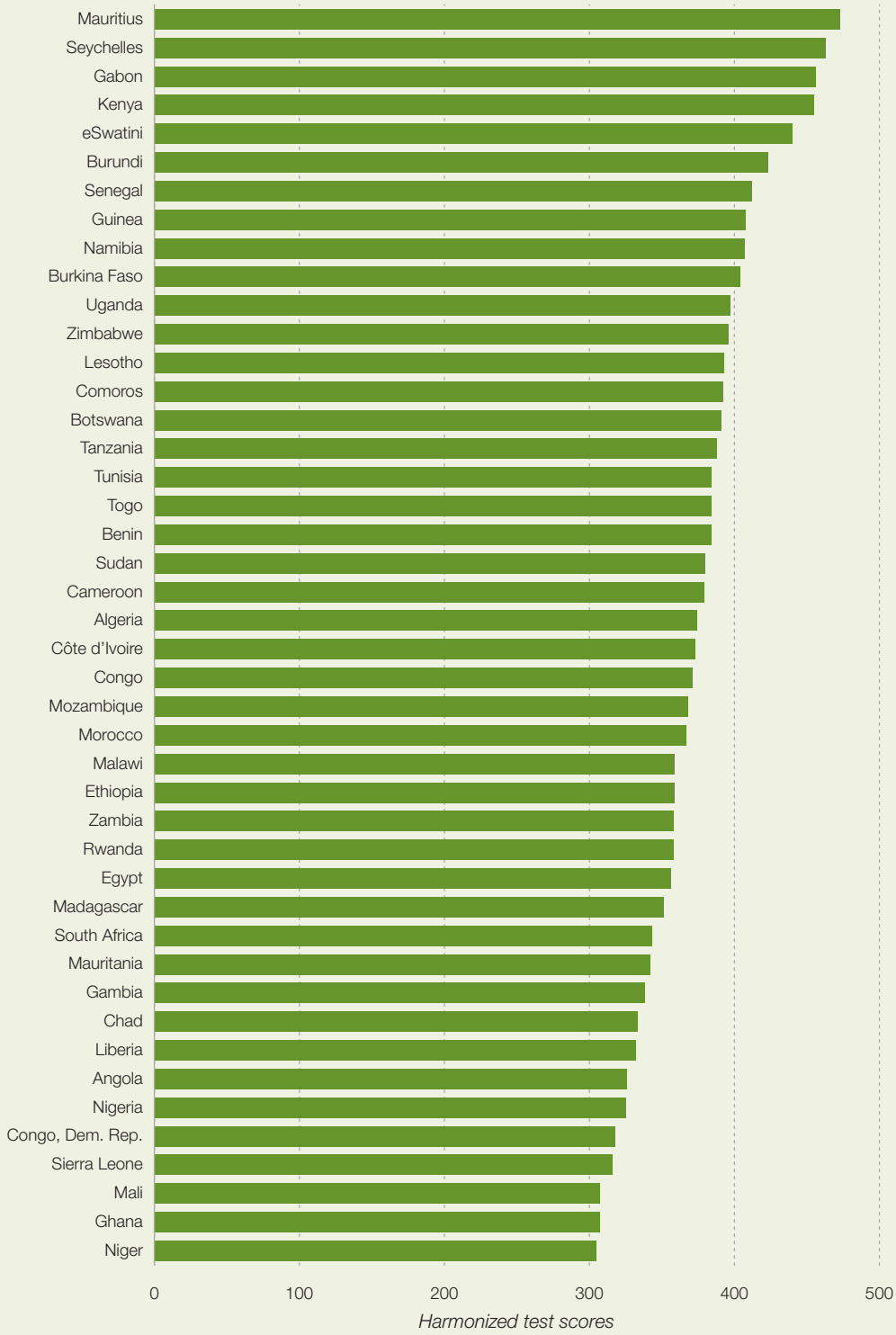
In 2017, Botswana had on average 9.8 years of schooling. Adjusting for the quality of schooling reduces this to 6.1 years. Niger had on average the fewest years of schooling (1.4), and after adjusting for quality would have less than one year of schooling (0.7). Lower-middle income countries such as Zimbabwe and Tunisia have around 5 adjusted years of schooling, on average. There are also the success stories of Kenya and Benin (box 2.2). But keep in mind that education outcomes, in both quantity and quality, are driven by other factors outside the education system, including those related to the labor market and its institutions (see later in the chapter).

Skill gaps and education needs

On average, African countries had lower than the expected years of schooling and test scores for their level of income in 2017

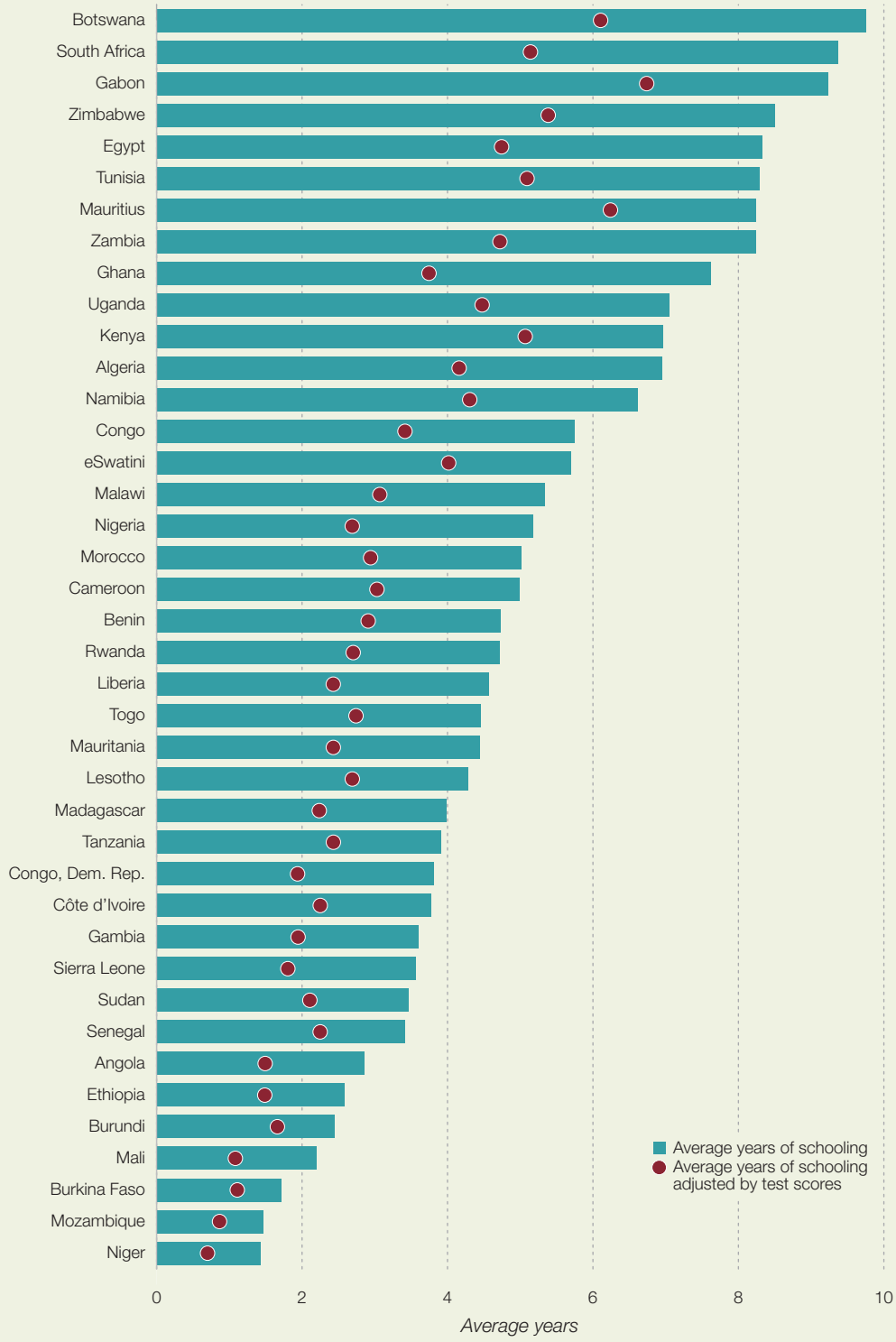
To quantify the education and skill gap, countries were grouped into income deciles based on GDP per capita (in purchasing power parity), and then for countries at each income decile, the difference between the maximum number of expected years of schooling achievable by that group and the expected years of schooling based on the World Bank Human Capital Index was calculated for each country (distance from the education frontier).[12] The same calculations were made for test scores. For all African countries included in the analysis, the expected years of schooling are below the maximum achievable for their income decile (figure 2.8). Given African countries' level of development, they have the potential to increase the average years of schooling by three years and average test scores by 81 points (18 percent).

FIGURE 2.6 Harmonized test scores for African countries range widely, 2017



Note: A score of 300 represents minimum attainment and 625 represents advanced (maximum) attainment.
Source: Staff calculations based on Patrinos and Angrist (2018).

FIGURE 2.7 When adjusted by tests scores, average years of schooling drop in all African countries examined, 2017



Note: Data available for only 40 African countries.

Source: Staff calculations based on data from Patrinos and Angrist (2018) and Penn World Table 9.1.

BOX 2.2 Success stories in education and skill development in Africa

Several African countries have made considerable progress in improving education. Access to primary school is close to universal in Kenya, Rwanda, South Africa, Togo, Uganda, and Zimbabwe. Countries such as Egypt are improving accountability in the education sector and offer opportunity to leapfrog learning using technology.[1] Some African universities rank relatively high in international assessments, including the University of Cape Town in South Africa.[2] Since 2003, the University of Cape Town has often been ranked among the top 250 universities worldwide, demonstrating good performance in many parameters of quality including number of alumni and staff winning Nobel Prizes and Fields Medals, number of highly cited researchers, and per capita performance.

Successful examples in Kenya and Burundi

Kenya and Burundi stand out in achieving good education outcomes.

Among the education policies in Kenya is the national program of free tuition in secondary education, launched in 2008 to ease the transition from primary to secondary education. The elimination of tuition fees led to significant jumps in enrollment.[3]

The Extra Teacher Program, implemented in 2005/06 by a nongovernmental organization in the Western Province of Kenya, funded school committees to hire one extra teacher on a short-term contract to supplement regular civil service teachers. Contracts were renewable conditional on performance. An evaluation of the program found large potential dynamic benefits from supplementing a civil service system with locally hired contract teachers and involving parents in monitoring.[4] Students assigned to contract teachers significantly improved their class scores compared with students in regular classes. Contract teachers had low absence rates, while civil service teachers in the same schools reduced their effort measured through their presence in school. Training was offered in a subgroup of participating schools to equip school committee members with the skills to monitor the program, check teacher attendance, and evaluate the contract teacher. The training reduced the practice of assigning contract teacher positions to relatives of civil service teachers. The best contract teachers eventually obtained civil service jobs.

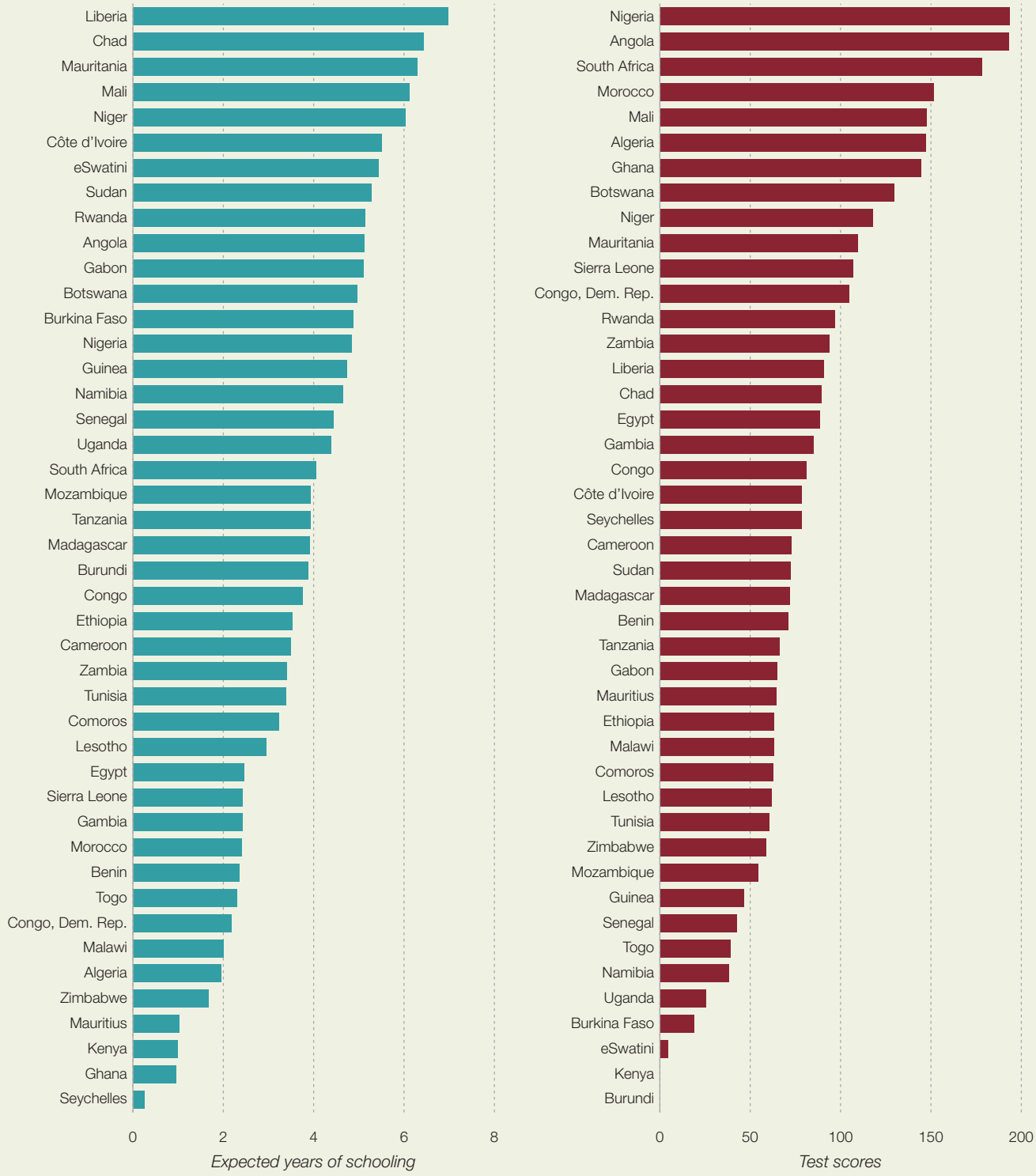
In 2009, in response to high student–teacher ratios and weak learning outcomes in primary schools, the government funded a program to hire 18,000 contract teachers, replicating the Extra Teacher Program. Because contract renewal was conditional on performance, the contract teachers were expected to have greater incentives to perform well.[5]

In Burundi, many schools were destroyed during the long civil war (1993–2005), and the school management system had collapsed. The primary net enrollment rate was low (56 percent), and math textbooks were shared by an average of 20 students. The new government in 2005 implemented multiple measures to rehabilitate the education system. Textbook availability was increased, and delivery times fell from over a year to 60 days. Burundi introduced free primary education, boosting enrollment. Burundi devotes 35 percent of the national budget to education, compared with an average of 20 percent across countries with data on the *Programme d'analyse des systèmes éducatifs* (PASEC), an assessment administered in francophone countries in grades 2 and 5. Burundi also adopted Kurundi, a local language spoken by 95 percent of the population, as the language of instruction until grade 4. The education literature documents a positive effect of instruction in the home language on performance in early grades.[6] In 2013/14, compulsory education was raised to nine years, the national syllabus was updated, and other pedagogical reforms were introduced to reduce high repetition rates. Burundi's PASEC scores were the highest among participating countries.

Notes

1. World Bank 2019.
2. Academic Ranking of World Universities; http://www.shanghairanking.com.
3. World Bank 2017.
4. Duflo, Dupas, and Kremer 2015.
5. Bold et al. 2015.
6. Varly and Mazunya 2017.

FIGURE 2.8 Difference between the maximum number of years of schooling and maximum test scores achievable within an income decile and the expected years of schooling and test scores, 2017



Source: Staff calculations based on data from the World Bank Human Capital Index and Patrinos and Angrist (2018).

This finding could be linked to the high dropout rates in African countries. Many African countries also fall short on test scores compared with the maximum achievable test score for their income decile. Exceptions for test scores are Burundi and Kenya, which achieved the maximum scores for their income bracket.

There is considerable heterogeneity across African countries in the difference between maximum achievable years of schooling and test scores and expected years and scores. For example, Seychelles, Ghana, Kenya, Mauritius, and Zimbabwe exhibited much smaller gaps, while Niger, Mali, Mauritania, Chad, and Liberia have a bigger potential to improve the quality and quantity of their education achievements.

More than half of African workers are employed in low-skilled jobs, the highest share globally

The effect of class size is ambiguous in Africa

Class size (student–teacher ratio) is another frequently used indicator of the quality of the learning environment.[13] African countries have the highest student–teacher ratios in the world. Over 2010–17, the student–teacher ratio was around 38 in Africa, compared with around 20 for Asia and Latin America and 14 for Europe. Again, there are regional differences within Africa, with lower ratios at the primary level in North African countries, including Algeria, Egypt, and Morocco.

However, the relationship between student–teacher ratios and tests scores is ambiguous. Studies in developing countries, including India, Kenya, and Tanzania, do not find a significant impact,[14] in line with the analysis conducted for this report. And class size in Africa is uncorrelated with schooling quality once the effect of real GDP per capita is accounted for.

The evidence for developing countries suggests that other changes—improvements in education governance and teacher incentives, absenteeism, and accountability—improve test scores more than additional teachers.[15] For instance, a study in Zambia finds that a 5 percent increase in teacher absence rate reduces learning achievement by 4–8 percent of the average gain for math and English. Therefore, although teacher training is another important determinant of education outcomes,[16] teachers do not always have the right incentives to teach well or to show up every day.

Education, skills, and employment

Africa has the highest share of people employed in low-skilled jobs and the lowest shares employed in medium- and high-skilled jobs globally

The education and skill levels of a country's working population are indicative of the country's available human capital and have a direct impact on labor market outcomes. A skilled workforce is vital for achieving structural transformation, by spurring technological progress and innovation, which are important determinants of economic growth.

More than half of African workers are employed in low-skilled jobs (57 percent), the highest share globally (figure 2.9). A third are employed in medium-skilled jobs (33 percent) and just 10 percent in high-skilled jobs, the lowest shares globally.[17]

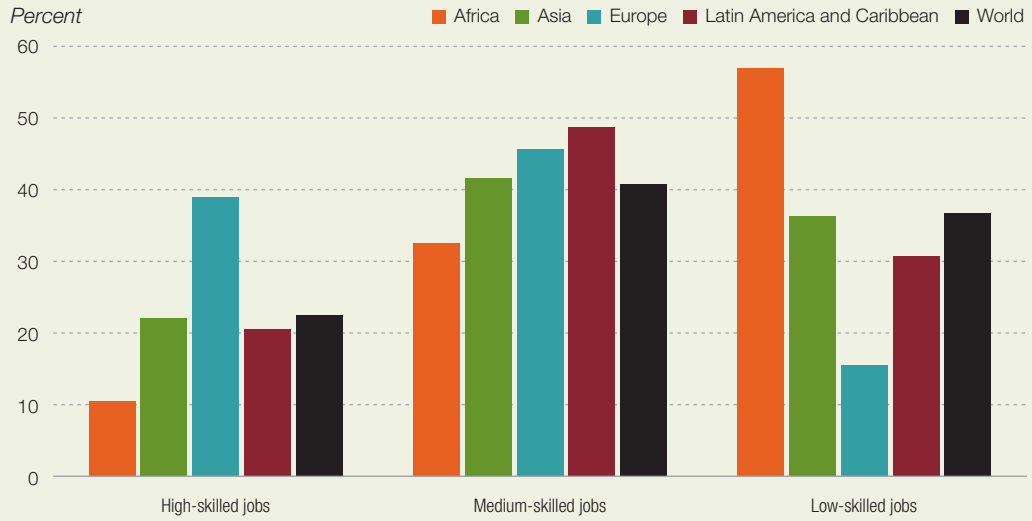
Unemployment rates in Africa are highest among people with an intermediate level of education (13 percent) or an advanced level (10 percent), compared with a basic level (10 percent; figure 2.10). People in Africa with an intermediate or advanced education also have the highest unemployment rates globally.

Africa's current and projected workforce skills are not competitive in international comparisons

Africa has the lowest scores for workforce skills of any region on the World Economic Forum's Global Competitiveness Index. For instance, out of 141 countries included in the 2019 ranking, the bottom five are African countries; out of the bottom 20 countries in the ranking, 17 are African.

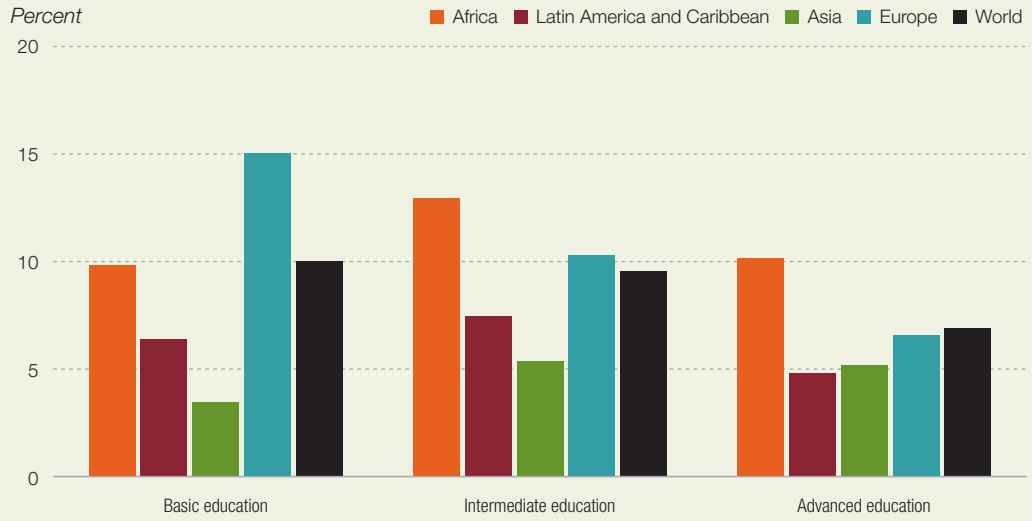
Across the region, employers identify inadequately skilled workers as a major constraint to their businesses.[18] Another important measure of skills available to employers is the share of graduates trained in science, technology, engineering, and mathematics (STEM). On average over 2010–18, less than 20 percent of graduates in African countries had enrolled in STEM programs in college.

FIGURE 2.9 Africa has the highest share of people employed in low-skilled jobs and the lowest shares employed in medium- and high-skilled jobs globally, 2010–18



Source: Staff calculations based on data from ILOSTAT and using modeled International Labour Organization estimates.

FIGURE 2.10 Unemployment rates in Africa are highest among people with an intermediate or advanced level of education, 2010–18



Note: Averages weighted by the number of people ages 15–64 in each education category.
Source: Staff calculations based on data from ILOSTAT.

EDUCATION, SKILLS, AND LABOR PRODUCTIVITY

Human capital and labor productivity

Investment in human capital is a strong driver of economic growth, through its effect on productivity.[19] Education also complements other labor productivity-enhancing decisions, from encouraging trade openness[20] to investing in physical capital[21] and establishing institutions that protect property rights. Education gaps thus amplify underlying exogenous differentials in labor productivity across countries, by discouraging foreign investment, reducing innovation, hampering the ability of a country to exploit its comparative advantage, and hindering the development of tradable manufacturing and services activities with increasing returns that rely heavily on the accumulation and transfer of knowledge.

Improving education on the continent is vital to realizing its transformative potential for gains in productivity and output

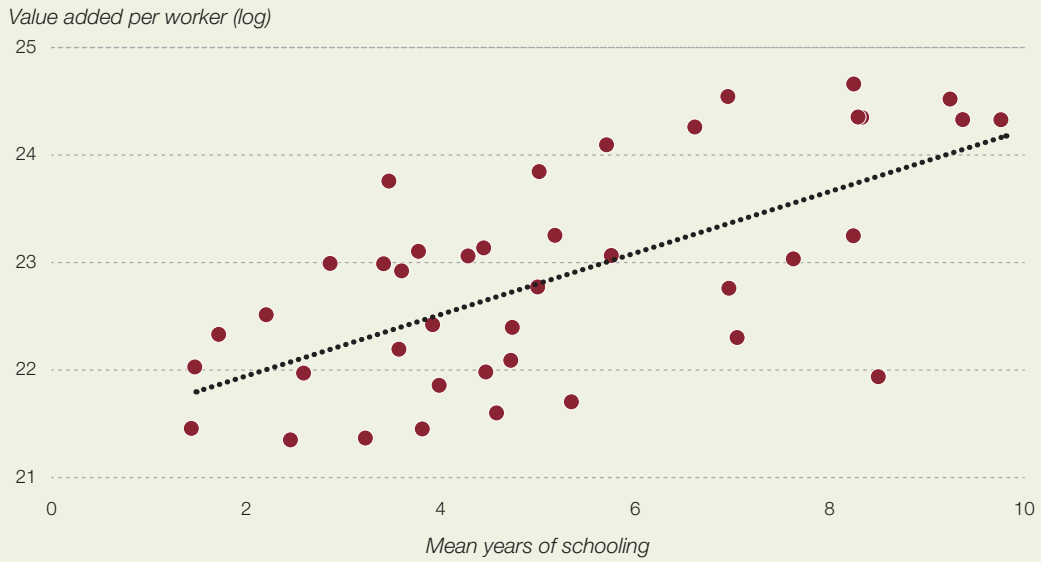
The role of education in fostering labor productivity growth at the aggregate level has hitherto been relatively limited in Africa. Thus, improving education on the continent is vital to realizing its transformative potential for gains in productivity and output, in particular among the least developed economies. While improving secondary and higher education completion rates are prerequisites to develop the skills of the workforce, economic research also supports targeting investment in education quality, including teacher training and the availability of textbooks, methods, and teaching materials, to improve education outcomes.

Both the quantity and quality of education contribute to labor productivity in Africa

Educational attainment—both in quantity and quality—and productivity per worker are positively correlated in Africa. Plotting measures of a country's education outcomes, both quantitative (mean years of schooling) and qualitative (harmonized test scores), against observed labor productivity, as measured by value added per worker, shows that education measures are strongly and positively correlated with productivity (figures 2.11 and 2.12).[22,23]

These graphical results are corroborated by more systematic regressions on both cross-sectional data for 2017, and panel data for the period 2000–17. In these analyses, human capital is positively related to value added per worker both across and within countries, but the relationship is not statistically significant in panel models, and vanishes in a dynamic panel data analysis with

FIGURE 2.11 Mean years of schooling and labor productivity in Africa, 2017



Source: Staff calculations based on data from the World Bank's Human Capital Index and Penn World Table 9.1.

FIGURE 2.12 Test scores are also positively correlated with labor productivity in Africa, 2017

Source: Staff calculations based on data from the World Bank's Human Capital Index and Penn World Table 9.1.

fixed effects. Quality measures, like the number of teachers or textbooks per pupil, or harmonized test scores, are positively related to labor productivity in most specifications, even after controlling for mean years of schooling. So, the quality of education provided by a country's schooling system also matters substantially for development outcomes.

Moreover, there is some evidence of complementarity between the quality of education provided in a country, and the effects of additional years of schooling. Indeed, the positive correlation between mean years of schooling and aggregate worker productivity is stronger in countries where education quality is better (notwithstanding the aforementioned limitations of standard measures of education quality, such as number of textbooks or teachers per student). Among lower-income economies, countries where the average number of teachers per student is above the median generally have a stronger positive relationship between years of schooling and value added per worker (figure 2.13). This finding suggests that education investments leading to better-trained teachers and smaller class sizes, could help counteract decreasing returns in the relationship between years of schooling and worker productivity.

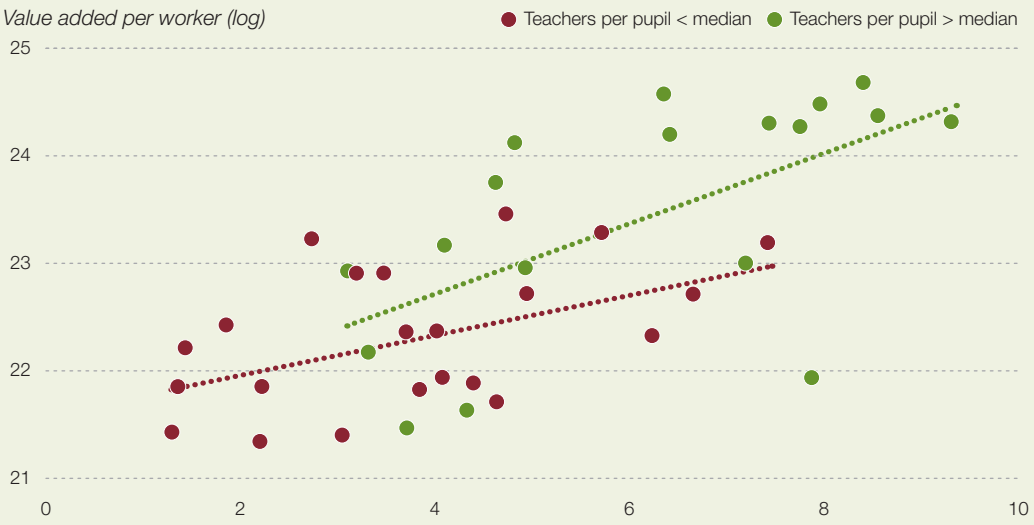
Human capital contributes less to labor productivity and economic growth in Africa than in other developing regions

In Africa, evidence suggests that human capital's contribution to productivity is nearly nonexistent, in comparison to countries in peer regions, especially in the poorest countries (figure 2.14). The weaker relationship of human capital to labor productivity in Africa may reflect the fact that improvements in the quantity of education in Africa have often not been accompanied by improved education quality outcomes, as measured by test scores or literacy rates. Thus, strengthening the contribution of education to labor productivity requires improving its quality as well as raising number of years of schooling.

Lower productivity in Africa may also reflect lower efficiency in the use of human capital in production, as a result of the poor quality of education and management.[24] Studies in Kenya and Tanzania that used firm-level data show the importance of the quality of education at the firm and worker levels, finding that cognitive skills are associated with better pay at job entry, that returns to job experience are positively associated with cognitive skills, and that workers with higher cognitive achievement earn more.[25]

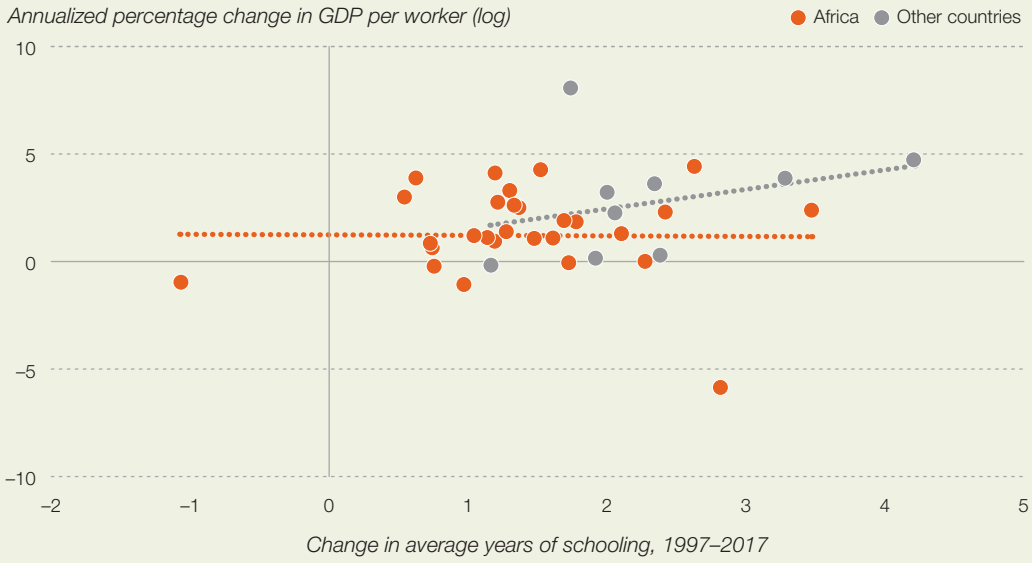
In Africa, human capital's contribution to productivity is nearly nonexistent, in comparison to countries in peer regions, especially in the poorest countries

FIGURE 2.13 The positive relationship between years of schooling and labor productivity is stronger at high teacher–student ratios, 2010–17



Source: Staff calculations based on data from Penn World Table 9.1 and World Bank EdStats.

FIGURE 2.14 Relationships between increasing years of schooling and labor productivity are weaker in Africa than in other countries at the same level of GDP per worker, 1997–2017



Note: Figure includes all countries with GDP per worker in the bottom quartile at the world level in 2017.
Source: Staff calculations based on data from Penn World Table 9.1.

Skills and the labor market

Africa's labor market does not take proper advantage of the qualifications of the labor force

Another potential reason for the low contribution of human capital to labor productivity in Africa is the mismatch between workers' skills or education, especially among youth, and the needs of employers.[26] A skill mismatch is defined as young employees' self-perceived discrepancy between their skills and the skills needed to perform their jobs competently.[27] An education or qualification mismatch is defined as the difference between the actual level of education of employed youth and the required education level for the job they occupy.[28] Our analysis shows that close to half of employed youth perceive their skills as mismatched to their jobs, while around two-thirds of youth are either overeducated or undereducated,[29] which depresses wages and job satisfaction.

Skill and education mismatches are more prevalent among youth in Africa than in other regions

On average, young people (ages 15–29) in African countries have a higher perception of mismatches between their skills and education and labor market needs than youth in other developing countries. Around 46 percent of employed African youth surveyed between 2012 and 2015 perceived their skills to be ill-matched with their current jobs. Of these, more felt underskilled (about 28 percent on average) than overskilled (nearly 18 percent; figure 2.15). In comparison, 30 percent of youth in other developing countries believed that their skills were mismatched to their jobs, with a higher share feeling overskilled (19 percent) than underskilled (11 percent). The pattern for education mismatches is similar: close to two-thirds of African youth (63 percent) were either undereducated or overeducated for their job. The undereducated share (nearly 55 percent) was considerably higher than in other regions (36 percent). Thus, in addition to skill and education shortfalls, African countries do not appear to be taking full advantage of the available skills and qualifications of their employed youth.

There are important cross-country differences in Africa, however. For instance, employed youth are more likely to be appropriately skilled in Egypt (62 percent), Zambia (62 percent), and Uganda (60 percent) than in Benin (49 percent), Tanzania (45 percent), and Madagascar (44 percent). Perceptions of underskilling are widespread in Madagascar (42 percent), Benin (41 percent), and Liberia (37 percent) but barely evident in Egypt (1 percent).

Skill mismatches are higher at higher levels of educational attainment

In Africa, as education levels rise, so does overskilling (figure 2.16).[30] The share of overskilled youth in Africa rises from 11 percent on average for youth with a primary education to nearly 30 percent for youth with a secondary education and 35 percent for youth with a higher education, though there is considerable cross-country heterogeneity. Even after controlling for potential factors, such as age, gender, and employment characteristics, employed youth with a higher education are 32 percent more likely to feel overskilled and 23 percent less likely to feel underskilled than youth with lower education levels.

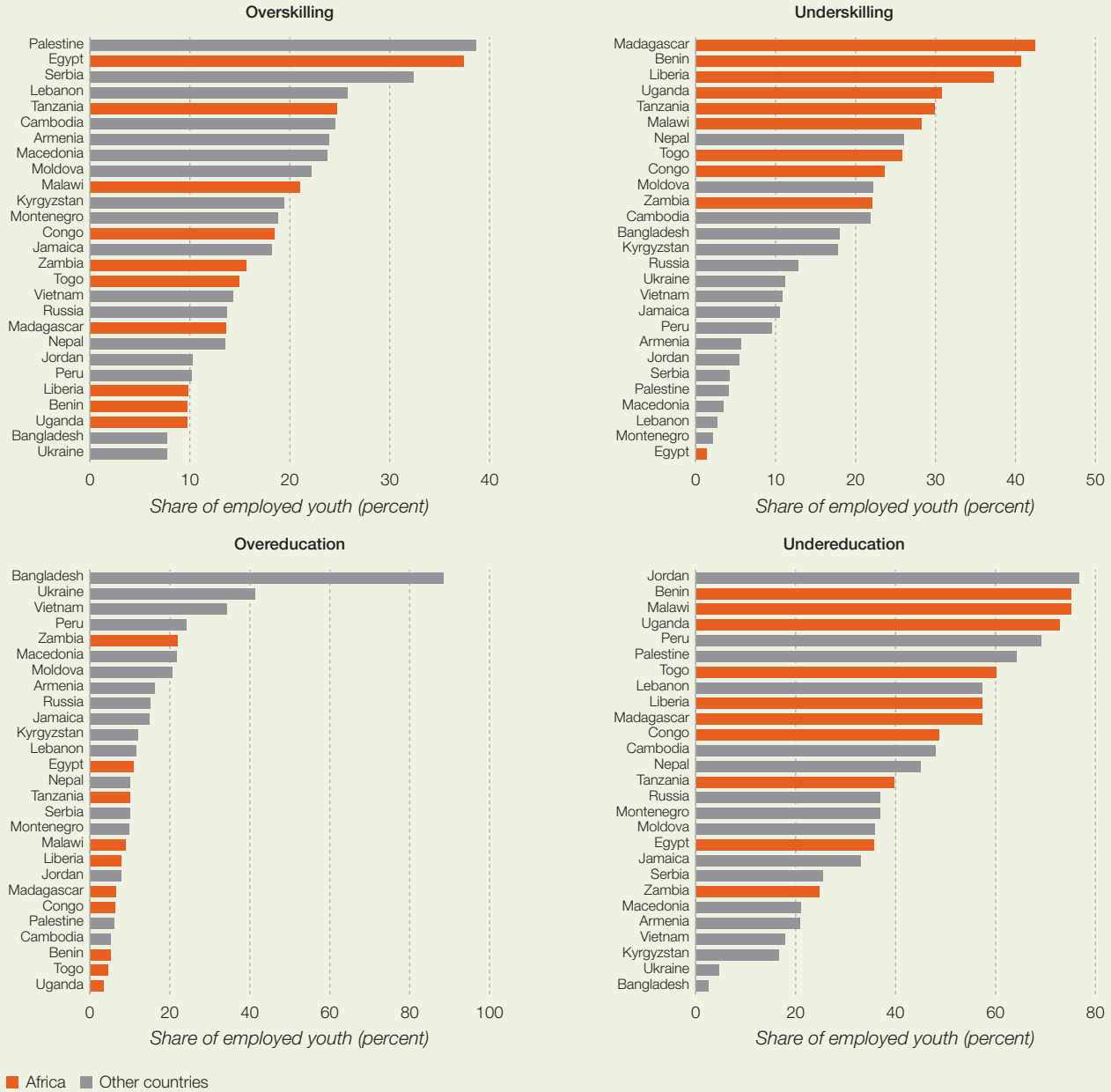
This finding points to the potentially limited absorptive capacity of African labor markets. The number of new graduates entering the labor force each year often greatly exceeds the jobs available. For instance, an estimated 67,000 young Ethiopians graduated during the 2009/10 academic year but only 6,020 vacancies for skilled workers were open the same year.[31] The gap between new job seekers and available jobs is expected to widen in Africa since most countries are planning to increase the number of public universities, and the number of private institutions is also growing. Competition for jobs will become fiercer and might force many young people to accept jobs that are not aligned with their skills, education level, and area of specialization.

Skill mismatches coexist with a high occurrence of hard-to-fill positions

A direct effect of the deficits in youth skills is the high prevalence of hard-to-fill positions. Surveyed employers (in Liberia, Malawi, Tanzania, and Zambia) identified insufficient work skills of applicants as the reason for being unable to fill 40 percent of professional jobs and 17 percent of managerial jobs (figure 2.17).

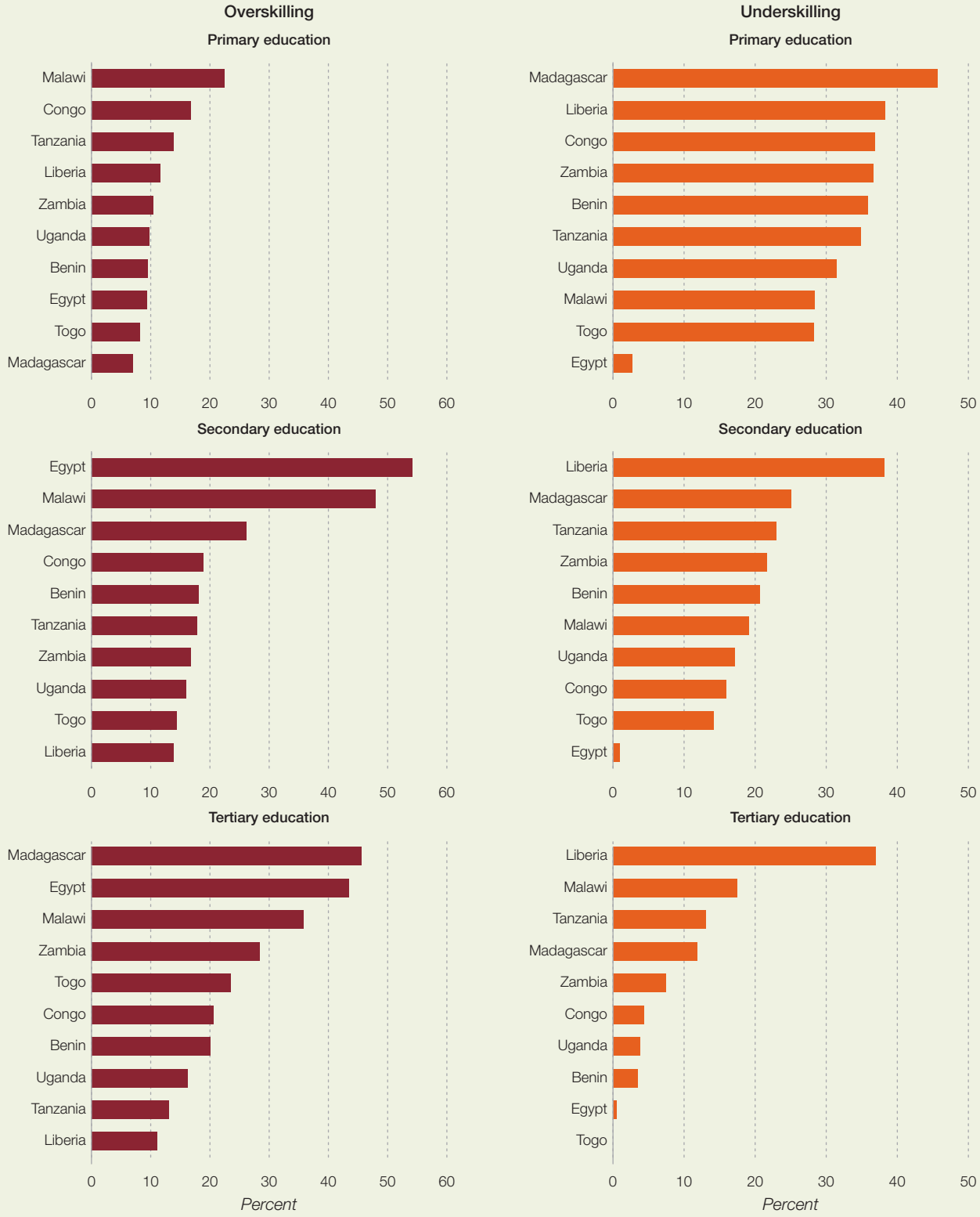
Close to half of employed youth perceive their skills as mismatched to their jobs

FIGURE 2.15 The incidence of skill and education mismatches is higher in African countries than in other developing countries, 2012–15



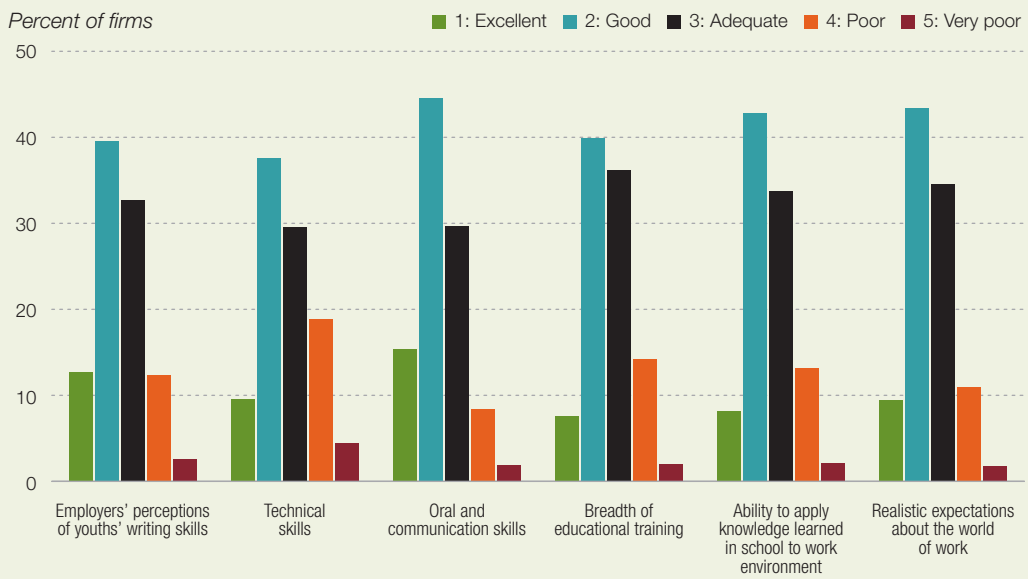
Source: Staff calculations based on International Labour Organization data from school-to-work transition surveys.

FIGURE 2.16 Skill–job mismatches among employed youth in Africa are higher at higher education levels, 2012–15



Source: Staff calculations based on International Labour Organization data from school-to-work transition surveys.

FIGURE 2.17 Many employers in four African countries view the skills of youth as inadequate, 2012–14



Note: The sample countries are Liberia, Malawi, Tanzania, and Zambia.

Source: Staff calculations based on data from labor demand enterprise surveys by the International Labour Organization.

By making education systems more demand driven, African countries could address the persistent mismatches in the labor markets

Skill and education mismatches affect wages, job satisfaction, and job search

The findings discussed above highlight the urgency of tackling both skill and education deficiencies and mismatches in Africa. By making education systems more demand driven, African countries could address the persistent mismatches in the labor markets and increase the attractiveness of education for youth and its relevance for employers.

African Development Bank estimates for a sample of 10 African countries suggest that skill and education mismatches affect the labor productivity of youth indirectly through wages, job satisfaction, and job search.[32] Strikingly, overeducated African youth earn on average 18 percent less than youth with the same level of education who work in jobs that match their education. In addition, youth who believe that they were overskilled for their job were 3.4 percent less likely to be satisfied with their current job, while youth who were satisfied were 1.8 percent less likely to be underskilled.[33]

Youth who are less satisfied with their job because of skill mismatch may also be less productive.[34] The dissatisfaction arising from skill–job mismatches is also more likely to motivate searching for a new job, particularly among overeducated youth. When asked why they would like to change their current job, 22 percent of overskilled youth responded that they wanted a job that would use their skills actively; only 5 percent of underskilled youth mentioned the same reason.[35]

Vocational education and training need to improve to contribute more to labor productivity

Another possible reason for the low levels of human capital in Africa and the mismatch between skills and jobs is the underuse and low quality and relevance of vocational education and training. Lack of technical and vocational education and training can increase workers' labor market vulnerability and exacerbate unemployment, particularly among young people.[36] While general education can be disconnected from the needs of the labor market, technical training can often

provide the skills required to facilitate the transition to employment.[37]

However, it is important to underscore that vocational training and apprenticeship programs are not a magical solution to Africa's labor market and skill mismatches. Overall, technical and vocational training is still supply driven rather than driven by labor market demand, which requires the use of dynamic labor market information systems that track current and future skill needs in the economy. Finally, traditional apprenticeships are not always properly regulated, and the quality and effectiveness of apprenticeship training need attention.

Vocational training is underused in Africa for several reasons. One is the high unit cost of training, which averages double the cost of general education. Another reason is that the common pedagogical model focuses on residential training in vocational training centers rather than on-the-job training (apprenticeship, work-study) in formal or informal enterprises, which makes vocational training less attractive to young people. There is also a preference for a university degree over vocational training because of the type of work a degree prepares students for.

In general, earnings are higher for a general education than for vocational training,[38] although that is true largely at higher levels of education. Additionally, most youth end up in informal sector jobs, for which a traditional apprenticeship rather than formal technical and vocational training is enough to get a job, although it might not be a good one.[39] Technical and vocational training programs are also not adequately evaluated, which is critical for assessing their efficiency and real value added to the labor market.[40]

Apprenticeships, formal on-the-job training, and other approaches offer promise. More important, however, is to have a good dual education system that complements general education with practical training in an industrial environment. Many European and Scandinavian countries have vocational training programs that are integrated into secondary education in a dual system of general education and school-based vocational training. These countries, which also have active labor market policies (such as public job centers and other public employment services), have smoother school-to-work transitions and lower youth unemployment rates and rates of youth not in education, employment, or training.[41] The top three European countries (Belgium, Finland, and Netherlands) have secondary school enrollment rates in vocational education of 41–52 percent.

The private sector can also step up training. On average, 29 percent of African firms offer formal training programs for employees, a share that is slightly higher than in Southeast Asia (24 percent) but far below that in Latin America (48 percent). There are also considerable differences across African countries in firms' provision of formal training, ranging from 55 percent of firms in Rwanda and 52 percent in Botswana to 10 percent in Egypt and 16 percent in Guinea (figure 2.18).

Our analysis of why firms in Africa provide formal employee training finds technological change and innovation to be the most significant determinants of a firm's decision to train its employees. Specifically, estimates of training incidence find that the probability of firms' provision of training increases by 10 percentage points for firms involved in product innovation, by 9 percentage points for firms involved in process innovation, and by 3 percentage points for firms that use foreign-licensed technologies.

These findings support the hypothesis that firms that undergo technological change typically face increased demand for skills. Providing additional training for employees is one way to meet that demand. However, estimates of training intensity, as measured by the share of permanent full-time production employees who received formal training, find that intensity is determined by human capital (proxied by the share of employees who completed high school) rather than by technological change. One explanation is that it is generally less costly to train more educated workers, some of whom have received a low-quality education.

Analysis based on World Bank Enterprise Survey data reveals a positive association between firms' provision of formal training and labor productivity in both manufacturing and services in Africa (figure 2.19). Specifically, baseline estimates of labor productivity show that labor productivity as proxied by the log of sales per worker is approximately 20 percent higher for firms that provide employee training, holding all

Technological change and innovation are the most significant determinants of a firm's decision to train its employees

BOX 2.3 A new learning agenda to reform education in Egypt

To respond to the high prevalence of skill and education mismatches in Africa, many countries have made considerable efforts in reforming their education and training systems and adapting them to current and future labor market needs. To make education and training relevant to its economic prospects, Egypt has also established a comprehensive Education Strategic Plan for 2014–30, which set ambitious goals with several key interventions:

Applied technology schools. An industry-driven model was introduced in 2018 to restructure the technical education system through a partnership of the Ministry of Education and Technical Education (MoETE), industrial partners, and the Quality Assurance agency. The MoETE selects and trains teachers, sets the curricula, and selects the school venue and lab equipment. The industrial partner provides an industrial venue for work-based learning and offers incentives to teachers based on performance. The Quality Assurance agency monitors the quality of the education and training programs. Students attend school for two days and spend four days in the factory each week and receive pocket money during training. After graduation, students receive priority in employment from the industrial partner. To date, 15 applied technology schools have been established out of an MoETE target of 100 by 2030.

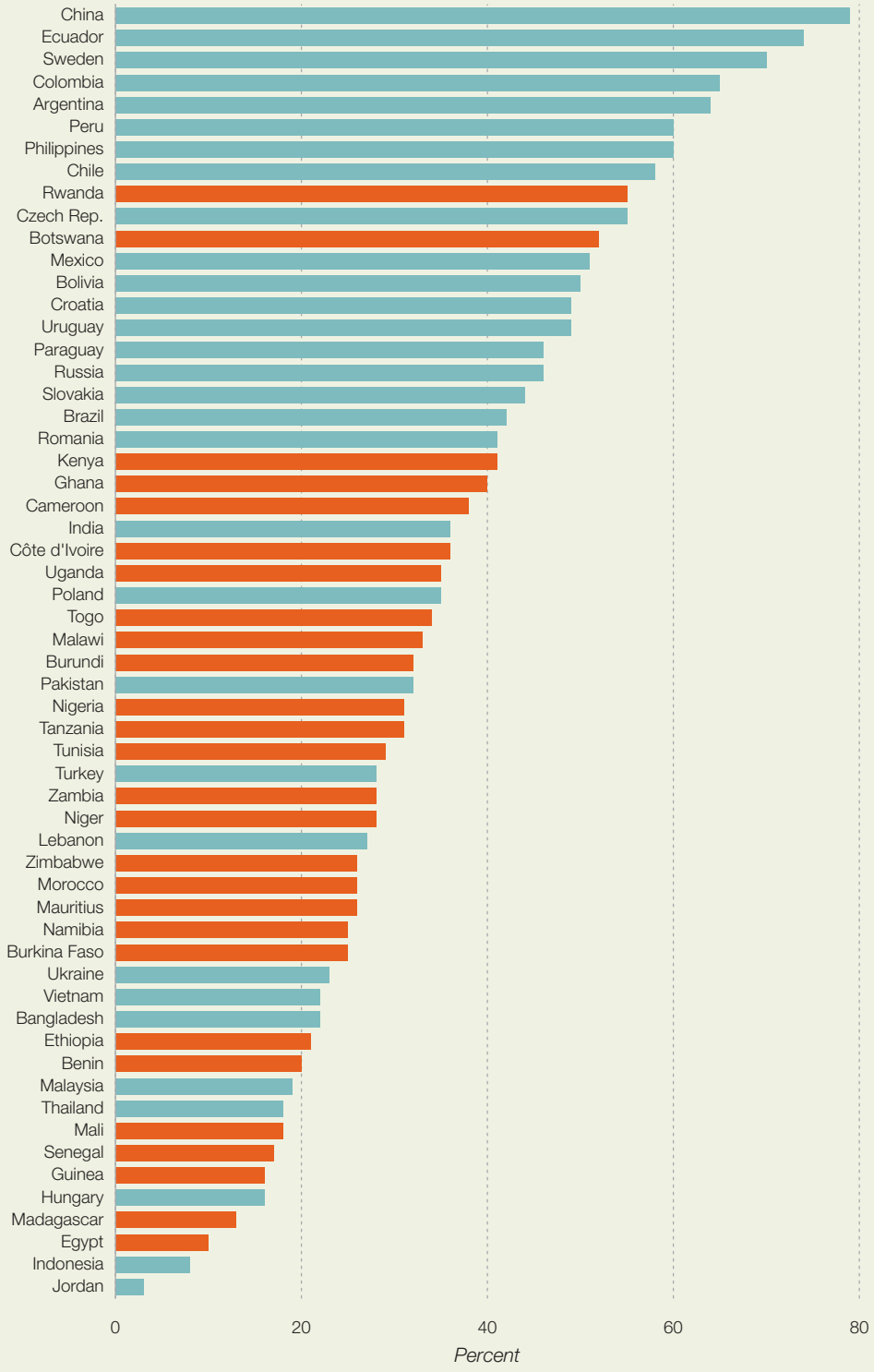
Technical Education Development Program. Egypt is rebranding its technical and vocational education and training system with the aim of increasing its attractiveness to students and industry. Under the Technical Education Development Program, it is reviewing the governance of its technical secondary education and establishing new models of public–private partnerships. A key priority is the reinforcement of work-based learning initiatives. For example, the "Egypt Makers" initiative, introduced in 2018 under the slogan "Learn…Improve…Work," seeks to strengthen students' production skills and improve and encourage technical and vocational education at the secondary school level. Programs generally run for three years, in collaboration with German quality control agencies which certify technical education graduates through an international technical education degree. An estimated 55 percent of students were enrolled in technical and vocational training schools in 2018/19.

Technology Development Program. An interactive classroom methodology is being applied in nine governorates in Egypt, with expansion to the remaining governorates planned for the next three years. To support the digitized examination format and new curriculum, the MoETE distributed 1.5 million tablet devices to students and teachers in high schools. The tablets are given to students free of charge, preloaded with the electronic encyclopedia the "Egyptian Knowledge Bank," which is also accessible to all students via internal networks and in youth and cultural centers. In addition to the digital devices, some 2,500 secondary schools were connected to a fiber-optic network, providing classrooms with high-speed internet access. "Smart classrooms" are also being introduced in remote areas. The classrooms can be assembled in less than 72 hours, fully equipped with smart technology devices and run by solar power.

Education 2.0 Reform Program. Introduced in September 2018, the program aims to reform and upgrade curricula, teacher training, school digitalization, and school facilities. New education systems have been established for preschools and grades 1–3, including scripted lesson plans for teachers. The program is also integrating different cultures and perspectives in 35 new schools that are adopting the Japanese model of holistic education (*tokkatsu*).

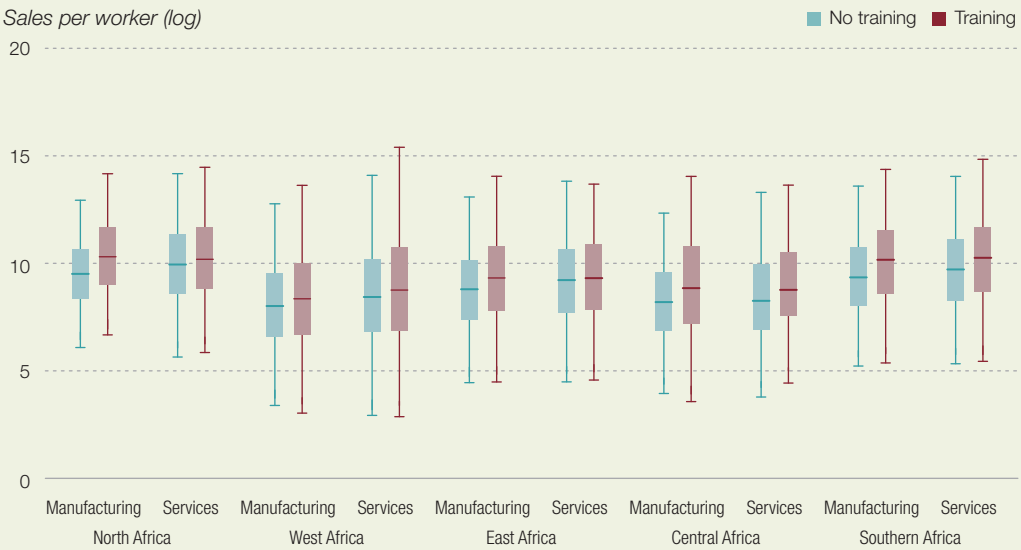
Source: Ministry of Education and Technical Education, Egypt. http://portal.moe.gov.eg/eng/Pages/default.aspx.

FIGURE 2.18 The proportion of firms offering formal training ranges widely across the world, 2019



Source: Staff calculations based on data from World Intellectual Property Organization.

FIGURE 2.19 There is a positive association between firms' provision of formal training and labor productivity in both manufacturing and services in Africa, 2006–18



Note: The figure displays the distribution of (log) sales per worker. The box indicates the interquartile range (the 25th and 75th percentile) and the median. The whiskers indicate the upper and lower values within 1.5 times the interquartile range beyond the 25th and 75th percentiles. Outliers beyond those limits are excluded.
Source: Staff calculations based on harmonized data from World Bank Enterprise Surveys.

A major obstacle to workers benefiting from their investment in education is the lack of access to decent jobs

else constant. Thus, the lack of formal training programs might be another reason for lower labor productivity in Africa.

Labor market distortions and the divergence between private and social rates of return to education

The private returns to schooling (defined as the percentage increase in earnings due to an additional year of schooling) by education level have shifted over time and differ considerably across countries.[42] For a long time, returns to education were highest at the primary level,[43] but recent evidence reveals the highest returns for higher education, followed by primary education and then secondary education (table 2.2).[44] This reversal may have been driven by the huge increase in the share of people with a primary education as countries introduced universal primary education programs. Of course, primary and secondary education remain necessary steps toward a higher education and thus must not be neglected.[45]

A major obstacle to workers benefiting from their investment in education is the lack of access to decent jobs. Labor market distortions account for the divergence between private and social rates of return to education by preventing many workers from benefiting fully from their education investments and thus from making meaningful contributions to the economy.[46] As discussed above, some workers feel that their education or skills are not well matched to their jobs.

TABLE 2.2 Average private returns to schooling by region, gender, and education

Region	Total	Gender		Education		
		Male	Female	Primary	Secondary	University
Sub-Saharan Africa	12.4	11.3	14.5	14.4	10.6	21.0
High income	10.0	9.5	11.1	4.9	6.6	11.1
East Asia	9.4	9.2	10.1	13.6	5.3	14.8
Latin America	9.2	8.8	10.7	7.8	5.4	15.9
South Asia	7.7	6.9	10.2	6.0	5.0	17.3
Europe/Central Asia	7.4	6.9	9.4	13.9	4.7	10.3
Middle East/North Africa	7.3	6.5	11.1	16.0	4.5	10.5
Global averages	9.7	9.1	11.4	11.5	6.8	14.6

Note: Estimates are based on 819 observations from 139 economies from 1970 to 2013. Returns by education level are based on the latest period for each country.

Source: Montenegro and Patrinos 2014.

PRODUCTIVE SKILLS AND ECONOMIC COMPLEXITY

Measuring the economic impacts of education and skills is challenging. Many studies assess the contribution of education at task and activity levels.[47] Along those lines, this section uses the economic complexity framework to shed light on the relationship between skills and education and the products countries are capable of producing—at present and in the future. Economic complexity is a measure of the collective skills and knowledge intensity of an economy based on the products it produces.[48]

The economic complexity framework

The Economic Complexity Index summarizes countries' collective productive knowledge[49] based on thousands of export products in two dimensions: the diversity of products in the export basket, or the number of products that a country can export competitively, and the ubiquity of products in the export basket, or the number of countries that can export a product competitively.[50] Economic complexity is built by developing new, more sophisticated products that are "nearby" in the current product space. Nearby products can be produced with similar know-how, offer higher complexity than average, or offer greater opportunity for future diversification by being closely linked to many other high-complexity products in the product space.[51]

Building economic complexity has important implications for the labor market because it implies creating new lines of tasks and products and eliminating others.[52] Progress in economic complexity, therefore, sheds light on the relative impacts on some occupations and their associated skills and on levels of unemployment.[53] Moreover, economic complexity helps policymakers identify sectors or products for industrial policy interventions by guiding horizontal (systemwide) and vertical (sector-specific) industrial policies and identifying current production capabilities and outlook. Policies can thus emphasize developing capabilities that are relatively easier and have a larger potential for growth (those that are "nearby").

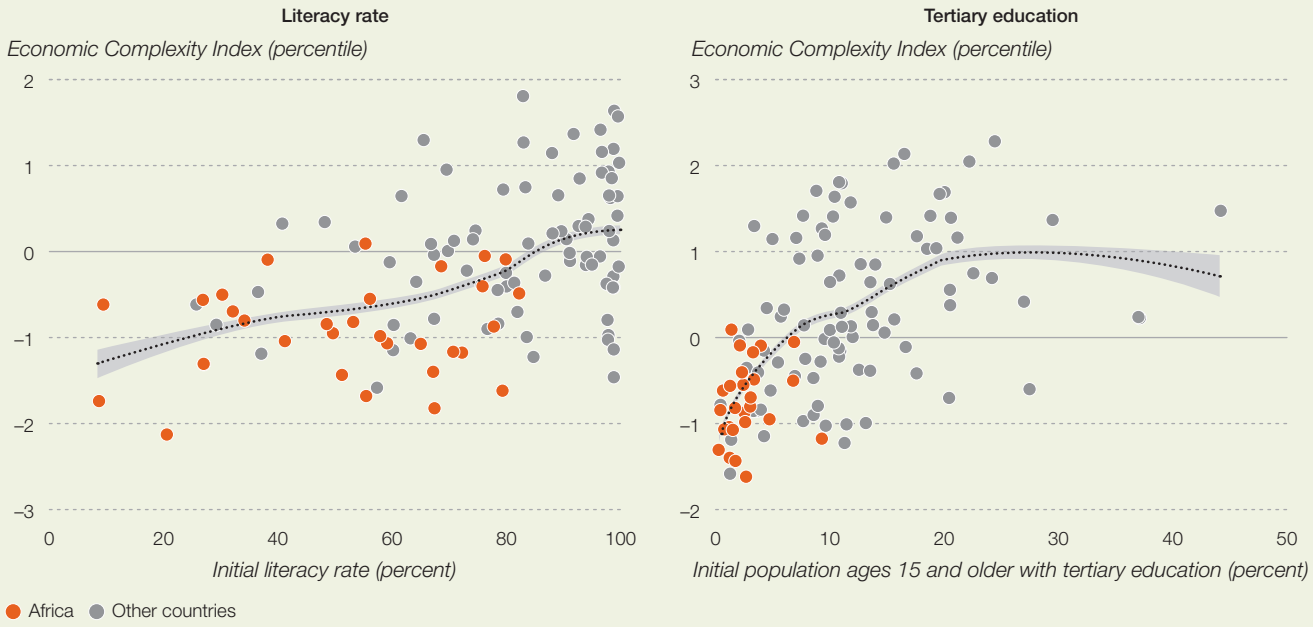
Economic complexity helps policymakers identify sectors or products for industrial policy interventions

Developing productive capability

Developing productive capability starts with developing basic skills and education

For increasing economic complexity, improving the literacy rate is as important as increasing the higher education rate. The persistent lag in the basic literacy rate in many African countries is reflected in their low level of collective productive knowledge, whereas in countries whose literacy rate has improved in recent decades, economic complexity has increased as well (figure 2.20, left

FIGURE 2.20 **Increasing current levels of literacy is as important as increasing higher education to achieve higher complexity, 1995–2017**



Note: The complexity data are for 2017. The Economic Complexity Index summarizes countries' collective productive knowledge based on the diversity of exports and their ubiquity (number of countries that export the product). The smoothed nonparametric lines show the relationship between initial literacy rate or higher education and the level of economic complexity.

Source: Staff calculations based on data from the Harvard University *Atlas of Economic Complexity* and World Bank World Development Indicators database.

panel). The same is true for countries that have improved their higher education rate (figure 2.20 right panel). For instance, a 10 percentage point increase in the initial literacy rate is associated with a 0.1 point higher future Economic Complexity Index. Similarly, a 10 percentage point greater level of higher education in the workforce is associated with a 0.3 point increase in the Economic Complexity Index.

The relationship between the initial literacy rate and economic complexity strengthens at a higher level of literacy (roughly 50 percent and higher). This implies that there is a critical mass of workforce with basic skills and literacy levels that is needed at the workplace to breakthrough into the production of complex products that are more likely to be knowledge intensive. For university education, the relationship is stronger at lower levels of higher education in the labor force. This implies that a small increase in the proportion of university-educated workforce today has considerable potential to increase economic complexity in the future. In general, it implies that countries need to considerably increase the share of their workforce who can read manuals, operate machinery, do basic arithmetic, and have other work-related skills in order to produce more complex products. It also implies that countries need to boost the proportion of tertiary-educated workforce, who can innovate and adopt new technologies, to achieve higher level of complexity.

Firms with better skilled workers have greater productive knowledge

The current stock of skills and education in the workforce also explains a significant part of cross-country variation in collective productive knowledge. Our analysis shows that economic complexity is strongly associated with years of education adjusted by test scores and with the overall

stock of human capital, even after adjusting for the level of GDP. Moreover, improvement in the education of the working-age population is significantly correlated with growth in economic complexity, particularly for African countries. For instance, a 1 percent annual increase in literacy rates among African countries is associated with a 0.17 percent increase in the growth of economic complexity.

At the firm level, there is a strong correlation between workers' skills and the complexity of the product that the firm produces. For instance, regression analysis shows that a 10 percent increase in the proportion of unskilled workers in a firm is associated with a 0.05 point lower score on the Economic Complexity Index. The correlation remains strong even after controlling for region, country, and time variations.[54]

Product space analysis

The product space provides a framework for pragmatic and gradual upgrading of productive capabilities

There is a dearth of evidence on the implications of technological change for the future of work in Africa. The debate on how African countries can benefit from the Fourth Industrial Revolution—driven by digital technologies such as artificial intelligence, the internet of things, and 3D printing—is dominated by suggestions on how to leapfrog across technologies to catch up with advanced economies.[55]

Product space analysis suggests that it is feasible to upgrade capabilities in a pragmatic and gradual manner to advance a country's productive capability by expanding production to "nearby" products. A country's ability to export a new product depends on its ability to export products requiring similar capabilities (nearby products). Productive capabilities in the periphery of the product space, such as natural resources extraction, are difficult to reorganize into the production of other products. However, products at the center of the product space could easily be reorganized into the production of many different nearby products that are feasible to produce.[56]

Analysis of the product space for four African countries identified the current top-10 most complex products that each country produced and exported in 2017, along with nearby, more complex products. The analysis shows the feasibility of producing highly complex products with the current productive knowledge plus some upgrades. Morocco and Uganda have 13 more complex nearby products, Egypt has 11, and Kenya has 10. For Egypt, the top-three nearby products that are feasible with the current level of productive capability are rubber manufacturing; dying, tanning, and coloring materials; and medical and pharmaceutical products. For Kenya, Morocco, and Uganda, the top three are rubber manufacturing, metalworking machinery, and power generating machinery and equipment.

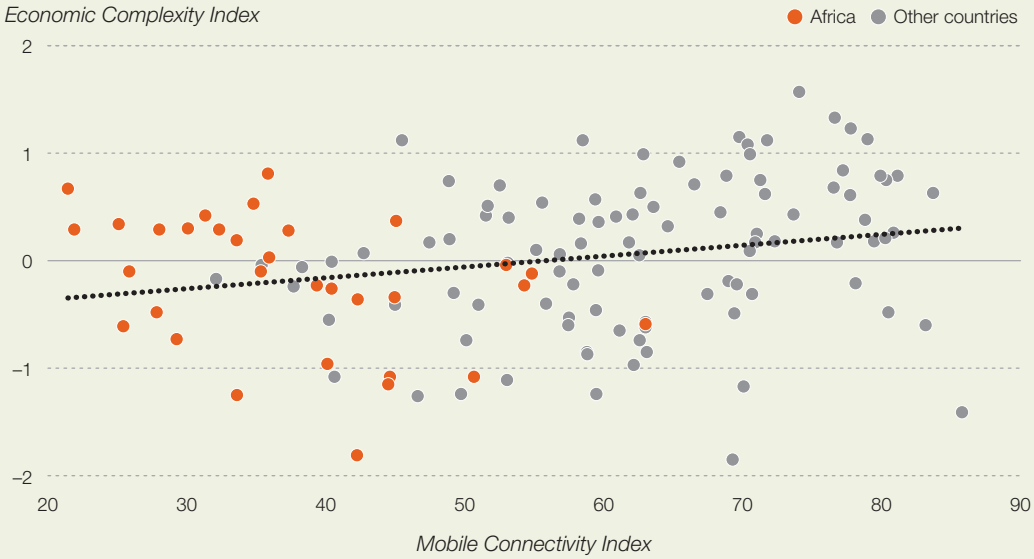
Education of the workforce and economic complexity

While the nearby products in the product space are feasible to produce with some upgrade to current productive capabilities or know-how, in practice firms face multiple impediments that also need to be considered. Constraints such as access to finance, transport, land, or electricity; corruption; and political instability impede firms' survival and dynamism.[57] In addition, our analysis shows a lower number of nearby products for firms that draw their workers from an inadequately educated workforce. For instance, the correlation between an inadequately educated workforce and the number of a firm's nearby products ranges between –0.06 and –0.15 in the four countries examined, implying that a 10 percent higher proportion of firms that draw workers from an inadequately educated workforce is associated with 0.6–1.5 fewer nearby products in the product space. The correlation is weak, but it implies that the more binding the worker education constraint, the fewer the number of nearby products that a firm can produce with its current productive capacity.

Similarly, the skill mix of the workforce is correlated with the number of nearby products. Firms in the four sample countries with a high percentage of low-skilled workers have fewer nearby product upgrade opportunities. For instance, a 10 percent increase in the proportion of high-skilled workers in a firm is associated with having 2.0 additional nearby more complex product opportunities. Therefore, firms with better skilled workers have

A country's ability to export a new product depends on its ability to export products requiring similar capabilities

FIGURE 2.21 Mobile connectivity is positively correlated with economic complexity, 2017



Note: The Economic Complexity Index summarizes countries' collective productive knowledge based on the diversity of exports and their ubiquity (number of countries that export the product). The Mobile Connectivity Index measures country performance against key enablers of mobile internet adoption on a range of 0 (low connectivity) to 100 (high connectivity).

Source: Staff calculations based on data from the Harvard University *Atlas of Economic Complexity* and GSMA (https://www.gsma.com/mobilefordevelopment/connected-society/).

Computer and internet literacy is important for enabling businesses to grow in innovation-driven industries

more capabilities to produce and export a larger number of nearby complex products.[58]

Investment in digital literacy for increasing productive capability

As production in many sectors shifts toward digitalization and greater use of automation, increasing the digital literacy of the workforce is expected to boost a country's growth in collective productive knowledge.[59] Digital literacy (computer and internet literacy) is important for enabling businesses to grow in innovation-driven industries and for improving governance and the provision of public services. For workers, digital literacy is the key for better employment prospects in innovative companies that require computer-based skills. Analysis shows a positive correlation between the level of mobile connectivity (as measured by the Mobile Connectivity Index[60]) and the collective productive knowledge of countries after the level of GDP is adjusted for (figure 2.21).

Developing the digital skills of the workforce requires investing in technology and skill training. That means equipping students with computers and training teachers to use new technologies to improve learning. It also means integrating digital literacy into instruction in other subjects.

EDUCATION AND SKILL DEVELOPMENT TO MEET AFRICA'S FUTURE NEEDS

Projected changes in Africa's demographic structure and the pace of global technological change make it crucial to assess Africa's future human capital needs.

Africa has the largest youth population in the world

African countries have some of the youngest and fastest growing populations in the world, while

the populations of North America and Western Europe are aging rapidly. Over the last decade, Africa's population under age 20 increased by 25.6 percent, the fastest rate ever, while the same cohort declined in Asia (by 0.8 percent) and Latin America and the Caribbean (by 4.1 percent). Over 2010–20, Africa's global share of the population under age 20 is expected to grow an average of 12 percent, and by 2070 that youth cohort is projected to become the largest share of the continent's population (figure 2.22).

This young population represents an important resource for Africa. However, to benefit from the demographic dividend, African countries need to reevaluate their education systems to ensure that this young population becomes a productive force in economies that are being transformed by the changing nature of work.

Africa lags behind in digitalization and the technologies of the Fourth Industrial Revolution

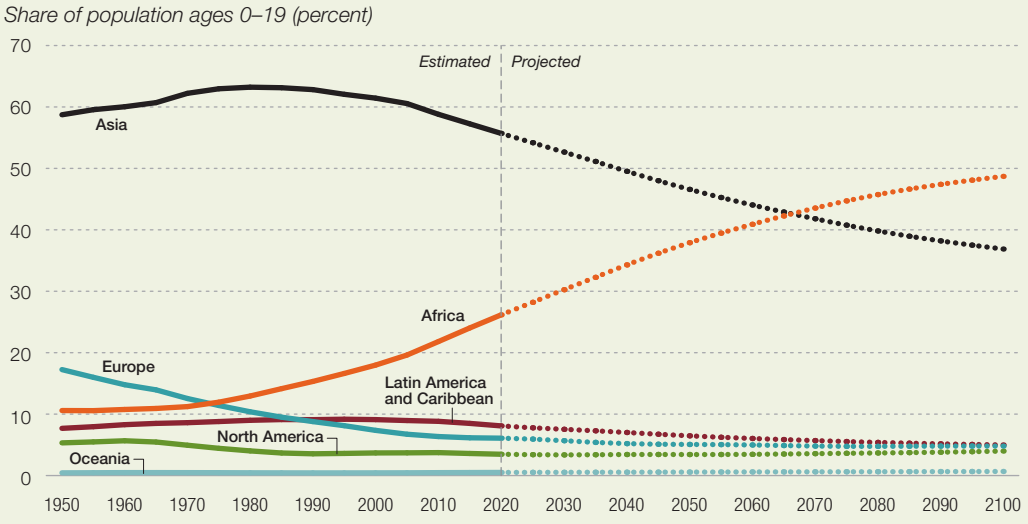
Another important change is the technological revolution referred to as the 4IR, which has important implications for education, employment, and the future of work. The 4IR is characterized by accelerating digitalization and the use of new technologies—including artificial intelligence, cloud computing, robotics, 3D printing, the internet of things, and advanced wireless technologies. Like all regions, Africa needs to prepare for the implications of the 4IR.

As automation complements human workers, these 4IR technologies can increase productivity because fewer people will be needed to perform the same tasks. The 4IR may also mean the end of export-led manufacturing, as automation enables more advanced economies to bring manufacturing home again. And the 4IR technologies can also create new types of activities. However, modern technologies increase skill premiums and thus can worsen income inequality by replacing low-skilled manual jobs and complementing the work of high-skilled workers.

Africa lags far behind in 4IR technologies, with many countries digitally underconnected (figure 2.23). Before 2017, South Africa accounted for nearly all the robot installations in Africa. Since then, all reported robot installations of more than 100 units have been concentrated in North Africa, roughly 75 percent of them in the Moroccan automotive industry and the others in Egypt and

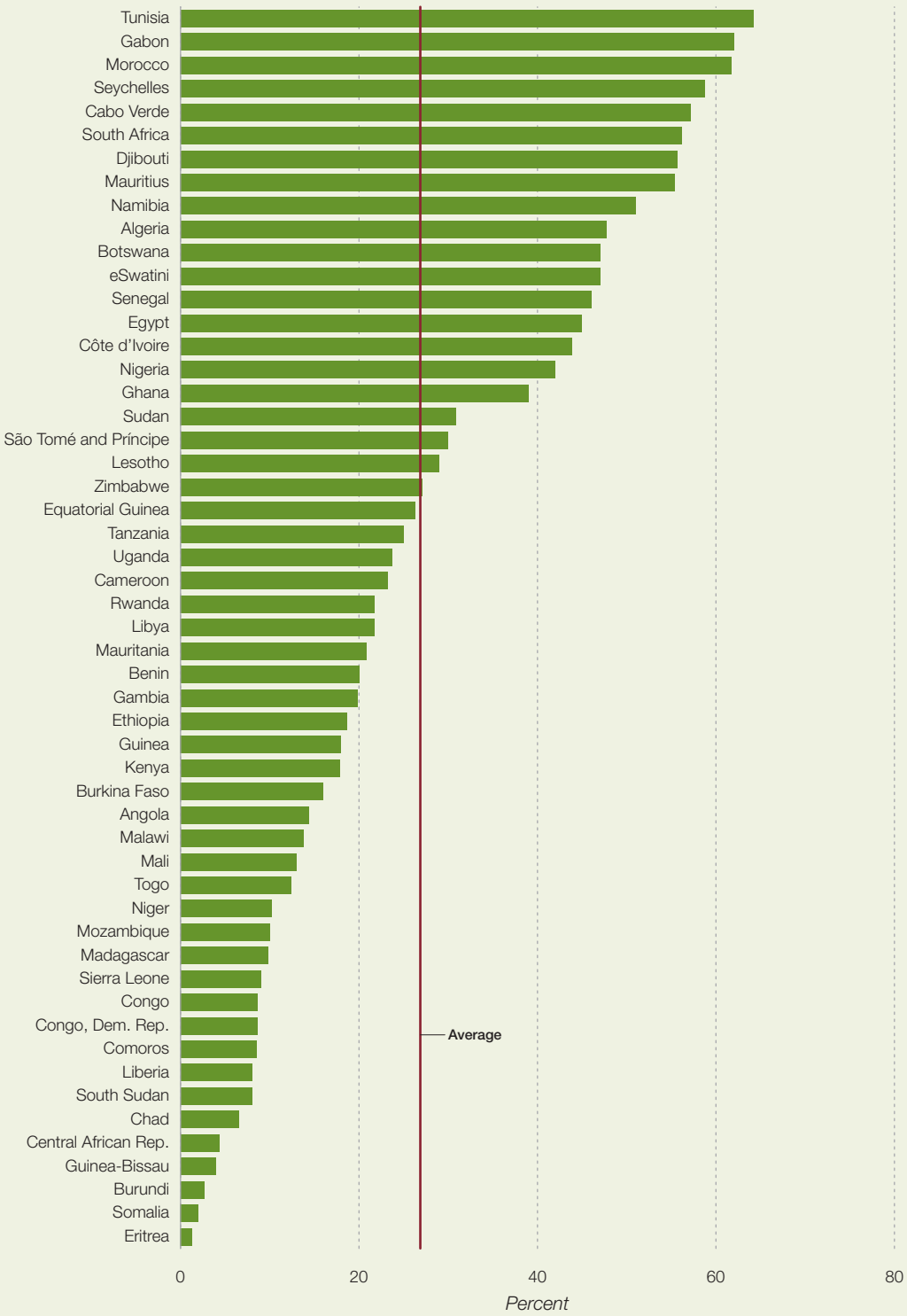
To benefit from the demographic dividend, African countries need to reevaluate their education systems to ensure that this young population becomes a productive force

FIGURE 2.22 The share of population under age 20 is projected to be the highest for Africa by 2070



Source: Staff calculations based on data from the UN population database in 2019.

FIGURE 2.23 African countries are digitally underconnected, with many countries below average in the percentage of the population using the internet, 2017



Source: Staff calculations based on data from the International Telecommunication Union's World Telecommunication/ICT Indicators database.

Tunisia (International Federation of Robotics database). And South Africa, while the most advanced country in robotization in Africa, is one of the least prepared countries globally for the age of intelligent automation, with a score of 41 of 100 on the Automation Readiness Index, which assesses policy and strategy in innovation, education, and the labor market.[61]

At the same time, the 4IR can create tremendous opportunities for creating jobs in Africa and for leapfrogging development hurdles. A 2018 study for Kenya documented the new jobs created through digitalization, including in response to demand for technology experts to enable the expansion of digital services.[62] The use of transaction and savings data to price microcredit and assess credit risks has not only created new jobs but has increased savings and access to credit for informal traders and poor households, spurring investment, growth of small and medium-size enterprises, and employment. Digital platforms are also stimulating entrepreneurship and self-employment. To take full advantage of such opportunities for turning technological disruptions into opportunities, African countries need to reimagine their education, employment, and growth strategies in light of the 4IR.[63]

Africa needs to adapt faster to the changes in labor market demand for skills

The technological disruptions caused by the 4IR are also affecting the skills needed in the labor market, in particular along three dimensions: demand is rising for nonrepetitive cognitive and socio-behavioral skills, which make employees more adaptable; demand is falling for skills that are routine and tied to particular jobs; and having a mix of different kinds of skills is increasingly valuable.[64] This skills evolution is affecting both new and current jobs. In particular, World Economic Forum surveys indicate that companies in Africa expect certain skills to be in increasing demand between 2018 and 2022: active learning and learning strategies, technology design and programming, complex problem-solving, critical thinking and analysis, leadership and social influence, reasoning and ideation, emotional intelligence, resilience, stress tolerance, and flexibility.[65]

The changing demand for skills over 2013–17 was reflected in hiring trends in Africa. Demand rose for jobs that require cognitive and socio-behavioral skills (box 2.4), such as software engineers, marketing specialists, writers, financial advisors, and data analysts, while demand fell for jobs that involve repetitive actions, such as mechanical technicians, administrative assistants, and accountants.[66] In Kenya for instance, more than 40 percent of workers using computers perform complex tasks with advanced programming requirements.[67]

Developing the cognitive and socio-behavioral skills needed in today's and tomorrow's labor markets must start in early childhood. Building the necessary foundation requires investments in early childhood in nutrition, health, social protection, and education. But Africa has been underinvesting in these areas, particularly for the poorest children who need them most.[68]

Higher education is also more important than ever in "futureproofing" the workforce. Developing the complex cognitive skills that are in increasing demand requires education beyond primary and secondary school. Continuous learning will be necessary to prepare adaptable workers who are able to master multiple careers and jobs. Higher education is evolving to meet this demand by offering a wide array of courses and degrees through multiple access points, from classrooms to online platforms such as EdEx, Coursera, and Udacity, and flexible attendance modes (part time as well as full time and self-paced learning online). Universities are also major centers of research and development, contributing to innovation in the economy. Yet across most African countries, less than 10 percent of the population has a university education, and the average for the continent is 3.8 percent (figure 2.24).

With the shortage of engineering, scientific, and digital skills in Africa, human capital remains a key constraint in preparing for the future of production shaped by the disruptive technologies of the 4IR. Absent major changes in education and training systems, this problem is likely to worsen. University education is concentrated in business administration, social sciences, education, and humanities, while the STEM studies that are crucial in a 4IR world are under-represented. For example, enrollment is under 10 percent in engineering and

African countries need to reimagine their education, employment, and growth strategies in light of the Fourth Industrial Revolution

BOX 2.4 Cognitive skills, noncognitive skills, and labor market outcomes

Both cognitive and noncognitive (socioemotional) skills are needed to succeed in the labor market.[1] Noncognitive skills include behaviors and attitudes such as discipline, ability to work with others, and self-confidence. Noncognitive skills are often measured using the big five factors model of personality traits: openness, conscientiousness, extraversion, agreeableness, and emotional stability.[2]

Studies in developed countries find that, in addition to cognitive skills, socioemotional skills and personality traits are important determinants of labor market outcomes.[3] There is less evidence for low- and middle-income countries, especially in Africa. Studies have found that while the effect of cognitive skills is strong, noncognitive skills also have a small but significant effect on earnings, even after controlling for education and other individual characteristics and family background.[4]

Evidence for India reveals that noncognitive skills such as self-esteem and efficiency are positively related to learning achievements and labor market outcomes.[5] In Peru, cognitive and noncognitive skills have been shown to be equally and positively valued in the labor market.[6] Findings for Colombia show that in urban areas, socioemotional characteristics as well as cognitive skills affect labor market participation and schooling decisions.[7] In Colombia, socioemotional skills matter more for labor force participation among women, youth, and less educated workers, while cognitive skills explain more of the differences in wages among men, older workers, and more educated workers. Another study for Colombia, Peru, Kenya, and South Africa, using data from small business owners holding loans from banks and microfinance institutions, found that profits and repayment behavior are strongly associated with socioemotional skills, which are predictors of market entry and good entrepreneurship performance.[8]

Studies for Kenya and Togo generally find positive returns to cognitive and noncognitive skills in education and labor market outcomes.[9]

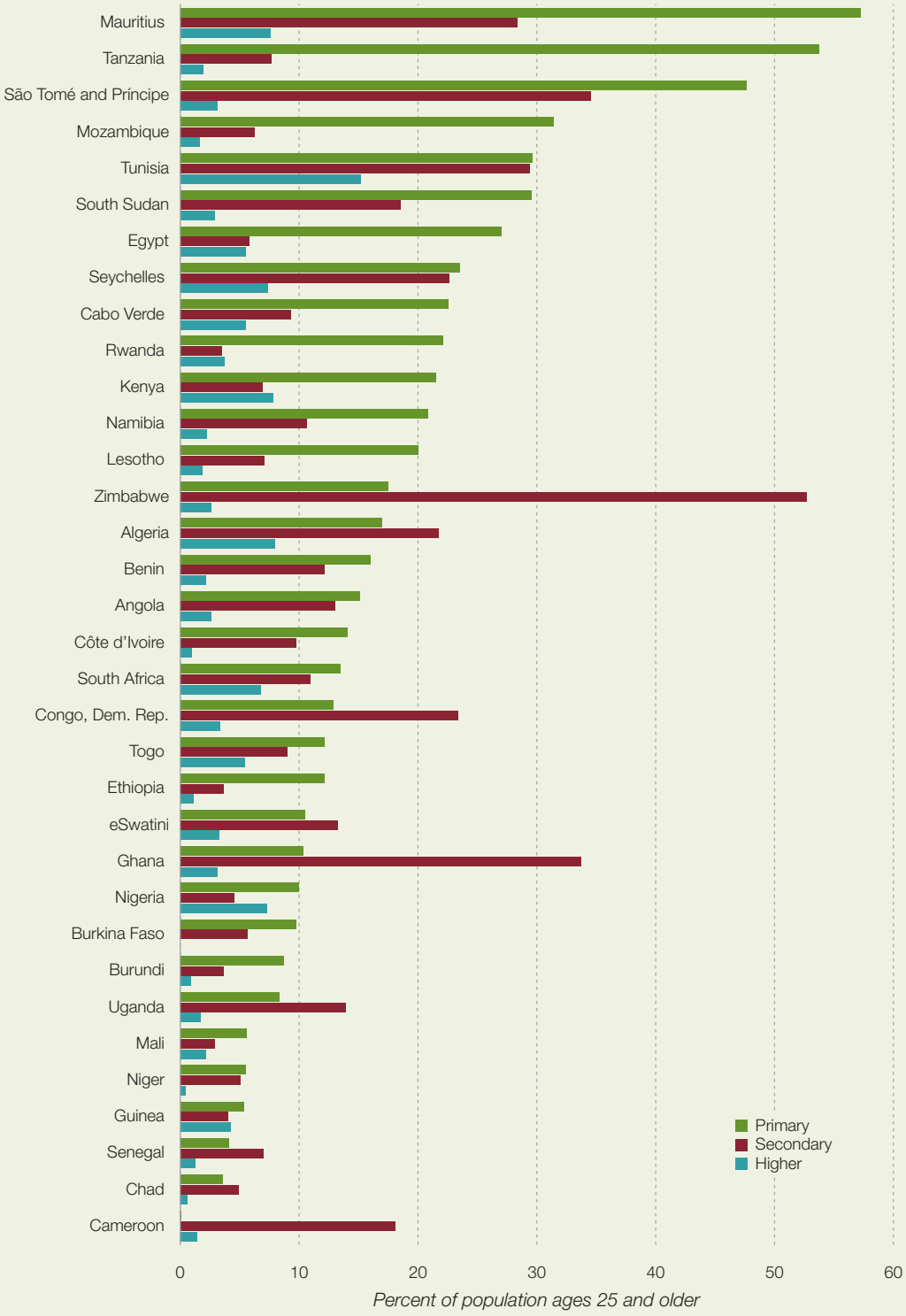
Notes

1. Heckman et al. 2006.
2. Goldberg 1990.
3. Bowles et al. 2001; Heckman et al. 2006; Nyhus and Pons 2005.
4. Valerio et al. 2016.
5. Krishnan and Krutikova 2012.
6. Díaz et al. 2012.
7. Acosta et al. 2015.
8. Klinger et al. 2013.
9. Valerio et al. 2016; Campos et al. 2017.

in natural sciences, mathematics, and statistics, and under 5 percent in information and communication technologies (figure 2.25). To better prepare for the future of work, education and training institutions in Africa should give more emphasis to STEM subjects, with enhanced public–private sector collaboration to ensure that skill development is in tune with labor market needs (box 2.4).[69]

With a workforce that is unprepared for the digital age, Africa's economies will fall further behind in global competitiveness. At the same time, new technologies offer opportunities for Africa to innovate and leapfrog in education and training, and many countries, including Kenya, South Africa, and Uganda, are hotspots of education innovation (box 2.5). The ability to leverage technology to boost the quality of education will become increasingly important as population growth strains education infrastructure and resources.[70]

FIGURE 2.24 Across most African countries, less than 10 percent of the population 25 years and older has a university education, and the average for the continent is 3.8 percent (most recent year)



Note: Figure includes only countries with data available for 2000 or later.

Source: Staff calculations based on data from UNESCO Institute for Statistics.

FIGURE 2.25 Not enough African university students are enrolled in the science, technology, engineering, and mathematics studies that are crucial for the labor market of the future, 2015

Source: Staff calculations based on data from UNESCO Institute for Statistics.

BOX 2.5 Linking and scaling education and employment in digital technologies for sustainable job creation: The Coding for Employment Program of the African Development Bank

With one of the fastest growing populations in the world, Africa is expected to increase its working-age population from 705 million in 2018 to almost 1.0 billion by 2030.[1] As a potential supplier of global labor, Africa is uniquely positioned to take advantage of the growing knowledge-based digital revolution. Investing in a technology-driven knowledge-based economy powered by high-end ICT-trained workers is increasingly recognized as an effective job creation strategy and an engine for innovation and economic growth.[2] This investment can have a catalytic effect on social and economic development, as highly skilled professionals transfer and share their knowledge with a wider community.

Creating the necessary pipeline of potential talent calls for scaling up digital skills programs ranging from basic digital literacy to software development skills. The African Development Bank's Coding for Employment Program is building partnerships among global technology firms, innovation private sector ICT firms, and academic institutions to provide ICT infrastructure. The program is establishing innovation centers of excellence, including in remote settings; offering demand-driven ICT and soft skill training to youth; and forging links to the ICT ecosystem for internships and job opportunities. Since March 2019, the program has trained 2,000 participants in digitals skills, nearly half (46 percent) of them women.

Rationale: Scaling up digital skills for the future of jobs. The exponential speed of the digital revolution is redefining the world economy and the future of work. Technologies such as artificial intelligence, robotics, cloud computing, and the internet of things are reshaping how industries innovate, deliver products and services, and reach their customers. The new digital economy represents an unprecedented opportunity for Africa to leapfrog and find innovative solutions to local socioeconomic problems. But first, African countries must invest in building highly skilled human capital with entrepreneurial and problem-solving skills, as well as ICT and digital skills. African youth, half of them women, are three times more vulnerable to unemployment and underemployment than adults, and despite increased access to education, a significant mismatch exists between the skills of youth and those sought by employers.[3]

(continued)

BOX 2.5 Linking and scaling education and employment in digital technologies for sustainable job creation: The Coding for Employment Program of the African Development Bank *(continued)*

The African Development Bank, as part of its Jobs for Youth in Africa strategy, launched the Coding for Employment program to nurture a new generation of digitally enabled African youth. The program will support the establishment of 130 innovation centers and the creation of 9 million direct and indirect jobs by 2025.

Program features. The Coding for Employment Program, which targets youth ages 15–35, comprises four main components:

- *Establishment of innovation centers of excellence.* In collaboration with host universities and technical and vocational training centers, furnishes the centers with computers and other state-of-the-art equipment to provide a suitable learning environment conducive to innovation and collaboration.
- *Provision of demand-driven training program.* In partnership with leading technology firms, including Microsoft, delivers basic digital training and intermediate and advanced digital entrepreneurship training, based on demand in the labor market.
- *Creation of linkages to employment and to the digital ecosystem.* Equips youth participants with essential soft and interpersonal skills (communication, teamwork, critical problem solving) that strengthen employability, and creates links to innovation hubs and start-up companies that provide apprenticeships and work experience for youth interested in pursuing an entrepreneurial path.
- *Research.* Focuses on learning from the program through collaboration with academic institutions on how to make African education systems more agile and industry-responsive in individual country contexts and in an environment of innovation and rapid change.

Lessons. The Coding for Employment Program has identified 14 centers in the pilot countries (Kenya, Nigeria, Rwanda, Senegal) and trained over 2,000 youth (46 percent women) between March and June 2019.

Increasing women's participation in information and communication technologies. To reduce large gender divides in digital skills, which reduce women's employment opportunities, the program has established all-women cohorts and set up supports such as daycare for participants' children to encourage more participation by women.

Integrating soft skill training into the program to make workers more adaptable and creative and increase their management skills. Surveys conducted by the program among local and international private sector firms reveal that many youth enter the workforce with adequate technical skills but lacking essential soft and interpersonal skills.

Easing socioeconomic barriers to digital training access. In the short time that the program has been running, it is clear that African youth are hungry for opportunities to advance themselves. For instance, in northern Nigeria, the program was oversubscribed, receiving 15,000 applications. However, many of the applicants lack the means to attend digital training or cannot afford to take time off for training. Training programs need to provide logistical support to improve access to the training venue and make the schedule flexible to allow youth to catch up on any missed lessons.

Supporting facilitator engagement. Facilitators are key to the success of the program, which has developed a robust incentives framework with initiatives that engage local communities.

Notes

1. African Development Bank 2019.
2. http://www3.weforum.org/docs/WEF_EGW_FOJ_Africa.pdf.
3. African Development Bank 2015.

STRATEGIES AND POLICIES TO BUILD THE WORKFORCE OF THE FUTURE

While economic growth has been robust in Africa over the past two decades, it has not been inclusive and has failed to create enough decent jobs for a growing workforce. Poverty and inequality remain high, undermining long-term progress. Low levels of education and skills of the workforce have been driving these trends.

Despite progress—and with a few country exceptions—the quality of human capital is much lower in Africa than in other regions of the

world, both in average years of education and in harmonized test scores. Educational attainment and test scores are also below the maximum achievable for many African countries, given their level of income. Gender gaps remain substantial in education and jobs. There is also a puzzling divergence between private returns to education —which are high—and social returns to education —which are low—indicating that the labor market may not be giving adequate incentives for young people to invest more in their education.

Making matters worse, there are larger mismatches between the skills and education of the workforce and the needs of employers in Africa than in other developing regions. Employed youth in Africa are more likely than their peers in other regions to have skills and education poorly matched to their jobs and to job opportunities. Skill and education mismatches reduce job satisfaction and job stability, and, thus, productivity.

Strategies for improving education and skill training must change to meet current needs and to prepare better for the future

Africa also faces a daunting employment challenge. Just to keep the current level of unemployment constant, it needs to create 12 million jobs every year. With rapid technological change expected to disrupt labor markets further, it is increasingly urgent that countries address fundamental bottlenecks to creating human capital. Improving the education and skills of the workforce is one of the key factors needed to create enough good jobs now and prepare the workforce for the changing future of work.

How will Africa meet the challenge of a rapidly growing young population and a rapidly changing technological environment? This section sets out a number of strategic initiatives and the policies they require to meet these challenges. Strategies for improving education and skill training must change to meet current needs and to prepare better for the future, and while policies need to be tailored to individual country circumstances, policymakers can take a number of measures to improve the quality of education and align education policy with labor market realities.

Make strategic choices to anticipate and build a flexible and productive workforce

The potential effects of new technologies on education and skill demand in Africa remain speculative, but it is indisputable that African countries will need to anticipate and build a flexible and productive workforce to meet future challenges. To meet these challenges, African countries need to establish national education and skill development strategies.

Despite large gains in enrollment, Africa lags behind other regions in average number of years of education completed for the population over 25 years old and in achievement of universal primary education. There are also gaps between education attainment and the quality of that education, given Africa's level of income. High dropout rates of more than 30 percent (compared to a global average of 13 percent), together with the poor quality of schooling, are a main contributor to Africa's low education achievements and low returns to schooling.

To strengthen worker employability, firm productivity, and inclusive growth, African countries need a national strategy for education and skill development, and to make growth more inclusive, these strategies should not only focus on young people, but also on adult workers, school dropouts, workers in the informal economy, and workers in economically and socially disadvantaged groups.[71]

Build a more flexible and productive workforce

A first step for most countries on the continent will be to integrate education and skill development strategies into their economic development and industrial development plans. A poorly skilled and educated labor force is typically the top constraint mentioned by global executives when considering manufacturing investment decisions in Africa.[72]

Because "soft skills" are likely to become increasingly important, education and training institutions should be encouraged to inculcate and reinforce positive values, starting with young children. These attributes include a strong work ethic, honesty, tolerance, respect for authority, punctuality, and pursuit of excellence. These are the intangible characteristics of a high-quality workforce.

Governments will need to invest in building the infrastructure needed to enable the development of appropriate skills.[73] This includes basic infrastructure, such as reliable and affordable power supply, transport infrastructure, and postal address systems, as well as digital infrastructure, such as high-speed internet, mobile virtual networks, and interoperable systems.

Governments can also accelerate investments in the development of critical future skills, such as:[74]

- Job-specific digital skills, including computer programming and technology design.
- Job-neutral digital skills, including data analysis and safe internet browsing.
- Soft skills, including communication and analytical and critical thinking, to enable workers to adapt to different tasks in a rapidly changing technological environment.
- Ancillary skills related to manufacturing that will remain important for supporting the digital economy, including physical skills that require dexterity such as industrial driving and embroidery, as well as lower-skilled services, such as sales, repair, and maintenance.

Reduce dropout rates and improve education outcomes

- Improve access to schools in remote areas. One of four children in Africa lives 2 kilometers or more from the nearest school, with no reliable means of transportation.[75] Conditions are even worse for households in rural areas and in low-income countries. Irregular attendance eventually leads to grade repetition and dropouts. Increasing access to schools by reducing the average distance to a school and improving ground transportation can reduce dropout rates and irregular attendance, especially in remote areas. Egypt's Social Fund for Development program has shown that better access to education in rural areas can significantly reduce illiteracy rates.
- Offer incentives such as free school uniforms and textbooks and daily meals to improve learning abilities and potentially reduce school dropout.
- Introduce mandatory education, at least at the primary school level, and ban child labor (and enforce the ban). Legal mandates can help overcome cultural and other barriers that promote dropout rates, while bans on child labor can increase school completion rates.
- Increase secondary school enrollment and completion. With substantial progress made toward universal primary education, African countries now need to determine how to ensure greater access to secondary education. Evidence from Ghana shows that secondary schooling has far-ranging effects on students' cognitive skills, employment, health-seeking behavior, and fertility.[76] One policy option to increase secondary school enrollment and completions is to make scholarships available to students in need. Scholarships can increase access to secondary education and ease the transition from primary to secondary education.
- Implement pedagogical reforms, increase education standards, reform education governance, and implement effective incentives such as making teachers' contract renewal conditional on performance or encouraging teaching in the local language. For example, the successful Extra Teacher Program implemented in 2005/06 in the Western Province of Kenya funded school committees to hire an extra teacher on a renewable short-term contract, with renewal conditional on performance.[77] The performance-based incentive generated positive results.

African countries now need to determine how to ensure greater access to secondary education

Align education and training systems with the labor market

To enable better matching of the skills of the workforce with job opportunities, governments need to develop a demand-driven education system in synch with employers' needs. Policies to increase alignment include:

- Partnering with universities and training institutions as well as firms to build a workforce that is better synchronized with labor demand.
- Reducing the high transaction costs of job search, particularly in urban areas. High costs (such as transport costs to consult vacancy boards and to print resumes and cover letters) often prevent youth from learning about job opportunities and from applying for jobs that match their skills and qualifications.[78] By establishing or improving public job search agencies that centralize information on job availability and provide advice on job search and opportunities, African countries could reduce job-search costs and improve job matching.
- Adopting a forward-looking approach to education system reform to ensure that the workforce will match tomorrow's labor market

requirements as well as today's. The education system needs to be in tune with rapidly emerging jobs in high demand in the private sector (such as software engineers, marketing specialists, writers, financial advisors, and data analysts).

- Strengthening public–private sector collaboration so that skills are in tune with market needs. To be more effective, vocational training and apprenticeship programs need to be part of a strong and collaborative system with industry, to ensure that training institutions are demand driven and impart skills that meet labor market demand.
- Emphasizing the digital skills that enable African youth to contribute fully to the digital economy. The African Development Bank, for example, has launched the Coding for Employment program to nurture a new generation of digitally enabled African youth. The program aims to support the establishment of 130 innovation centers across Africa by 2025.
- Making soft skill training an integral part of the national education strategy. Youth entering an increasingly competitive workforce often lack essential soft and interpersonal skills (communication, teamwork, and problem-solving). These skills can be developed as part of the curriculum and also built though government-sponsored internship programs in collaboration with private firms.

The link between nutrition and the cognitive skills of the workforce is straightforward, and yet nutrition is typically neglected and remains critically underfinanced

Invest in nutrition

The link between nutrition and the cognitive skills of the workforce is straightforward, and yet nutrition is typically neglected and remains critically underfinanced by both governments and donors.[79] Malnutrition cripples human capabilities. Commonsense tells us that a hungry child cannot learn properly. Low birth weight may reduce a person's IQ by 5 percentage points, stunting may reduce it by 5–11 percentage points, and iodine deficiency by as much as 10–15 percentage points. Furthermore, studies show that a 1 percent loss in adult height as a result of childhood stunting is associated with a 1.4 percent loss in productivity.[80]

In 2017, Africa had more than a third of the world's stunted children under the age of five, with stunting rates ranging from 36 percent in East Africa to 17 percent in North Africa. And the number of stunted children in Africa has been increasing, rising 17 percent (to 59 million) from 2000 to 2016; at the same time in Asia, the share fell 35 percent (to 86.5 million).[81]

To build cognitive skills, African governments need to invest in better nutrition, starting with infants in the womb. While the effects of malnutrition are preventable, they are almost always irreversible, especially in young children. The first 1,000 days from conception to age 2 are a critical window for nutrition. The lack of key nutrients during this time results in stunted children (below-average height for age) who grow into adulthood permanently shorter and weaker and with cognitive deficits.[82]

Governments should also take advantage of the very high economic returns to investing in nutrition. For example, the benefit–cost ratio for investments that reduce stunting is estimated to be at least 15; eliminating anemia results in a 5–17 percent increase in adult productivity, which adds up to as much as 2 percent of GDP in the worst affected countries.[83]

As a complement to nutrition-based initiatives governments can promote early childhood education. In Mozambique, for example, this type of early childhood education program proved effective in increasing primary school enrollment and cognitive skills.[84]

Invest in science, technology, engineering, and mathematics

To participate effectively in the knowledge economy, Africa needs to build skills in STEM and information and communication technology (ICT). The 4IR will place increasing demands on education systems that are not competitive in producing graduates versed in STEM and ICT.

Governments of some countries—including Egypt, Ghana, Rwanda, and South Africa—have already taken steps to build STEM and ICT capacity. In 2019, Google opened an artificial intelligence research lab in Accra, Ghana, the first of its kind on the continent. That same year, the African Institute of Mathematical Sciences in Kigali, Rwanda, launched a master's degree program in machine intelligence, a one-year intensive program providing state-of-the-art training in machine learning

and its applications, with sponsorship from Facebook and Google.

Innovation hubs are also burgeoning across the continent. GSMA reports that the number of active tech hubs across Africa grew by more than 50 percent from 2016 to 2018, from 314 hubs to 442.[85] Investments in high-speed internet and the spread of smartphones across Africa are making it possible for Africa to innovate on digital and mobile fronts.

Governments have also been accelerating investments in experimental research and development, to push out the knowledge frontier and address local challenges. These investments can be important mechanisms for boosting innovation in Africa, which lags other regions in spending on research and development. Between 2012 and 2016, average gross expenditure on research and development was about 0.23 percent of GDP in Africa, only one-third of the level in Latin America of 0.68 percent.

Governments can collaborate with the private sector and education institutions in developing apprenticeships and training programs. The private sector can be a crucial partner in training and capacity building. Approaches can include subsidizing internships, co-funding training centers with industries, and corporate funding of innovation and research in universities. In Morocco, multinational companies such as Safran collaborate with the government and aerospace industry associations to create training centers and apprenticeship programs to train young people in aerospace trades. The companies also build partnerships with local universities and engineering schools, thus supporting both human capital development and development of a local aerospace industry.

The Fourth Industrial Revolution will place increasing demands on education systems

NOTES

1. The average years of schooling is from UNDP (2019). Average years of schooling is defined as the average number of years of education received by people ages 25 and older, converted from educational attainment levels using official durations of each level.
2. Deininger 2003; Lucas and Mbiti 2012; Valente 2019.
3. Net enrollment rates are used for both primary and secondary school and are defined as the ratio of children of official school age who are enrolled in school to the population of the corresponding official school age. For higher education, the gross enrollment ratio is used and refers to the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to that level of education.
4. The cumulative dropout rate is the share of students in a cohort enrolled in a given grade in a given school year who are no longer enrolled the following year (http://data.uis.unesco.org/Index.aspx?queryid=156). Dropout rate by grade is calculated by subtracting the sum of the promotion rate and the repetition rate from 100. The cumulative dropout rate in primary education is calculated by subtracting the survival rate (percentage of a cohort enrolled in the first grade of a given level of education in a given year who are expected to reach a given grade, regardless of repetition) from 100 at a given grade.
5. Banerjee 2000.
6. Caerus Capital 2018.
7. Aslam and Rawal 2018. These numbers are estimates. Many unregistered private schools do not participate in national surveys.
8. Patrinos and Angrist (2018) built the harmonized test scores from a panel data set for cognitive achievement including 164 countries and regions over the period 1965–2015. Their work is a review and update of the previous work by Altinok et al. (2018). This study uses a conversion factor that allows comparing scores for countries participating in International Standardized Achievements Tests and Regional Standardized Achievement Tests (RSATs) in a given time, schooling level, and subject. International and regional tests assessments are linked to obtain an aggregated measure of the quality of education level and have a harmonized learning outcomes database. These authors construct a score for each subject (math, reading, and science) and grade range (primary or secondary) for every five-year interval. If countries participated in several comparable tests in or around a specific year, they compute the average over the test and use doubloon countries that participate in both regional and international assessments as an anchor. The database from the International Standardized Achievement Tests used the Trends in International Mathematics and Science Study for grades 4 and 8 (primary and secondary education). Other international tests considered are the Monitoring Learning Achievement program ranging from early childhood, basic, and secondary education to nonformal adult literacy. They also consider Progress in International Reading Literacy Study, which tests pupils from primary schools in grade 4 in reading proficiency; Programme for International Student Assessment (PISA), focusing on math, science, and literacy. An important distinction is that PISA assesses scores of 15-year-olds, regardless of grade levels. RSATs include the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ), focusing on tests for Southern and East African countries. SACMEQ assesses performance in reading at grade 6. The programme d'analyse des systèmes educatifs is a regional assessment that focuses on French-speaking countries in Sub-Saharan Africa in grades 2 and 5 for math and French. The UNESCO Laboratorio Latinoamericano para la Evaluación de la Calidad de la Educación carries out assessments across grades 3, 4, and 6 in reading and math. In addition to Altinok et al. (2018), Patrinos and Angrist (2018) include the Early Grade Reading Assessment basic literacy assessment conducted in grades 2–4.
9. One way to measure quality of education and cognitive skills, in particular, is to use learning achievement in reading and language proficiency, mathematics and numeracy proficiency or scientific knowledge and understanding captured by test scores. However, it is important to highlight that tests scores are a proxy for education quality that do not consider achievement in all subjects learned at school, for instance. Despite these limitations, using tests scores allow going beyond comparison in terms of quantity and taking into account the fact that one year of schooling in one country may not translate into the same increase in a productive human capital compared to one year of schooling in another country where the quality of schooling is superior.

10. Calculated here as the average years of schooling multiplied by harmonized tests scores divided by 625, following the methodology of Filmer et al. (2018).
11. Feenstra, Inklaar, and Timmer 2015.
12. According to the World Bank Human Capital Project, expected years of schooling is calculated as the sum of age-specific enrollment rates between ages 4 and 17. Age-specific enrollment rates are approximated using school enrollment rates at different levels: preprimary enrollment rates approximate the age-specific enrollment rates for 4 and 5 year-olds, the primary rate approximates for 6–11 year-olds, the lower-secondary rate approximates for 12–14 year-olds, and the upper-secondary approximates for 15–17 year-olds. Harmonized test scores are drawn from Patrinos and Angrist (2018).
13. The student–teacher ratio is defined as the average number of students per teacher at a given level of education, based on headcounts of both pupils and teachers. Class size has some shortcomings, however, as it fails to take into account teacher quality and motivation and other complementary factors that make smaller class size effective in improving learning.
14. Duflo et al. 2012; Valente 2019.
15. Kremer et al. 2013.
16. According to UNESCO, less than 75 percent of primary school teachers in the world are trained up to national standards (UNESCO, 2015).
17. Employment comprises all persons of working age who during a specified brief period such as one week or one day, were in the following categories: paid employment (whether at work or with a job but not at work); or self-employment (whether at work or with an enterprise but not at work). High-skilled jobs include managers, professionals, technicians, and associate professionals. Medium-skilled jobs include service and sales; skilled agricultural, forestry, and fishery; craft and related trades; and plant and machine operators and assemblers. Low-skilled jobs include all elementary occupations (https://ilostat.ilo.org/resources/methods/description-employment-by-occupation/).
18. Schwab 2017.
19. Lucas 1988; Mankiw et al. 1992; Griffith et al. 2004.
20. Grossman and Helpman 1991.
21. Fox and Gaal 2008.
22. Feenstra, Inklaar, and Timmer 2015.
23. Feenstra, Inklaar, and Timmer 2015.
24. Caselli and Coleman 2006.
25. Knight and Sabot 1990.
26. It is important to recognize that besides skill mismatch, other distortions in the labor markets could explain higher unemployment among African youth. These include, for instance, higher reservation wages, restrictive labor regulations, and high minimum wages. For example, data analysis from our sample of African countries shows that monthly reservation wages are significantly lower for employed youth ($74.44) than for unemployed youth ($87.31). In addition, and as expected, the more educated the youth, the higher the reservation wage, regardless of employment status: from $55.76 for employed youth with no education to $95.76 for secondary educated youth and $154.17 for university educated youth. Finally, compared with mismatched youth, our analysis indicates that employed youth with required skills have lower reservation wages than overskilled youth and higher reservation wages than underskilled youth.
27. Despite the potential for overestimation, this measure is valuable because it takes into account the heterogeneity of jobs. A worker is generally considered as the most knowledgeable about his own job and the spectrum of skills needed to perform efficiently.
28. Leuven and Oosterbeek 2011.
29. An employed youth is overeducated (undereducated) if his actual level of education is greater (lower) than the education requirements of his job. Practically, each job is assigned to an occupation group using the International Standard Classification of Occupations and each group is assigned a required level of education in accordance with the International Standard Classification of Education.
30. Morsy and Mukasa 2019.
31. Golub et al. 2019.
32. Bauer 2002.
33. Morsy and Mukasa 2019.
34. Peiro et al. 2010; Rubb 2003.
35. Morsy and Mukasa 2019.
36. Scarpetta et al. 2010.
37. Zimmermann et al. 2013.
38. Kahyarara and Teal 2008.
39. Oketch 2007; Zimmermann et al. 2013; Atchoarena and Delluc 2001.
40. Shaorshadze and Krishnan 2012.
41. Quintini and Manfredi 2009; Zimmermann et al. 2013.

42. Patrinos 2016.
43. Psacharopoulos 1985, 1994.
44. Montenegro and Patrinos 2014.
45. Patrinos 2016.
46. Prichett 2001.
47. Acemoglu and Restrepo 2017, 2018.
48. Hausmann et al. 2013.
49. Hausmann et al. 2008.
50. Hausmann et al. 2011; Hidalgo et al. 2007.
51. Hausmann et al. 2008.
52. https://oec.world/static/pdf/LinkingEconomicComplexityInstitutionsAndIncomeInequality.pdf. The differences in productive knowledge among countries can be expressed in the diversity and sophistication of the products and services they produce (Hausmann et al., 2013).
53. Adam et al. 2019.
54. Note that the *R*-squared of the regression is less than 1 percent, implying that the model explain a very small percentage of the variation.
55. Hidalgo and Hausmann 2009; Ndung'u 2018.
56. Hidalgo et al. 2007.
57. African Development Bank, AEO 2019; Woldemichael and Joldowski 2019.
58. Our analysis yields similar results for distance to nearby products, which is "a measure of the risk of entering a product, where larger distances imply little relatedness to the existing know-how and the need to coordinate adding many missing capabilities and inputs in order to enter production, increasing risk." (Atlas Economic Complexity: Glossary. http://atlas.cid.harvard.edu/glossary). Firms that face an inadequately educated workforce and firms with a higher share of low-skilled workers have a longer distance to the nearby more complex products, and thus face a higher risk of failure by entering production. At their current level of productive know-how, building capabilities to produce more complex products is more difficult for these firms.
59. Digital literacy or computer and internet literacy refer to familiarity with the productivity software and digital devices that are essential for workplace skills for the 21st-century digital economy. See https://news.microsoft.com/cloudforgood/_media/downloads/en/digital-literacy-en.pdf.
60. "The Mobile Connectivity Index measures the performance of 165 countries against the key enablers of mobile internet adoption. Its objective is to support the efforts of the mobile industry, governments, and the wider international community to deliver on the ambition of universal access to the internet. Countries are scored within a range of 0 to 100 across a number of indicators, with a higher score representing stronger performance in delivering mobile internet connectivity. This web tool allows you to explore the data used in the Mobile Connectivity Index, and to compare countries across a range of metrics." Source: http://www.mobileconnectivityindex.com/.
61. EIU 2017.
62. Ndung'u 2018.
63. African Development Bank 2019.
64. World Bank 2019.
65. WEF 2018.
66. WEF 2018.
67. World Bank 2019.
68. World Bank 2019.
69. African Development Bank 2019.
70. Monga et al. 2019.
71. ILO 2011.
72. ACET 2014.
73. Banga and te Velde 2018.
74. Banga and te Velde 2018.
75. Morsy and Mukasa 2019.
76. Dupas et al. 2016.
77. Duflo et al. 2015.
78. Abebe et al. 2019.
79. Shekar et al. 2017.
80. Shekar et al. 2006.
81. African Development Bank 2018.
82. African Development Bank 2018, p. 3.
83. Shekar et al. 2006.
84. Martinez et al. 2013.
85. Bayen 2018; Cisse 2018.

REFERENCES

Abebe, G., S. Caria, M. Fafchamps, P. Falco, S. Franklin, and S. Quinn. 2019. "Anonymity or Distance? Job Search and Labour Market Exclusion in a Growing African City." Available at: https://7e6b9778-7cbf-4bbf-96bb-a806c5d9b900.filesusr.com/ugd/e9b89f_9248112b23ea4ceba8a9d1458dd4ba66.pdf.

Abou-Ali, H., H. El-Azony, H. El-Laithy, J. Haughton, and S. R. Khandker. 2010 "Evaluating the Impact of Egyptian Social Fund for Development Programs." *Journal of Development Effectiveness* 2 (4): 521–555.

ACET (African Center for Economic Transformation). 2014. *African Transformation Report 2014: Growth with Depth*. Accra, Ghana: ACET.

African Development Bank. 2015. *African Development Report 2015: Growth, Poverty, and Inequality Nexus: Overcoming Barriers to Sustainable Development*." Abidjan, Côte d'Ivoire: African Development Bank.

———. 2018. *Multi-Sectoral Nutrition Action Plan 2018–2025*. Abidjan, Côte d'Ivoire: African Development Bank. Available at: https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Banking_on_Nutrition_ActionPlan_A4_V1d_single.pdf.

———. 2019. *African Economic Outlook 2019*. Abidjan, Côte d'Ivoire: African Development Bank.

Acemoglu, D., and P. Restrepo. 2017. "Robots and Jobs: Evidence from US Labor Markets." Working Paper W23285, National Bureau of Economic Research, Cambridge, MA.

———. 2018. "Artificial Intelligence, Automation, and Work." Working Paper W24196, National Bureau of Economic Research, Cambridge, MA.

Acosta, P., N. Muller, and M. Sarzosa. 2015. "Beyond Qualifications: Returns to Cognitive and Socio-Emotional Skills in Colombia." Discussion Paper 9403, Institute of Labor Economics (IZA), Bonn, Germany.

Adam, A., A. Garas, and A. Lapatinas. 2019. "Economic Complexity and Jobs: An Empirical Analysis." MPRA Paper 92401, University Library of Munich, Germany.

Adejumo, A. V., P. A. Olomola, and O. O. Adejumo. 2013. "The Role of Human Capital in Industrial Development: The Nigerian Case (1980–2010)." *Modern Economy* 4 (10): 639.

Altinok, N., N. Angrist, and H. A. Patrinos. 2018. *Global Data Set on Education Quality (1965–2015)*. Washington, DC: World Bank.

Ansu, Y., and J.-P. Tan. 2012. "Skills Development for Economic Growth in Sub-Saharan Africa: A Pragmatic Perspective." In A. Noman, K. Botchwey, H. Stein, and J. Stiglitz (eds.), *Good Growth and Governance in Africa: Rethinking Development Strategies*, 462–497. Oxford, UK: Oxford University Press.

Atchoarena, D., and A. M. Delluc. 2001. *Revisiting Technical and Vocational Education and Training in Sub-Saharan Africa.* Paris: UNESCO International Institute for Educational Planning.

Banerjee, A. 2000. "A Dynamic Framework for Educational Policy Analysis." Mimeo, MIT, Cambridge, MA.

Banga, K., and D. W. Te Velde. 2018. *Digitalization and the Future of Manufacturing in Africa*. London: Overseas Development Institute.

Barro, R. J., and J. W. Lee. 2013. "A New Data Set of Educational Attainment in the World, 1950–2010." *Journal of Development Economics* 104: 184–198.

Bashir, S., M. Lockheed, E. Ninan, and J.-P. Tan. 2018. *Facing Forward: Schooling for Learning in Africa.* Washington, DC: World Bank.

Bauer, T. K. 2002. "Educational Mismatch and Wages: A Panel Analysis." *Economics of Education Review* 21: 221–229.

Bigsten, A., P. Collier, S. Dercon, M. Fafchamps, B. Guthier, J. W. Gunning, M. Soderbom, A. Oduro, R. Oostendorp, C. Patillo, F. Teal, and A. Zeufack. 2000. "Rates of Return on Physical and Human Capital in Africa's Manufacturing Sector." *Economic Development and Cultural Change* 48 (4): 801–827.

Bold, T., M. Kimenyi, G. Mwabu, and J. Sandefur. 2018. "Experimental Evidence on Scaling up Education Reforms in Kenya." *Journal of Public Economics* 168: 1–20.

Bowles, S., H. Gintis, and M. Osborne. 2001. "Incentive-Enhancing Preferences: Personality, Behavior, and Earnings." *American Economic Review* 91 (2): 155–158.

Campos, F., M. Frese, M. Goldstein, L. Iacovone, H. C. Johnson, D. McKenzie, and M. Mensmann. 2017. "Teaching Personal Initiative Beats Traditional Training in Boosting Small Business in West Africa." *Science* 357 (6357): 1287–1290.

Caselli, F., I. I. Coleman, and W. John. 2006. "The World Technology Frontier." *American Economic Review* 96 (3): 499–522.

Castelló-Climent, A., and A. Hidalgo-Cabrillana. 2012. "The Role of Educational Quality and Quantity in the Process of Economic Development." *Economics of Education Review* 31 (4): 391–409.

Cohen, D., and L. Leker. 2014. "Health and Education: Another Look with the Proper Data." Discussion Paper DP9940, Center for Economic and Policy Research, Washington, DC.

Cohen, D., and M. Soto. 2007. "Growth and Human Capital: Good Data, Good Results." *Journal of Economic Growth* 12(1): 51–76.

Coulibaly, B. S. 2019. "Strategies for Jobs in the Digital Age." Policy Research Document 2. Abidjan, Côte d'Ivoire: African Development Bank.

Das, J., S. Dercon, J. Habyarimana, and P. Krishnan. 2007. "Teacher Shocks and Student Learning:

Evidence from Zambia." *Journal of Human Resources* 42 (4): 820–862.

Deininger, K. 2003. "Does Cost of Schooling Affect Enrollment by the Poor? Universal Primary Education in Uganda." *Economics of Education Review* 22 (3): 291–305.

Díaz, J. J., O. Arias, and D. V. Tudela. 2012. "Does Perseverance Pay as Much as Being Smart? The Returns to Cognitive and Non-cognitive Skills in Urban Peru." Mimeo, World Bank, Washington, DC.

Duflo, E., P. Dupas, and M. Kremer. 2015. "School Governance, Teacher Incentives, and Pupil–Teacher Ratios: Experimental Evidence from Kenyan Primary Schools." *Journal of Public Economics* 123: 92–110.

Dupas, P., E. Duflo, and M. Kremer. 2016. "Estimating the Impact and Cost-effectiveness of Expanding Access to Secondary Education in Ghana." 3ie Impact Evaluation Report 42, International Initiative for Impact Evaluation (3ie), New Delhi.

Education Commission. 2016. *The Learning Generation: Investing in Education for a Changing World*. New York: International Commission on Financing Global Education Opportunity.

EIU (Economist Intelligence Unit). 2018. "The Automation Readiness Index: Who is Ready for the Coming Wave of Automation?" London.

Feenstra, R. C., R. Inklaar, and M. P. Timmer. 2015. "The Next Generation of the Penn World Table." *American Economic Review* 105 (10): 3150–82.

Filmer, D., H. Rogers, N. Angrist, and S. Sabarwal. 2018. *Learning-Adjusted Years of Schooling (LAYS): Defining a New Macro Measure of Education*. Washington, DC: World Bank.

Fox, L. M., and M. Sekkel Gaal. 2008. *Working out of Poverty: Job Creation and the Quality of Growth in Africa*. Washington, DC: World Bank.

Goldberg, L. R. 1990. "An Alternative 'Description of Personality:' The Big-Five Factor Structure." *Journal of Personality and Social Psychology* 59 (6): 1216.

Golub, S. S., A. A. Mbaye, L. Chen, F. Gueye, and J. L. Tello Garza. 2019. "Constraints to Employment Creation in Africa." In C. Monga, A. Shimeles, and A. Woldemicheal (eds.), *Creating Decent Jobs: Strategies, Policies, and Instruments*, 177–232. African Development Bank: Abidjan, Côte d'Ivoire.

Griffith, R., S. Redding, and J. V. Reenen. 2004. "Mapping the Two Faces of R&D: Productivity Growth in a Panel of OECD Industries." *Review of Economics and Statistics* 86 (4): 883–895.

Grossman, G. M., and E. Helpman. 1991. "Trade, Knowledge Spillovers, and Growth." *European Economic Review* 35 (2–3): 517–526.

Hanushek, E. A., L. Woessmann. 2008. "The Role of Cognitive Skills in Economic Development." *Journal of Economic Literature* 46 (3): 607–668.

——. 2012. "Do Better Schools Lead to More Growth? Cognitive Skills, Economic Outcomes, and Causation." *Journal of Economic Growth* 17 (4): 267–321.

Hausmann, R., J. Hwang, and D. Rodrik. 2007. "What You Export Matters." *Journal of Economic Growth* 12 (1): 1–25.

Hausmann, R., D. Rodrik, and A. Velasco. 2008. *Growth Diagnostics: The Washington Consensus Reconsidered: Towards a New Global Governance*, 324–355. Oxford, UK: Oxford University Press.

Hausmann, R., and C. A. Hidalgo. 2011. "The Network Structure of Economic Output." *Journal of Economic Growth* 16 (4): 309–342.

Hausmann, R., C. A. Hidalgo, S. Bustos, M. Coscia, S. Chung, J. Jimenez, A. Simoes, and M. A. Yildirim. 2011. *The Atlas of Economic Complexity: Mapping Paths to Prosperity*. Available at: https://oec.world/static/pdf/atlas/AtlasOfEconomicComplexity_Part_I.pdf.

Heckman, J. J., J. Stixrud, and S. Urzua. 2006. "The Effects of Cognitive and Noncognitive Abilities on Labor Market Outcomes and Social Behavior." *Journal of Labor Economics* 24 (3): 411–482.

Hidalgo, C. A., and R. Hausmann. 2009. "The Building Blocks of Economic Complexity." *Proceedings of the National Academy of Sciences* 106 (26): 10570–10575.

Hoddinott, J., M. Rosegrant, and M. Torero. 2012. "Challenge Paper: Hunger and Malnutrition." Copenhagen Consensus. Available at: http://www.copenhagenconsensus.com/Default.aspx?ID=1633.

Horton, S., M. Mbuya, and C. Wilkinson. 2017. "Synthesis of Evidence of Multisectoral Approaches for Improved Nutrition." Commissioned by the African Development Bank, the Big Win Philanthropy, and the Aliko Dangote Foundation. Abidjan, Côte d'Ivoire. Available at: https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Banking_on_Nutrition_evidence_synthesis_advanced_copy_November_2017.pdf.

ILO (International Labour Organization). 2011. "Formulating a National Policy on Skills Development." Policy Brief, ILO, Geneva.

——. 2019. *Time to Act for SDG 8: Integrating Decent Work, Sustained Growth and Environmental Integrity*. Geneva: ILO.

IMF (International Monetary Fund). 2019a. *Recovery Amid Elevated Uncertainty: Regional Economic Outlook: Sub-Saharan Africa.* Washington, DC: IMF.

Kahyarara, G., and F. Teal. 2008. "The Returns to Vocational Training and Academic Education: Evidence from Tanzania." *World Development* 36 (11): 2223–2242.

Klinger, B., A. I. Khwaja, and C. del Carpio. 2013. *Enterprising Psychometrics and Poverty.* Springer Briefs in Innovations in Poverty Reduction. New York: Springer-Verlag.

Knight, J. B., and R. H. Sabot. 1990. *Education, Productivity, and Inequality: The East African Natural Experiment*. Washington, DC: World Bank.

Kremer, M., C. Brannen, and R. Glennerster. 2013. "The Challenge of Education and Learning in the Developing World." *Science* 340 (6130): 297–300.

Kremer, M., E. Miguel, and R. Thornton. 2009. "Incentives to Learn." *Review of Economics and Statistics* 91 (3): 437–56.

Krishnan, P., and S. Krutikova. 2013. "Non-cognitive Skill Formation in Poor Neighbourhoods of Urban India." *Labour Economics* 24: 68–85.

Lall, S., and S. Urata. 2003. *Competitiveness, FDI and Technological Activity in East Asia*. Cheltenham, UK: Edward Elgar Publishing Limited.

Leuven, E., and H. Oosterbeek. 2011. "Overeducation and Mismatch in the Labor Market." Discussion Paper 5523, Institute of Labor Economics (IZA), Bonn, Germany.

Lin, J., and H. J. Chang. 2009. "Should Industrial Policy in Developing Countries Conform to Comparative Advantage or Defy It? A Debate between Justin Lin and Ha-Joon Chang." *Development Policy Review* 27 (5): 483–502.

Lucas, A. M., and I. M. Mbiti. 2012. "Access, Sorting, and Achievement: The Short-run Effects of Free Primary Education in Kenya." *American Economic Journal: Applied Economics* 4 (4): 226–53.

Mankiw, N. G., D. Romer, and D. N. Weil. 1992. "A Contribution to the Empirics of Economic Growth." *The Quarterly Journal of Economics* 107 (2): 407–437.

Martinez, S., S. Naudeau, and V. Pereira. 2013. "The Promise of Preschool in Africa: A Randomized Impact Evaluation of Early Childhood Development in Rural Mozambique." 3ie Impact Evaluation Report 1, International Initiative for Impact Evaluation (3ie), New Delhi.

McKinsey Global Institute, 2017, "Jobs Lost, Jobs Gained: Workforce Transitions in a Time of Automation." Monga, C., A. Shimeles, and A. Woldemichael. 2019. *Creating Decent Jobs: Strategies, Policies, and Instruments*. Abidjan, Côte d'Ivoire: African Development Bank.

Montenegro, C. E., and H. A. Patrinos. 2014. *Comparable Estimates of Returns to Schooling around the World*. Washington, DC: World Bank.

Morsy, H., and A. N. Mukasa. 2019. "Youth Jobs, Skill and Educational Mismatches in Africa." Working Paper Series 326, African Development Bank, Abidjan, Côte d'Ivoire.

Ndung'u, N. 2018. "Next Steps for the Digital Revolution in Africa: Inclusive Growth and Job Creation Lessons from Kenya." Working Paper 20, Africa Growth Initiative at Brookings, Washington, DC.

Nyhus, E. K., and E. Pons. 2005. "The Effects of Personality on Earnings." *Journal of Economic Psychology* 26 (3): 363–384.

Oketch, M. O. 2007. "To Vocationalise or not to Vocationalise? Perspectives on Current Trends and Issues in Technical and Vocational Education and Training (TVET) in Africa." *International Journal of Educational Development* 27 (2): 220–234.

Oreopoulos, P. 2007. "Do Dropouts Drop out too Soon? Wealth, Health and Happiness from Compulsory Schooling." *Journal of Public Economics* 91 (11–12): 2213–2229.

Patrinos, H. A. 2016. "Estimating the Return to Schooling Using the Mincer Equation." *IZA World of Labor* 2016: 278.

Patrinos, H. A., and N. Angrist. 2018. *Global Dataset on Education Quality: A Review and Update (2000–2017)*. Washington, DC: World Bank.

Peiro, J. M., S. Agut, and R. Grau. 2010. "The Relationship Between Overeducation and Job Satisfaction Among Young Spanish Workers: The Role of Salary, Contract of Employment, and Work Experience." *Journal of Applied Social Psychology* 40 (3): 666–689.

Psacharopoulos, G. 1985. "Returns to Education: A Further International Update and Implications." *Journal of Human Resources* 20 (4): 583–604.

——. 1994. "Returns to Investment in Education: A Global Update." *World Development* 22 (9): 1325–1343.

Pritchett, L. 2001. "Where Has All the Education Gone?" *The World Bank Economic Review* 15 (3): 367–391. Available at: www.jstor.org/stable/399010.

Quintini, G., and T. Manfredi. 2009. "Going Separate Ways? School-to-Work Transitions in the United States and Europe." Social, Employment and Migration Working Papers 90, OECD (Organisation for Economic Co-operation and Development) Publishing, Paris.

Rubb, S. 2003. "Overeducation: A Short or Long Run Phenomenon for Individuals?" *Economics of Education Review* 22: 389–94.

Scarpetta, S., A. Sonnet, and T. Manfredi. 2010. "Rising Youth Unemployment during the Crisis." Social, Employment and Migration Working Papers 106, OECD (Organisation for Economic Co-operation and Development) Publishing, Paris.

Schwab, K. 2017. *The Global Competitiveness Report 2017–2018*. Cologny, Switzerland: World Economic Forum.

Shaorshadze, I., and P. Krishnan. 2012. "Technical and Vocational Education and Training in Ethiopia." Paper for the International Growth Centre–Ethiopia Country Programme, International Growth Centre, London.

Shekar, M., R. Heaver, and Y.-K. Lee. 2006. *Repositioning Nutrition as Central to Development: A Strategy for Large Scale Action*. Washington, DC: World Bank.

Shekar, M., J. Kakietek, J. Dayton Eberwein, and D. Walters. 2017. *An Investment Framework for Nutrition: Reaching the Global Targets for Stunting, Anemia, Breastfeeding, and Wasting*. Washington, DC: World Bank.

Simwaka, B. N., K. Simwaka, and G. Bello. 2009. "Retrospective Analysis of a School-based Malaria Treatment Programme Demonstrates a Positive Impact on Health and Education Outcomes in Mangochi District, Malawi." *Journal of Development Effectiveness* 1 (4): 492–506.

UNDP (United Nations Development Programme). 2019. *Human Development Report, 2019: Beyond Income, Beyond Averages, Beyond Today: Inequalities in Human Development in the 21st Century.* http://hdr.undp.org/sites/default/files/hdr2019.pdf.

UNESCO (United Nations Educational, Scientific, and Cultural Organization). 2017. Reducing Global Poverty through Universal Primary and Secondary Education. Policy Paper. Paris: UNESCO Institute for Statistics.

——. 2019. *Behind the Numbers: Ending School Violence and Bullying*. Paris: UNESCO.

UNICEF (United Nations Children's Fund), WHO (World Health Organization), and World Bank. 2017. *Joint Child Malnutrition Estimates—Levels and Trends: Key Findings of the 2017 Edition*. New York: UNICEF.

Valente, C. 2019. "Primary Education Expansion and Quality of Schooling." *Economics of Education Review* 73: 101913.

Valerio, A., M. L. S. Puerta, N. Tognatta, and S. Monroy-Taborda. 2016. *Are There Skills Payoffs in Low- and Middle-Income Countries? Empirical Evidence Using STEP Data*. Washington, DC: World Bank.

Varly, P., and M. Mazunya. 2017. "Burundi Asa (P161127): Study 2 Report On The Quality Of Education." Working Paper, World Bank, Washington, DC.

WEF (World Economic Forum). 2017. *The Future of Jobs and Skills in Africa*. Cologny, Switzerland: WEF.

——. 2018. *The Future of Jobs Report 2018*. Cologny, Switzerland: WEF.

Woldemichael, A., and M. Joldowski. 2019. "The Cost of Inaction: Obstacles and the Lost Jobs in Africa." Chapter 3 in C. Monga, A. Shimeles, and A. Woldemicheal (eds.), *Creating Decent Jobs: Strategies, Policies, and Instruments*. African Development Bank: Abidjan, Côte d'Ivoire.

World Bank. 2012. Education in Sub-Saharan Africa: A Comparative Analysis. Washington, DC: World Bank. Available at: https://openknowledge.worldbank.org/bitstream/handle/10986/13143/9780821388891.pdf?sequence=1.

——. 2017. *World Development Report 2017: Governance and the Law*. Washington, DC: World Bank.

——. 2019. *World Development Report 2019: The Changing Nature of Work*. Washington, DC: World Bank.

Zimmermann, K, C. Biavaschi, W. Eichhorst, C. Giulietti, M. Kendzia, A. Muravyev, J. Pieters, Janneke, N. Rodríguez-Planas, and R. Schmidl. 2013. "Youth Unemployment and Vocational Training." *Foundations and Trends® in Microeconomics* 9 (1–2): 1–157.

3

FINANCING EDUCATION AND SKILL DEVELOPMENT

KEY MESSAGES

- **African countries spend on average 5 percent of GDP on education, among the highest in developing countries.** Yet spending per student is the lowest in the world. During 2010–17, African countries allocated on average 16 percent of government budgets to education, which meets the UNESCO criterion to achieve universal primary education.
- **However, Africa is the least efficient in utilizing public spending on education.** In 2010–18, the efficiency rate of public spending on education in Africa was only 58 percent in primary school and 41 percent in secondary school. By improving the efficiency of education spending to the levels found in emerging and developing Asia, Africa could almost reach universal primary enrollment (from 79 percent to 98 percent).
- **Investing in both education and infrastructure will have a greater growth payoff than investing exclusively in either.** Public investments in both education and infrastructure can yield greater benefits in promoting long-term growth than investing only in education or only in infrastructure because both types of investment strongly complement each other. Building physical and human capital can be costly. So policymakers need to consider the public finance implications and the macroeconomic and distributional effects.
- **Policies should aim to maximize efficiency in education spending and to improve education's quality.** Expenditure audits and reviews can further enhance public spending efficiency, while improving teacher quality—and performance-based financing can enhance education quality.
- **Households account for about a third of total education finance in Africa, with considerable heterogeneity across regions and countries.** Remittances from internal and international migrants are an important source of education financing for many households. While lower public education spending puts higher financial pressure on households, more public investment on access and quality nudges household education demand.
- **Private sector financing of education and training in Africa is rising but remains limited.** To encourage the private sector to contribute to education and training, governments should address the market failures that lead to insufficient private financing and provision and promote public–private partnerships. Private sector engagement in technical and vocational education and training should be particularly promoted.

Africa faces immense challenges in educating and upskilling its current and future labor force. As noted in chapter 2, despite substantial progress in recent decades, Africa needs to improve both the quantity and the quality of education. At the same time, the continent's youthful population implies that demand for education will continue to grow. Examining the landscape, challenges, and policy options for financing education in Africa is a high priority.

Spending on education has been high on the agenda of most countries around the world. Global education spending is estimated at $4.7 trillion.[1] High-income countries spent almost two-thirds ($3 trillion) of that, while low-income countries spent only 0.5 percent ($22 billion), even though the two groups of countries have roughly the same number of school-age children. Governments provide the bulk of education financing globally (79 percent), and households provide nearly all of the rest (around 20 percent). In Africa, governments' share is lower, on average, at 63 percent, and households' share is larger, at 30 percent (nonprofit institutions pay the remaining 7 percent), although there are enormous differences across countries, as described below.

Nearly all of the estimated global education financing gap will be in Africa

The average external financing gap for developing countries over 2015–30—the difference between the estimated cost of achieving basic education and the estimated domestic resources available—is around $39.5 billion a year (at constant 2012 prices). By 2020, nearly all of the estimated global education financing gap will be in Africa, due to its low GDP per capita and high population growth rate.[2]

KEY FINANCIERS OF EDUCATION AND SKILL DEVELOPMENT IN AFRICA

Financing education is complex. On the supply side, education can be provided by either the public or the private sector. External actors are also involved in financing education through development cooperation. Moreover, investing in education requires balancing efficiency and equity, particularly for publicly financed education and skill development. On the demand side, it involves decisions by household and individuals on whether to invest in acquiring education and skills.

In view of the need to scale up education and skills for the future of work and to identify challenges and policy options for an efficient and equitable financing system, it is vital to examine the roles of the major participants in financing education and skill development. Important questions include: How sufficient, efficient, and equitable is the financing of education and skills in Africa? What policy reforms in financing education and skills are needed to prepare the workforce for the future?

There are four main sources of financing for education and skill development in Africa: government, households, international donors, and the private sector. The government is the largest provider and financier of education, and households also invest their own resources in education and training. International donors have contributed to education financing, especially in low-income countries, and the private sector's role, though small, has been rising. The current amount of financing from these four sources is not enough, however, to meet critical and growing education needs in Africa.

PUBLIC FINANCING

Education 2030 Framework for Action

The UNESCO Education 2030 Framework for Action—drafted with input from governments, international agencies, civil society, and experts—provides guidance for implementing the education commitments in the 2030 Agenda for Sustainable Development at national, regional, and global levels. The framework aims to mobilize all countries and partners around Sustainable Development Goal 4 and its targets for quality education. It proposes ways to implement, coordinate, finance, and monitor the new commitments. And it suggests strategies that countries may draw on in developing their plans, taking into account their specific circumstances. The framework endorses two key benchmarks for public financing of education:[3]

- Allocating at least 4–6 percent of GDP to education.
- Allocating at least 15–20 percent of public spending to education.

Africa's public investments in education

Many African countries meet at least one of the UN-endorsed budget allocation targets for education, but spending is insufficient to meet education needs

Estimates and spending projections for the next 15 years indicate that achieving the target for basic education—that all girls and boys complete free, equitable, and quality primary and secondary

education leading to relevant and effective learning outcomes—requires that countries spend at least 4 percent of GDP, or 15 percent of national budgets, on education.[4]

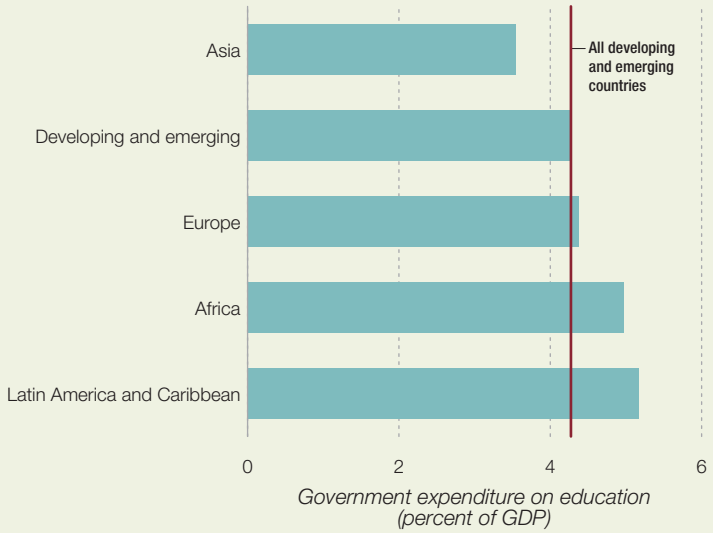
Over 2010–17, Africa spent 5 percent of GDP on education, slightly above the average for all developing and emerging countries (at 4.3 percent) and Asia (3.6 percent), but below Latin America (5.2 percent) (figure 3.1).

Over 2010–17, government budgets allocated an average of 16 percent to education—just above the recommended lower limit of 15 percent. Twenty countries in a sample of 42 African countries met both UN recommended targets (figure 3.2), by allocating 15 percent or more of their government budgets to education and 4 percent or more of their GDP. Seven countries met only one of the criteria, while 15 countries met neither, among them transition countries such as South Sudan and post-conflict countries such as Liberia and Sierra Leone.

But per student spending is the lowest in the world

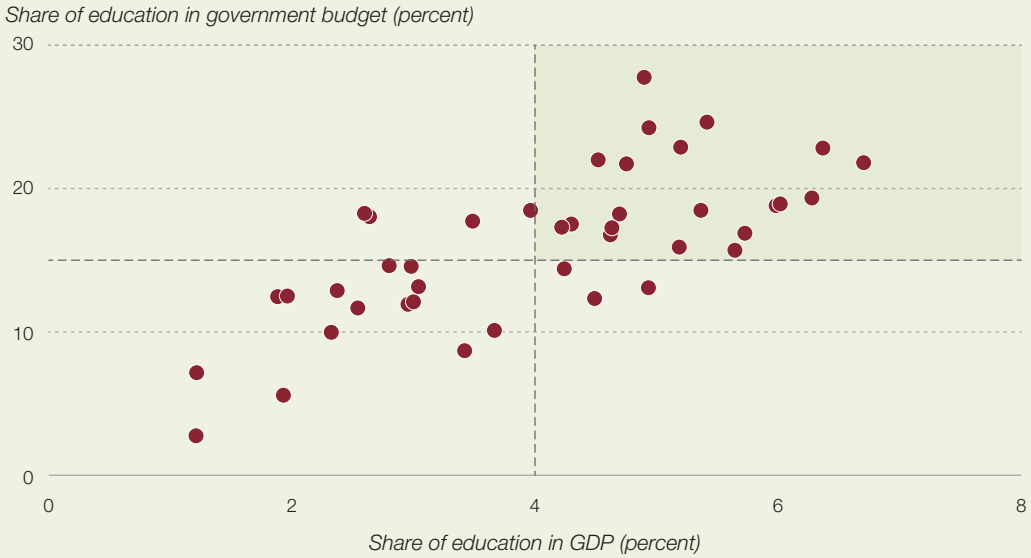
While many African governments are allocating a substantial share of resources to education, the

FIGURE 3.1 Africa spends the second highest share of GDP on education among developing and emerging regions, average 2010–17



Source: Staff calculations based on data from World Bank World Development Indicators database.

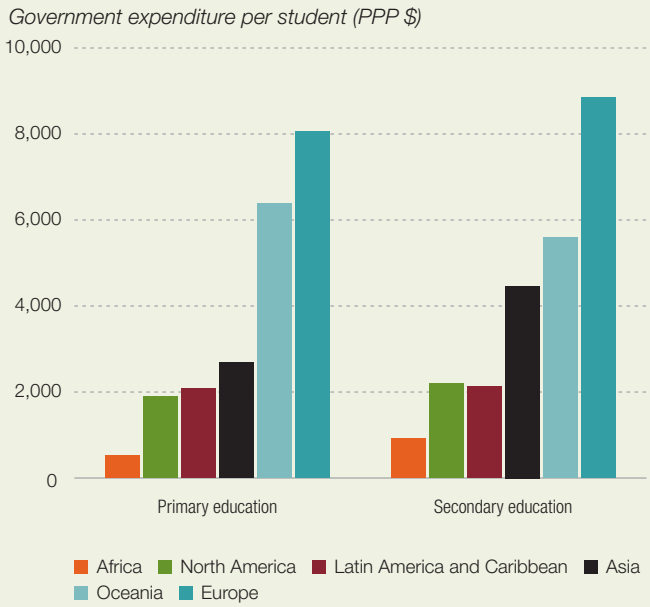
FIGURE 3.2 While many African countries met at least one of the two education financing targets, only 46 percent of them met both targets, 2010–17



Note: The two financing targets are 4 percent or more of GDP and 15 percent or more of government budgets allocated to education.

Source: African Development Bank calculations based on data from UNESCO Institute of Statistics.

FIGURE 3.3 African governments spend less per student in primary and secondary school than governments in other developing regions, 2010–17



Note: PPP is purchasing power parity.

Source: African Development Bank calculations based on data from UNESCO Institute of Statistics.

amount spent on education relative to size of the student population is low. Indeed, the amount of government spending per student in Africa is the lowest in the world, at only $533 for primary school and $925 for secondary school (in purchasing power parity terms) (figure 3.3). At the primary school level, African countries spend on average a quarter of the resources per student compared with Latin American countries and a fifth compared with Asian countries. At the secondary school level, Africa spends less than half the resources per student that Latin America spends and about a fifth what Asia spends. Such low levels of spending could partly explain the poor quality of education outcomes in many African countries. The low spending per student is a result of low GDP and high proportions of students in school-age cohorts due to rapid youth population growth (see figure 2.23 in chapter 2).

African governments allocate the largest share of their education budgets to primary education (38 percent) and secondary education (37 percent), with higher education at 20 percent. Just 4 percent goes to technical and vocational education and training and 2 percent to preprimary education. This pattern is similar to that of other developing regions, such as Asia and Latin America (figure 3.4).

Low efficiency in public spending partly explains Africa's lagging education achievement

The relationships between public spending on education[5] and outcomes are mixed (figure 3.5). There is a strong and positive correlation with average years of schooling (proxy for quantity), but no relation at all with test scores (proxy for quality). This suggests that government education spending may be less efficient in improving the quality of education than in improving the quantity of education.

Another way to measure education efficiency is to examine the school repetition rate. High repetition rates could imply internal inefficiency in the education system and indicate pedagogical deficiencies. Repetition rates over 2012–16 for both primary school (13 percent) and secondary school (18 percent) are higher in Africa than the average for developing countries (9 percent) and emerging countries (11 percent) and higher than in other regions (figure 3.6). Within Africa, Central Africa has the highest repetition rate (18 percent) for primary school, while North Africa has the lowest (7 percent). At the lower secondary level, West Africa has the highest repetition rate (27 percent), while East Africa has the lowest (13 percent). The repetition rate is above 20 percent in primary school in Burundi and Mali and in lower secondary school in Burundi, Burkina Faso, Mali, and Niger. The high rates of repetition at the secondary school level call for increased scrutiny of the causes and urgent action on remedies.

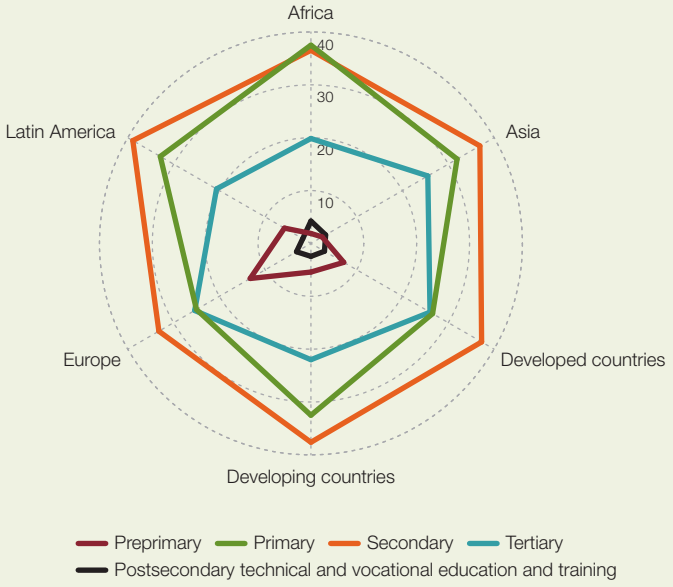
There is a generally positive correlation between education spending and the primary school completion rate for Africa and other developing regions over the past decade. However, African countries commit more resources to education but for lower outcomes than do countries in Asia or Latin America (figure 3.7).

Africa could almost reach universal primary enrollment by improving the efficiency of public spending on education

To assess the efficiency of African countries' education spending, a parametric regression was used to estimate efficiency scores for individual education decisionmaking units over 2010–18 and to identify units that may need corrective measures.[6] Efficiency, in this context, may be roughly understood as the capacity of government decisionmaking units to spend public money to reach specific education outcomes without waste.

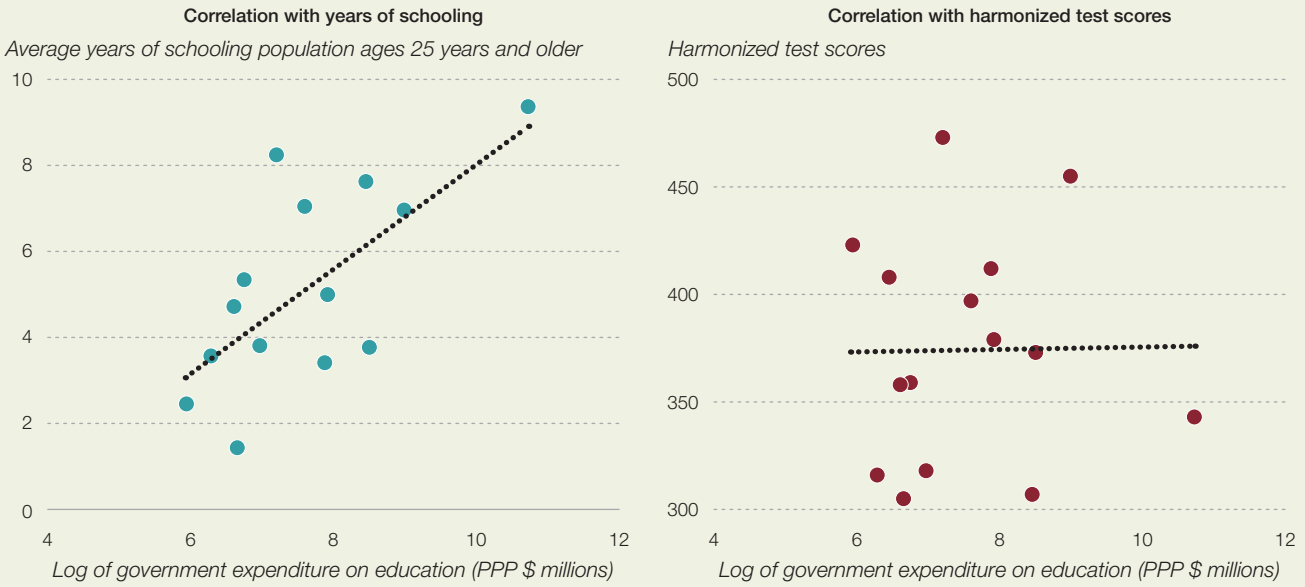
Africa is, on average, the least efficient region for education spending, with a 58 percent efficiency score for the primary school level and 41 percent for the secondary school level (figure 3.8). This low efficiency has important implications. At the primary school level, a 58 percent efficiency score means an inefficiency in education spending of around 42 percent (100 percent minus 58 percent), indicating that African countries could improve primary education by 42 percent without increasing spending. More concretely, the primary education completion rate

FIGURE 3.4 African governments allocate the largest share of their education budget to primary education, followed by secondary education, average 2010–17



Source: Staff calculations based on data from UNESCO Institute of Statistics.

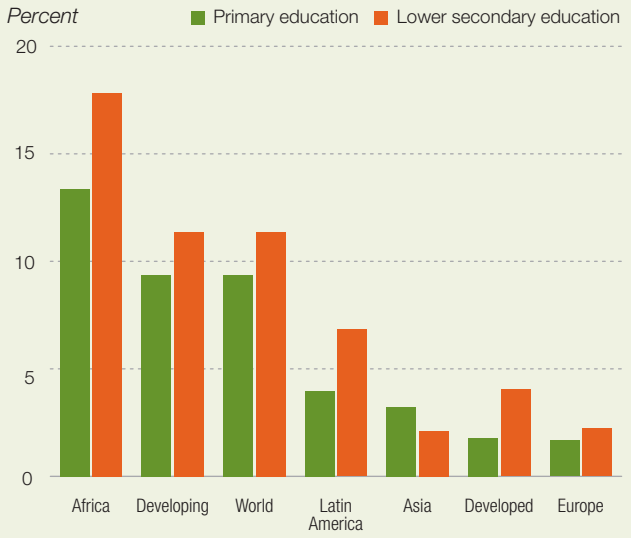
FIGURE 3.5 Government spending on education in Africa is positively correlated with average years of schooling but is not correlated with harmonized test scores, 2017



Note: PPP is purchasing power parity.

Source: Staff calculations based on data from Penn World Table 9.1, UNESCO Institute of Statistics, and World Bank World Development Indicators database.

FIGURE 3.6 Repetition rates for both primary and secondary school were higher in Africa than in other developing regions, 2012–16

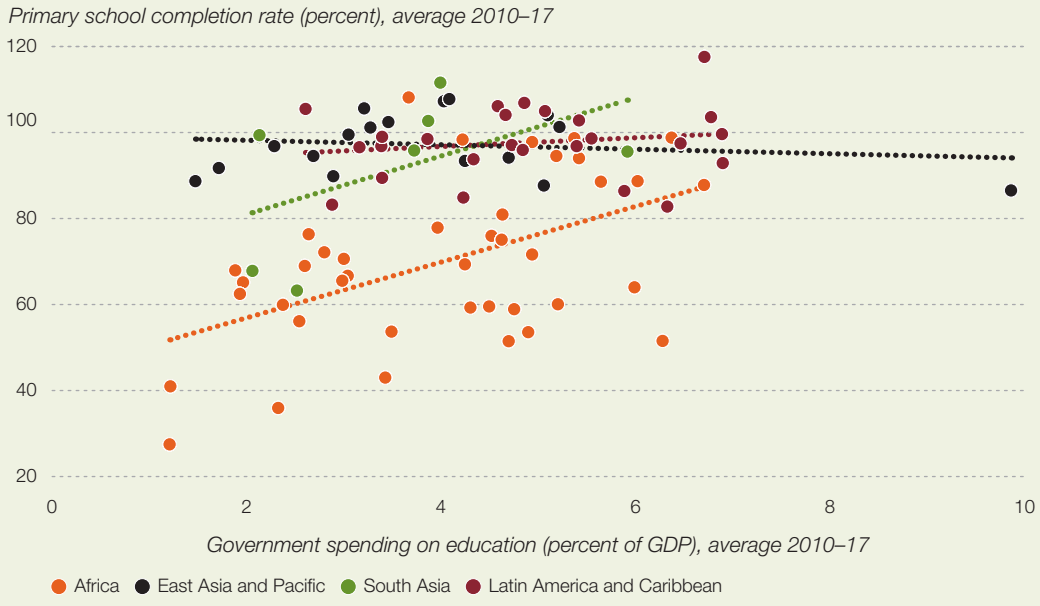


Source: Staff calculations based on data from UNESCO Institute of Statistics.

could rise from its average of 79 percent in 2016 to 98 percent if efficiency levels in Africa matched those in Asia or Latin America.[7] In other words, African countries could achieve universal primary enrollment by improving the efficiency of education spending.

Within Africa, countries in Southern Africa spend money on education more efficiently than countries in other regions at both the primary school (78 percent efficiency) and secondary school (68 percent) levels, followed by North Africa, East Africa, and West Africa (figure 3.9). Central African countries are at the bottom of the ranking, with a 32 percent efficiency score for primary school and 17 percent for secondary school. The results imply significant opportunity to improve education outcomes through more efficient use of resources. The most efficient countries at both education levels were Seychelles and Mauritius, followed by Morocco, Ghana, and Cabo Verde in primary school and Cabo Verde, Morocco, and Ghana in secondary school.

FIGURE 3.7 Spending on education is positively correlated with primary school completion rates, but Africa spend more for lower outcomes than Asia or Latin America, 2010–17

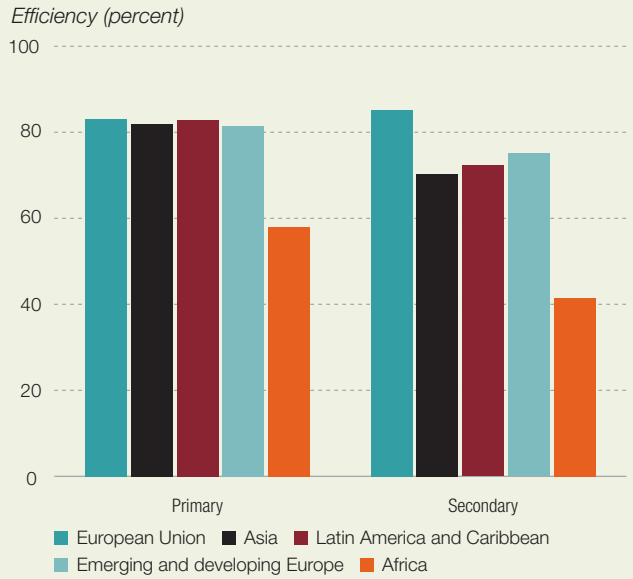


Source: Staff calculations based on data from World Bank World Development Indicators database.

Teachers play a vital role in learning and are therefore critical to improving the efficiency of Africa's education systems. However, in many African countries, the supply of teachers lags behind demand. An estimated 70 percent of countries are facing acute shortages at the primary school level and 90 percent of countries at the secondary school level.[8] Contributing factors include high teacher attrition, bottlenecks in teacher training systems, and unattractive conditions of service.[9]

Acute teacher shortages translate into overcrowded classrooms and underqualified teachers. The long-term effect is poor foundational learning by students and a deficit in the skills needed in a changing labor market. Addressing the poor performance of teachers is crucial for reducing inefficiency and improving education outcomes, as well as for meeting country commitments to the targets of Sustainable Development Goal 4 on education.

FIGURE 3.8 The efficiency of government education spending on primary and secondary education is lowest in Africa, 2010–18



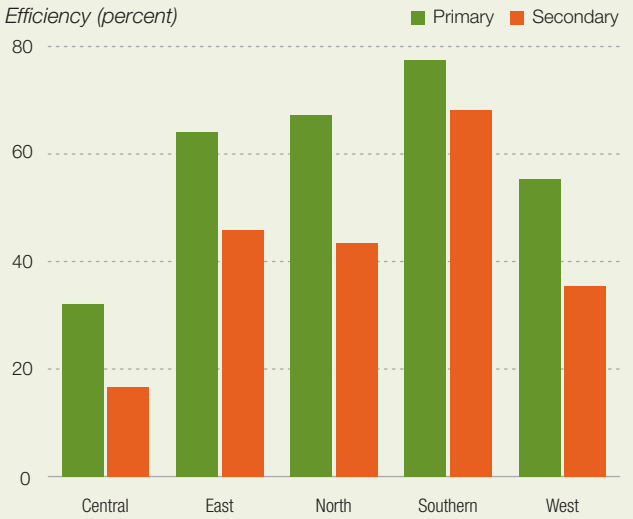
Source: Staff calculations based on data from UNESCO Institute of Statistics.

HOUSEHOLD FINANCING

Household investments in education involve difficult decisions about costs and expected benefits. The costs are incurred in the present, but the benefits are realized much later, and their value can be affected by labor market conditions. Household education investment decisions must take into account current and expected returns, labor markets, government policies, the future of the economy, and, in particular, the availability of schooling.[10] Public financing of education is, therefore, a critical determinant of household education spending.

In addition, households may have no way to borrow against the future benefits of education. Although household spending on education is a choice and an investment with long-term returns, high out-of-pocket spending may crowd out spending on other necessities, such as health care and investments in other productive activities. Thus, credit-constrained households may have to choose between paying for their child's education or visiting a doctor or investing in new agricultural technologies with the potential to increase welfare in the long run.

FIGURE 3.9 Education spending in Africa was most efficient in Southern Africa and least efficient in Central Africa, 2010–18



Source: Staff calculations based on data from UNESCO Institute of Statistics.

Direct education costs for households typically include school fees, uniforms, school materials (books, pencils), transportation, and other

expenses to improve skills and learning outcomes. However, the cost of sending a child to school goes well beyond the direct cost of schooling. Other constraints can be important, especially in poor households in rural areas, where children help with household chores and with farm and off-farm activities, and in places where child labor is still common to supplement household income.

Thus, as the costs of children's education rise, families may decide not to send their children to school. Education may become a luxury good for poverty-stricken households.[11] Credit-constrained households with multiple school-age children may also have to ration their limited resources, perhaps making decisions based on their children's gender and age. Even when there is a willingness to send children to school and there is no tuition, access to school, particularly at the secondary level, might be impeded by such factors as distance, violence, and early marriage.

In some countries private tutoring accounts for a considerable share of household education spending

Direct household spending on education is high

Quantifying the monetary value of household investments in children's education and skill development requires quantifying and valuing multiple inputs that enter education "production" through a life cycle analysis. In addition, data on household education spending are lacking for most African countries. This section assesses only the direct monetary outlays on education by households. The next section uses survey data to examine the distribution of spending per student across households and income groups in selected countries.

While more than half of African countries have abolished school fees for primary and secondary school,[12] families still spend a considerable proportion of their income on their children's education. In 2015, African households spent, on average, 35 percent of the household budget on food, 3.5 percent on out-of-pocket health care, and 2.5 percent on education.[13] The range across regions and countries is wide, however. Households in Southern Africa spent the highest share of their budget on education, on average, at 4 percent, while the other regions spent much less—West Africa (2 percent), Central Africa (1.8 percent), East Africa (1.7 percent), and North Africa (1.3 percent).

On average, education spending by households made up 4.5 percent of nonfood spending in 2011 and 4.7 percent in 2015, but there is considerable variation across countries.[14] In 5 of 50 African countries, the share in 2015 was higher than the average share of 8.4 percent in high-income countries, while in 37 African countries the share was below the low-income country average of 5.4 percent (figure 3.10).[15] Since more than half of African countries have abolished school fees, these differences in household education financing suggest that other education expenses —such as books, materials, transport, and private tutoring—make up the bulk of spending differences. Differences in household demand for better quality schooling may also play a part—for instance, if households send their children to private schools, hire tutors, and pay for educational enrichment materials. Studies find that in some countries private tutoring accounts for a considerable share of household education spending (box 3.1).

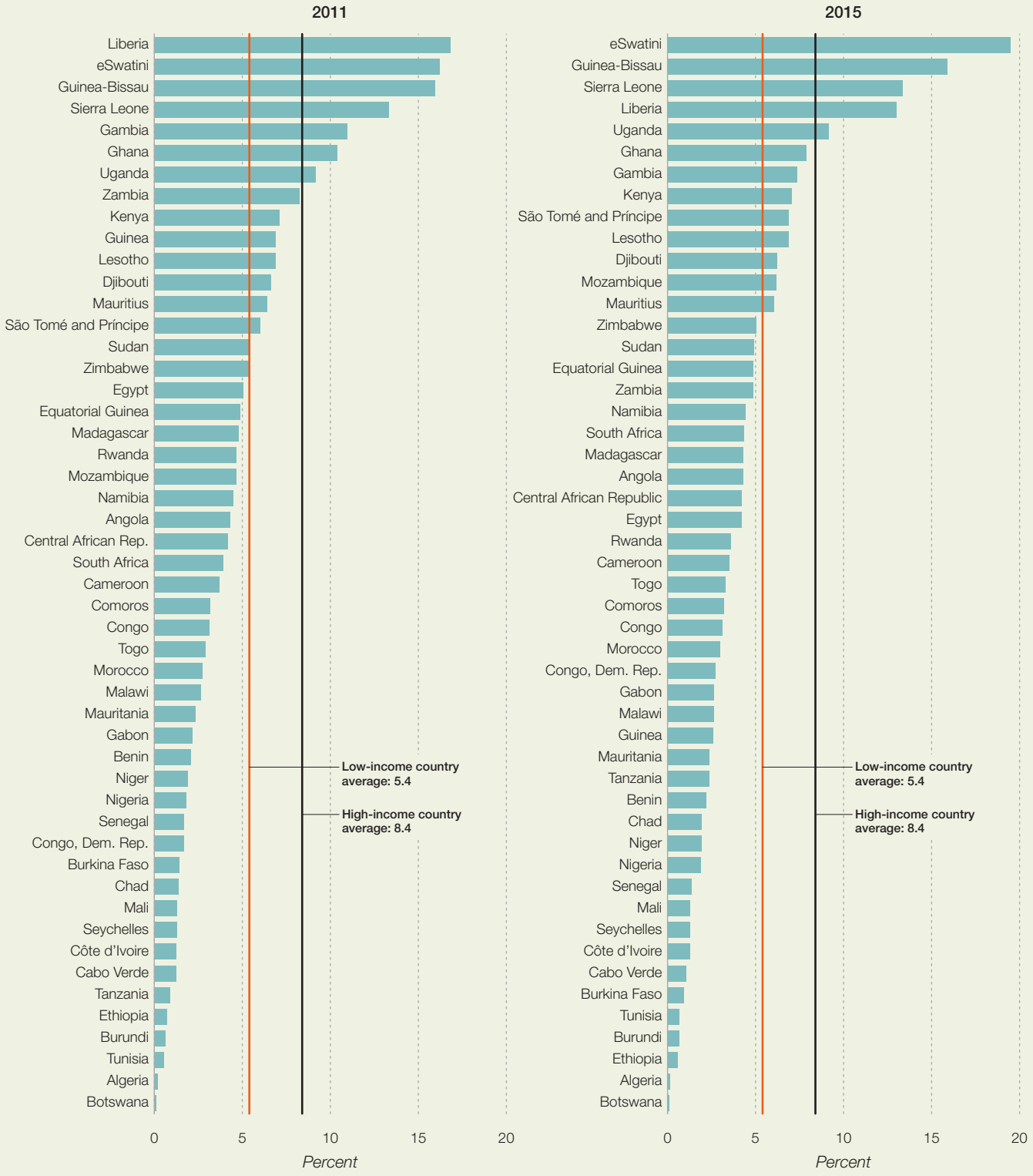
Per student household spending on education varies considerably

While the country-level discussion in the previous section gives a picture of the amount of household education spending across countries, it is also useful to assess how much households spend per student.

Again, there is considerable variation across countries. The average household spending per student as a share of per capita household spending is much higher than the average household spending on education as a share of total household spending. For instance, the share of per student spending ranged from 4.3 percent of per capita household spending in Malawi in 2013 to 24 percent in Nigeria in 2012 (table 3.1). Average actual per student spending rises when households with no family member currently attending school are excluded from the analysis (those with zero education expenditure).

How much of the income should households allocate to education? What is the threshold beyond which spending on children's education puts excessive pressure on the household income? A simple private cost–benefit analysis often overlooks these important questions and

FIGURE 3.10 Household education spending varies widely across African countries as a share of nonfood consumption spending, 2011 and 2015



Source: Country group averages are based on World Bank International Comparison Program data for 2011.

BOX 3.1 Private tutoring

Many African households pay for private tutoring of their school-age children. The private tutoring industry is largely organized as an informal service offered by teachers and uncertified educators and provided either on a one-on-one basis or to a group of students. More than 65 percent of primary school children in Kenya and 54 percent in Egypt attend tutoring sessions.[1] The prevalence is even higher for secondary school students (60–75 percent in Egypt, for example).

Thus, paying for private tutoring could have significant financial implication for households. While the lack of data makes it difficult to quantify precisely the financial implications in Africa, some country studies in other regions suggest that mainly richer and urban households hire private tutoring services.

In addition to regular use of tutors during the school year, families hire private tutoring during high-stakes end-of-year exams that determine whether students can continue their studies and what quality of school they can attend.[2] And some parents who are less educated rely on tutors to help their children with homework.

Most tutors are moonlighting teachers. That creates a perverse incentive to teach less in school to increase demand for tutoring.[3] Thus, when private tutoring is provided by teachers, the net impact on education outcomes could be negative. Students from poor households that cannot afford private tutoring are especially hurt by this incentive problem. However, with the right incentives and regulatory framework, the private tutoring industry could be considered part of the education system, to supplement formal schooling and improve education outcomes for those who need help.

Notes

1. Fergany 1995; Elbadawy and Assad 2007.
2. Jayachandran 2014.
3. Jayachandran 2014.

TABLE 3.1 Per student education spending and average household education spending in four African countries, latest available year (percent)

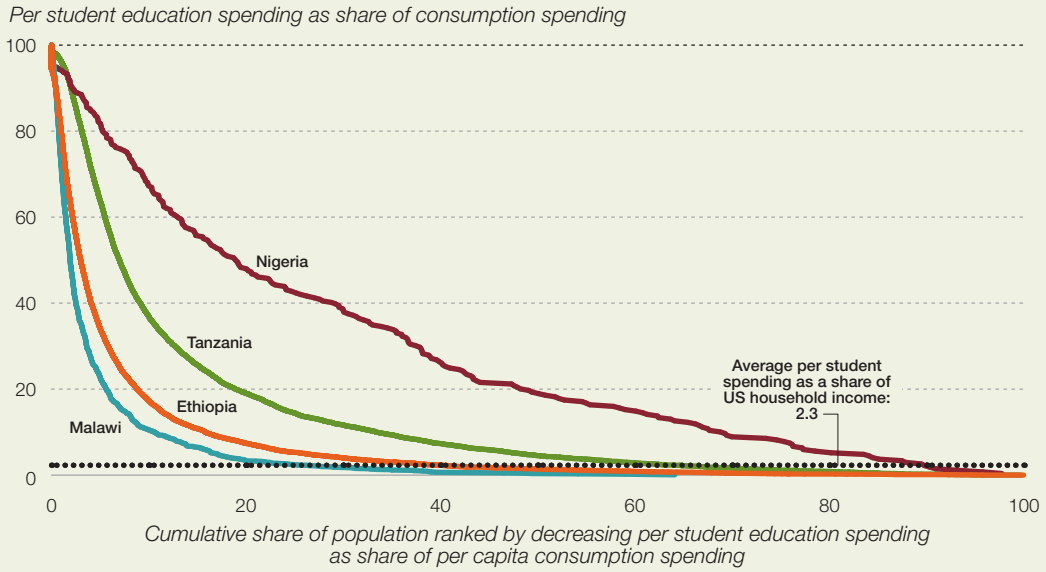
Country (year)	Average household per student spending as a share of per capita spending	Average household education spending as a share of household spending
Malawi (2013)	4.3	1.51
Ethiopia (2015)	8.3	2.45
Tanzania (2014)	12.8	3.14
Nigeria (2012)	24.1	3.39

Note: Average household per student spending is calculated as total household education spending divided by the number of students in the household currently attending school (households with no one currently attending school were excluded) divided by per capita consumption/expenditure. To compare across countries, we compute the share of per pupil education spending in per capita consumption spending. This tells us the approximate amount spent per student on education out of the total consumption budget available for the student.
Source: Staff calculations based on data from World Bank Living Standards Measurement Study–Integrated Surveys on Agriculture and African Development Bank.

the welfare implications of paying for education. For healthcare, there is broad consensus that household spending should not result in financial ruin. Accordingly, many countries put in place insurance and social safety programs to prevent this. However, because spending on education is often viewed as a voluntary investment, discussions of welfare and distributional considerations are muted.

One way to assess whether the share of household spending on education is "too high" is to plot household education spending per student as a share of per capita consumption spending against the cumulative share of the population ranked in decreasing order of per student spending as a share of consumption spending (figure 3.11). The horizontal line at 2.3 percent is the average per student spending as a share of household income in the United States (an arbitrary reference country used as a threshold). The area below the curve and above the threshold line represents the overall amount by which household education payments in the sample households exceed the threshold. For example, more than 90 percent of the households in Nigeria, 60 percent in Tanzania, 40 percent in Ethiopia, and 20 percent in Malawi spent more than the 2.3 percent US threshold on education. These results imply that high proportions of households spend a larger share of their per student consumption budget on education

FIGURE 3.11 The share of per student education spending in per capita consumption reveals inequality in spending in four African countries, latest available year



Note: Per student education spending is calculated as total household education spending divided by the number of students in the household currently attending school (households with no one currently attending school were excluded) divided by per capita consumption/expenditure. The curves are constructed by tracing out per student spending shares on the y-axis and the corresponding share of people on the x-axis. This is done in a decreasing cumulative order starting from the proportion of people who spend the highest share. Therefore, the x-axis measures the cumulative share of the population who is paying less and less for education as a share of consumption. The right tip of the curves indicates the share of the households that spend a nonzero amount on their children's education: 94 percent in Ethiopia, 95 percent in Nigeria, 98 percent in Tanzania, and 99 percent in Malawi.

Source: Staff calculations based on data from World Bank Living Standards Measurement Study–Integrated Surveys on Agriculture.

than the average US household. Thus, education financing policies should take into account the potential financial pressure on households of paying for education, especially poor households.

Remittances are a major source of household education financing

Remittances are a substantial and growing source of income for many African households. Between 2005 and 2018, remittances rose from $33.4 billion to $82.8 billion, accounting for close to 3.5 percent of Africa's GDP. Remittances from internal and international migrants are an important source of education financing for many households, and defraying the cost of education is often a key motivation for migration. Households receiving remittances from abroad spent 22 percent of it on education in Nigeria, 12 percent in Burkina Faso, 10 percent in Kenya, and 3 percent in Senegal (figure 3.12).

Remittances are an important source of education financing for many households

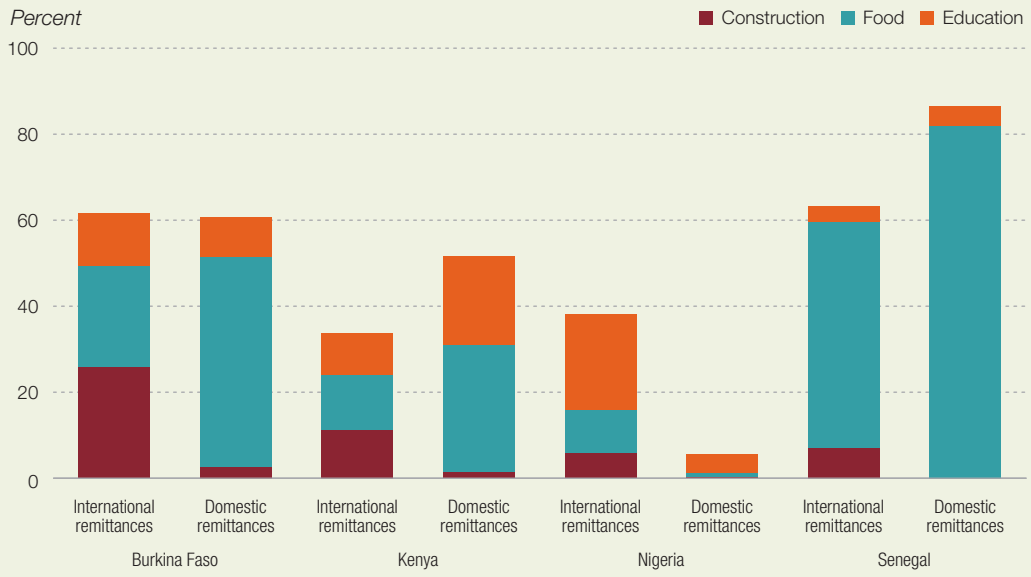
Households that receive remittances, especially remittances from outside Africa, tend to have more members who have attained secondary and higher education. This suggests that remittances also have a nonmonetary impact on education outcomes: having a family member who is a migrant could expand the aspirations of children to attend school and perform well.[16]

Despite the importance of remittances in financing education and raising education aspirations, the cost of receiving remittances is higher in Sub-Saharan Africa, at 9.8 percent, than the global average of 7.4 percent.[17] Cutting the price of sending remittances by 5 percentage points could save up to $16 billion a year globally and have a substantial effect on the education of children.[18]

The complex relationship between household and public spending

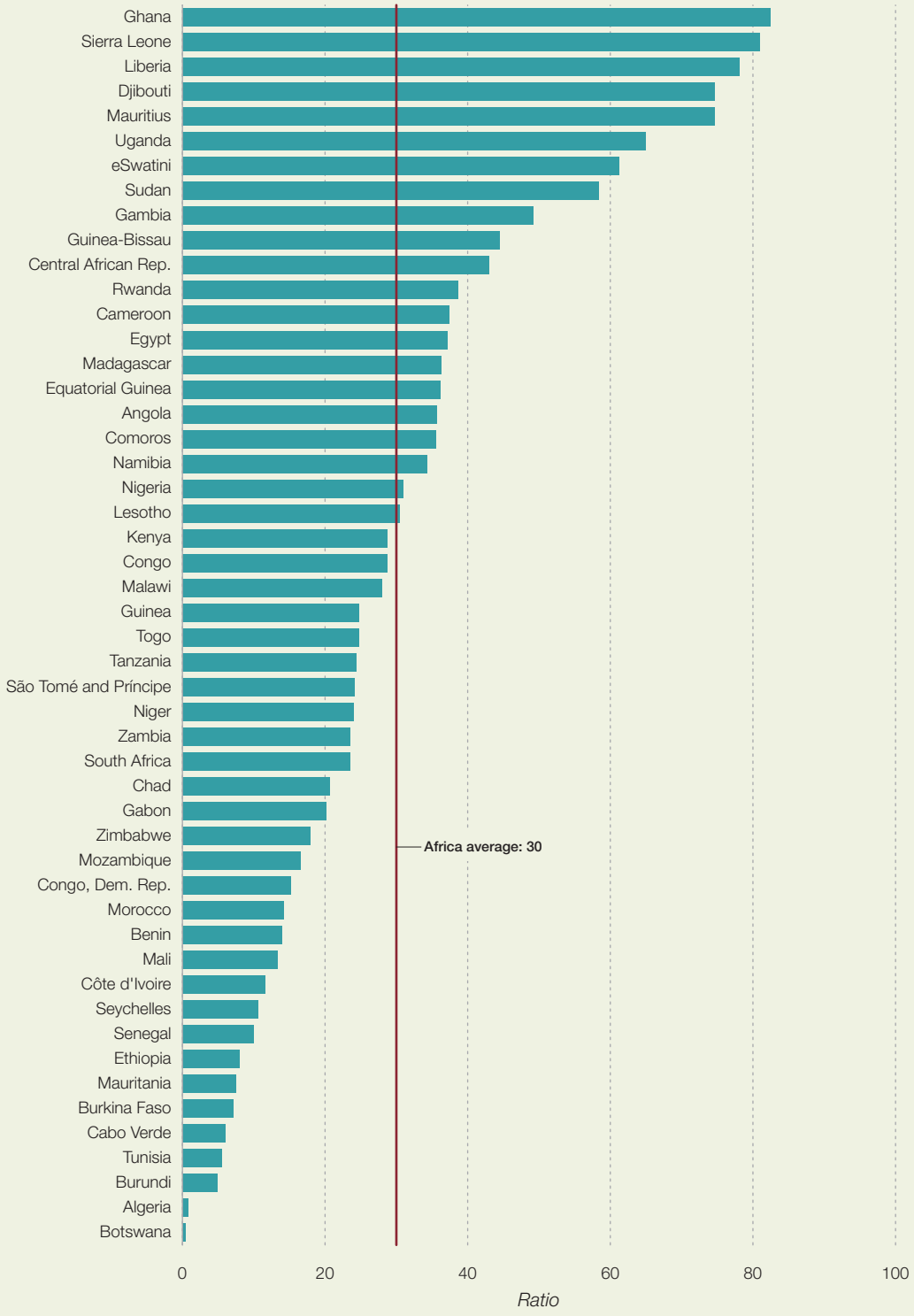
Household spending on education in Africa is a substantial share of total education spending (figure 3.13), and the ratio of household to government spending is high in some countries (figure 3.14). Households accounted for 30 percent of total education spending on average in Africa in 2015, compared with 63 percent for governments (nonprofit institutions serving households accounted for the remaining 7 percent). However, country differences in household

FIGURE 3.12 Remittances, an important source of household spending on education in 2009



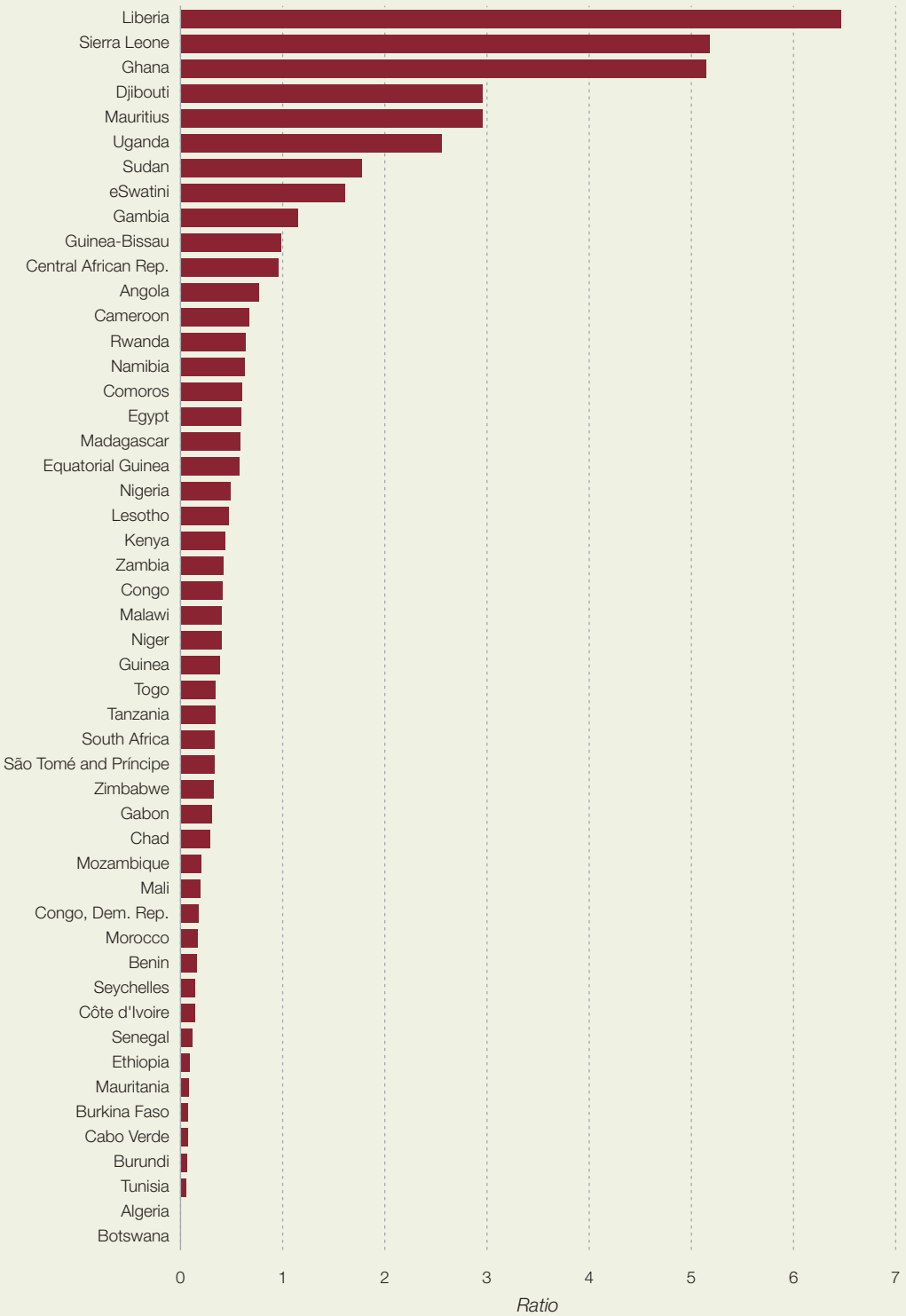
Source: Staff calculations based on data from Migration and Remittances Household Surveys (Africa Migration Project 2009).

FIGURE 3.13 Household education spending in Africa is a large share of total education spending, 2015



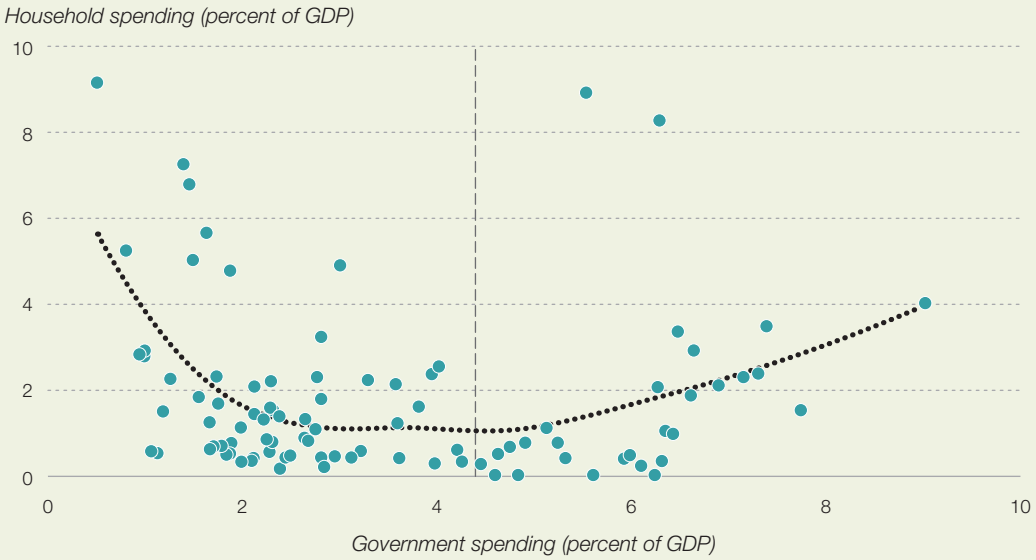
Source: Staff calculations based on data compiled by the African Development Bank from World Bank International Comparison Program data.

FIGURE 3.14 The ratio of household spending to government spending on education is high in many countries in Africa, 2015



Source: Staff calculations based on data compiled by the African Development Bank from World Bank International Comparison Program data.

FIGURE 3.15 The relationship between household and government education spending in African countries is U-shaped, 2011 and 2015



Source: Staff calculations based on data compiled by the African Development Bank from World Bank International Comparison Program data.

education spending are enormous, with the share ranging from 0.4 percent in Botswana, where the government's share is 93 percent, to 82 percent in Ghana, where the government's share is just 16 percent. Overall, households in 10 African countries, including Ghana, accounted for more than half of all education spending.

The relationship between household and public spending on education in Africa follows a U-shaped curve (figure 3.15). In countries where the government spends little on education on the supply side (schools, teachers, education materials, and infrastructure) or the demand side (transfers to households such scholarships, financial aid, or conditional cash transfers), households fill the gap by spending more. As public spending increases, households spend less until public spending reaches a certain threshold, at which point private spending rises again. The threshold level of government spending in Africa is around 4.4 percent of GDP. While several factors may be involved, it seems likely that public spending on education beyond the threshold may improve education quality and thus provide an incentive for households to spend more on quality as well. By improving education quality, public education spending higher than the threshold could nudge households, in turn, to spend more for schools of higher quality, such as those with smaller class size, more qualified teachers, and better equipped classrooms.

By improving education quality, public education spending could nudge households to spend more for schools of higher quality

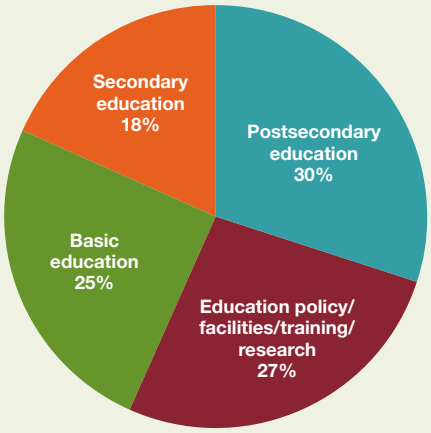
INTERNATIONAL FINANCING

Official donors also contributed an important share of education financing in Africa

After a sharp decline in 2011, donor financing for education began to rise, reaching $14.8 billion in 2017. Africa received $5.4 billion, or 36 percent of the total. In some African countries, including Burkina Faso, Mali, and Zambia, the share of aid in government education budgets is higher than 25 percent.[19]

By education level, the largest share over 2013–17 went to postsecondary education, at 30 percent (figure 3.16). Next was general support to the education system, at 27 percent, distributed to education facilities and training (44 percent), education policy and administrative

FIGURE 3.16 By education level, the largest share of international aid to education went to postsecondary education, 2013–17



Source: Staff computations based on OECD Statistics (Creditor Reporting System).

In some African countries, the share of aid in government education budgets is higher than 25 percent

management (39 percent), teacher training (15.5 percent), and education research (1.5 percent). Basic education received 25 percent of international aid. The bulk of that went to primary education (87 percent); early childhood education received 3 percent, and basic life skills for youth received 10 percent. The lowest share went to the secondary school level, at 18 percent; 58 percent of that went to vocational training. Around 22 percent of aid to education was in the form of scholarships or training in the donor country.

The effectiveness of international aid can be improved

Aid to education, targeting different education levels and using different aid modalities, has been channeled into interventions such as school feeding programs, classroom construction, teacher training, girls' scholarships, programs to reduce student dropout, and curriculum development.[20] An analysis of aid effectiveness in education found that the impact was greatest when aid was used for school facilities and teacher training.[21] In addition, there were complementarities between aid for primary and secondary education, possibly driven by an incentive effect that induces children to complete primary schooling if there are strong prospects for being able to continue at the secondary level.

Effective aid should seek not merely to increase numbers—of children in school, teachers, and textbooks—but to make lasting improvements in learning and, thus, quality.[22] Better quality can be attained by improving strategic planning and the education management information systems informing such planning. Without detailed school-level data identifying the gaps in educational inputs—class size, textbooks, number of qualified teachers, and so on—effective aid targeting can be challenging. Beyond outputs, the success of aid in developing educational planning would also require effective use of such initiatives by the recipient countries.

The allocative efficiency of international aid has received close attention: whether countries most in need of aid receive it, and, more important, can use it efficiently. A recent study found that the poorest countries receive less aid than richer countries.[23] Allocative efficiency in education aid can also be assessed by looking, for example, at the proportion of out-of-school children in each country in relation to its allocated aid for education.

The 2005 Paris Declaration on Aid Effectiveness, the 2008 Accra Agenda for Action, and the 2011 Busan Partnership for Effective Development Co-operation create an overarching framework for increasing aid effectiveness in education. These declarations incorporate the key principles of ownership, inclusive partnership, results focus, transparency, and shared accountability, which should guide donor and recipient actions for increased aid effectiveness.

PRIVATE SECTOR FINANCING

Private sector financing of education is rising but is still limited

Private financing can complement government funding in public education institutions. There is limited research on private financing in Africa, but case studies reveal that private, nonhousehold sources represent only a small portion of total education funding. For example, a joint project by the

UNESCO Institute for Statistics, the UNESCO International Institute for Educational Planning (IIEP), and the IIEP Pôle de Dakar shows that nongovernmental organizations and private organizations contributed only 1 percent of total financing for education in Uganda, compared with 57 percent from households and 34 percent from the government, and that the share is negligible in Côte d'Ivoire.[24]

There are wide-ranging opportunities for private sector financing of education, including impact investors, philanthropists, and entrepreneurs (box 3.2). In particular, opportunities with social and economic potential abound in low-cost primary and secondary education, where governments have challenges in meeting the demand (such as Promoting Equality in African Schools, a nonprofit low-cost school network in Uganda and Zambia); higher education (such as African Leadership University, with multiple campuses); technical and vocational education (such as Andela, which provides on-the-job training for the tech sector in Kenya, Nigeria, and Uganda); and student and institutional finance (such as Student Finance Africa, which provides student loans across Africa for university or technical training programs).[25]

Private financial intermediaries could also be more active in financing education. Globally, one in five individuals above the age of 15 saves part of his or her income for education or school fees,[26] and 8 percent borrow to pay for education (figure 3.17).[27]

About 32 percent of survey respondents in East Asia and the Pacific and 26 percent in Latin America reported saving money for education or school fees in the past 12 months, compared with 20 percent in Africa.[28] And around 12 percent of respondents in Latin America and Africa and 10 percent in East Asia and Pacific reported borrowing money for education or school fees in the past 12 months. There are large variations across countries, with the share of respondents reporting saving for education or school fees ranging from 6 percent in Niger to 42 percent in Uganda. Fewer

There are wide-ranging opportunities for private sector financing of education, including impact investors, philanthropists, and entrepreneurs

BOX 3.2 Social enterprises in education

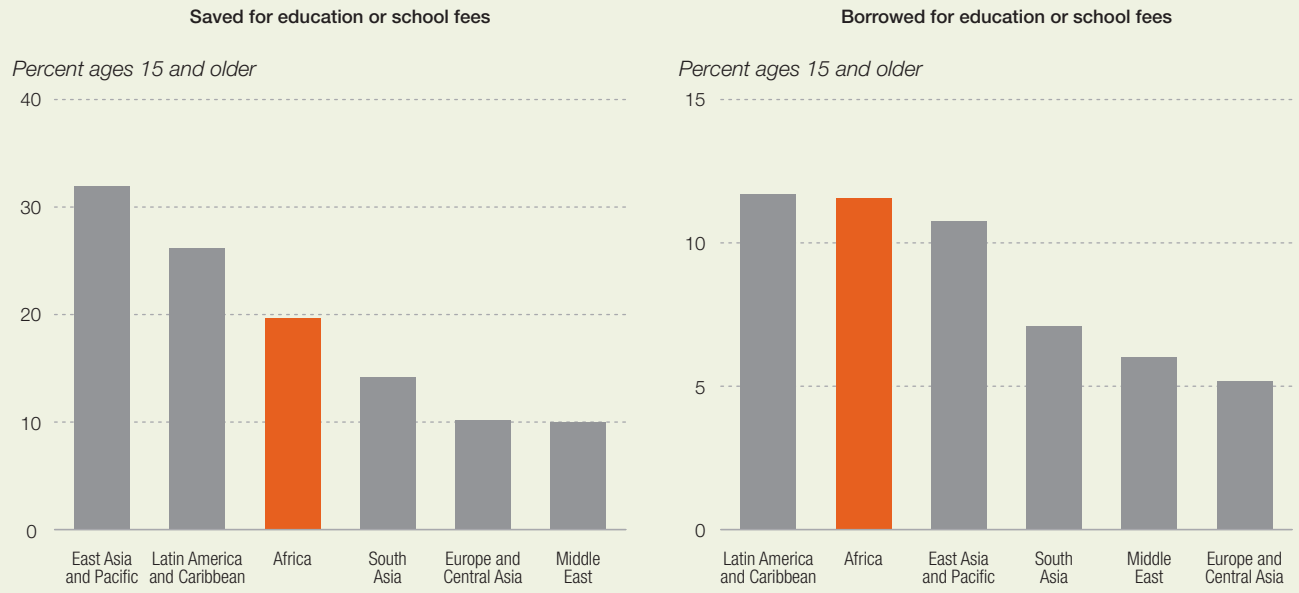
One way to improve education efficiency by tapping into private sector capital is through social enterprises and impact investments.

Bridge International Academies (BIA) is a successful sustainable social enterprise in education. Charging about $6.50 a month per student, BIA managed to provide primary and preprimary education in 359 academies to more than 100,000 students in East Africa in 2013. It invented a new business model for delivering basic education at ultra-low cost. The model leverages technology and data to deliver quality education. Specifically, BIAs teach world-class curricula and training development using disruptive innovations that could be easily replicated and scaled up. According to BIA, impact investors such as the UK Department for International Development and the Bill & Melinda Gates Foundation were among its key funders at its early stage, while the International Finance Corporation invested at the growing stage. BIA now covers four countries in East Africa: Kenya, Liberia, Nigeria, and Uganda.

Another social enterprise is Omega School, a chain of almost 40 low-cost private schools in the Greater Accra and Central regions of Ghana, serving more than 20,000 students from nursery to junior high school. Omega has developed a "school-in-a-box" approach with detailed school operations manuals and systems in addition to standardized teaching and learning materials. The model also includes a daily all-inclusive fee (for uniforms, a schoolbag, workbooks, exercise books, and a hot daily lunch) of about $0.75 targeting families that might not be able to save enough to pay a monthly or term fee.

Source: UNDP 2015 and Center for Education Innovations (https://educationinnovations.org/program/omega-schools).

FIGURE 3.17 Saving or borrowing for education or school fees, by developing and emerging region, 2014



Source: African Development Bank calculation based on FINDEX 2014.

than 5 percent of respondents reported borrowing for education or school fees in Chad, Ethiopia, and Mali, compared with more than 30 percent in Kenya and Uganda. Note that the need to borrow or save for education can be influenced by government universal (free) education policies.

The private sector underinvests in skill training

Private sector involvement is larger in skill training, although market failures depress private sector investment.[29] Since skills acquired through training can be used productively by other firms, a worker's current firm will not incur the cost of training without an enforceable contract to prevent "poaching" by a competitor. And, although workers would be ready to bear the costs of training in order to fully capture the benefits in the form of higher wages, they may be unable or unwilling to pay for training because of liquidity constraints, risk aversion, or inability to commit to not quitting after employer-financed training.[30] And if workers do not take the social returns to training (higher productivity of coworkers, and higher current and future gains to employers) into account in their calculations, underinvestment in training can result. Similarly, since the benefits to future employers are not taken into account by the current firm, the level of investment undertaken by the current firm will be suboptimal from a social returns perspective.

Another source of underinvestment in skill training is the coordination problem between workers and firms that occurs when a firm invests in new technologies and when workers invest in training and the investments are linked by a complementary relationship. A worker's returns to the investment in skill training depend on the firm investing in the technology requiring these skills, and the firm's returns to investment in the new technology depend on having appropriately skilled workers. Complementarities create a "chicken and egg" problem: which come first, the skills or the demands?

The pervasiveness of informal work in Africa is another reason for underinvestment in skill training. The International Labour Organization estimates that 86 percent of employment in Africa is informal, compared with 68 percent in Asia and the Pacific and 40 percent in the Americas. Most informal workers rely on traditional apprenticeship, on-the-job training, or other nonformal training. They have little or no access to formal training channels, which could increase their ability to transition to the formal

sector.[31] Several approaches could help informal workers improve their skills, including entrepreneurship training, second-chance and literacy education, short in-service training courses, and certification programs that take into account their financial constraints.[32] Industry associations could provide information to their members on training and skill upgrading opportunities and could organize and deliver the training. Demand-side financing instruments such as vouchers, training funds, and results-based financing can be used to encourage competition and innovation in training delivery, as could opening markets to private training providers.

Market failures lead to underinvestment in skill training and make a strong case for public intervention in education and skill development.[33] How African governments might intervene to boost private sector financing of skill training depends on the underlying market failure. For example, governments can promote apprenticeship contracts to provide a solution to a market failure related to training benefits.[34] Under apprenticeship contracts, training is co-financed by firms and workers. To recoup some of the training costs and reduce opportunistic behavior by the firm, firms pay apprentices below their productivity during the contract while committing to pay a higher wage at the end of the contract period. The certification/qualification is also awarded only at the end of the apprenticeship to discourage apprentices from leaving before the end of the contract. Because the cost of leaving the apprenticeship early is higher when the awarded qualification is highly valued in the labor market, a strong skill certification system is also required. For the chicken and egg problem, the government can coordinate the necessary joint investments, as neither the firms nor the workers may find it in their self-interest to take the first step.

SOME IMPLICATIONS FOR EDUCATION FINANCE POLICY

Africa faces a huge challenge in meeting its education and skill needs. The rising numbers of youth and the rapid pace of global technology change pose major challenges. As noted in chapter 2, despite progress, Africa lags behind other regions in school enrollment and completion at all levels. In addition, the continent has, on average, the lowest test scores of all regions in the world. Dealing with Africa's education and skill gaps requires collective action involving government, households, international donors, and the private sector.

UNESCO estimates the external financing gap—the difference between the estimated cost of achieving basic education and the estimated available domestic resources—at $39.5 billion a year over 2015–30 (in constant 2012 prices).[35] The average gap of $21.0 billion a year in low-income countries represents 42 percent of total annual education costs, while the average gap of $18 billion in middle-income countries represents 6 percent.

The education finance gap is concentrated almost exclusively in Africa, which will account for nearly the entire gap by 2020. As the evidence presented in this chapter has made clear, closing the gap entails not only increasing the public education budget but also spending that money more efficiently and entering into better public–private partnerships that can expand access to education in Africa while improving its quality and equity. Several policy options emerge from this analysis for mobilizing resources, improving spending efficiency, and addressing inequality in accessing a good education.

Market failures lead to underinvestment in training and make a strong case for public intervention in education and skill development

Prioritize education in allocating scarce resources

Big-push public investment programs, including in physical and human capital, are a policy tool used by developing countries to transform their economy, revive growth, create jobs, and reduce poverty. Investments in physical and human capital are complementary and have potentially transformative macroeconomic and distributional consequences. Human capital investment raises the productivity of low-skilled labor in different sectors, including in the informal sector, and increases the supply of high-skilled labor. But building physical and human capital can be costly given limited resources and competing needs, so policymakers need to think clearly about the public finance implications.

In a fiscally constrained environment, the main effects of alternative financing mechanisms are primarily intertemporal—different public financing

strategies will shift the financing burden between present and future generations. Furthermore, governments allocate their limited budgets among competing areas; skills and education programs often go underfunded. To make a compelling argument for allocating limited resources across sectors requires simulating the potential impacts of spending in competing areas on economic growth and inequality.

This section shows the impacts of different public education financing policy options by using a second-generation debt–investment–growth model with a segmented labor market. The model captures some of the key structural characteristics of African countries—thus facilitating plausible calibrations—and therefore is suitable to address some of the issues raised in this chapter (annex 3.1).

From a macro perspective, investment in basic education pays the highest return, followed by investment in upper-level education

Prioritize investment in education for a larger long-term gain in GDP growth

The analysis quantified the long-run effects of permanently increasing public investment by 1 percent of initial GDP in four ways: physical infrastructure; basic education (six years of education, corresponding to primary school); upper-level education (eight years, corresponding to lower and upper secondary plus some tertiary education); or all three (table 3.2). The variables include real output, net national income, types of employment, unemployment, real wages, and real income of the ex-ante poor. All taxes are held constant, and there is no debt financing. Therefore, changes in transfers (divided by initial GDP) measure the net fiscal gain or loss.

From a macro perspective, investment in basic education pays the highest return, followed by investment in upper-level education; investment in physical infrastructure yields the lowest return. For instance, a 1 percent of GDP increase in investment in education (basic or upper level) alone yields almost twice the growth rate of a similar investment in infrastructure alone. This suggests that when allocating public resources, policymakers should prioritize education since it could pay off significantly more than investing in infrastructure alone in the long run.

TABLE 3.2 Long-run effects of increasing one or more components of public investment by 1 percent of initial GDP

	Investment in			
Variable	**Physical infrastructure**	**Basic education[a]**	**Upper-level education[b]**	**Mixed (all three)[c]**
Real GDP	5.1	10.1	9.1	27.8
Net national income	4.3	10.2	9.3	27.6
Low-skill employment traded	–0.4	0.1	–4.2	–3.2
Low-skill employment formal	2.3	5.1	6.9	14.9
Low-skill employment informal	0.6	–0.8	–0.3	–0.8
Unemployment rate	5.9	5.8	5.3	4.8
Real wage, formal	2.7	5.2	6.5	16.1
Real wage, informal	5.2	10	10.7	28.7
Real wage, skilled	5.4	10	–24.1	–9.1
Real income of the ex-ante poor	5.4	10.3	18.1	35.5
Change in transfer	–0.24	0.47	0.02	3.4

a. Six years of education, corresponding to primary school.

b. Eight years of education, corresponding to lower secondary, upper secondary, plus some tertiary education.

c. Allocated 33 percent for physical infrastructure, 34 percent for basic education, and 33 percent for upper-level education.

Source: African Development Bank and IMF forthcoming.

Invest more in both education and infrastructure for the highest returns in long-term GDP growth

It would be wrong, however, to infer that the optimal mix leaves no role for investment in infrastructure, given that education and infrastructure are strong complements: an increase in one component of public capital increases the productivity of the other two components. Although net national income increases less and poverty decreases less when some investment shifts from human capital to infrastructure, this is true only in the long run. Because investment in education increases labor productivity with a 6- to 8-year lag, it takes more than a decade for the paths of net national income, real wages for the poor, and formal sector employment in an all-human-capital investment program to overtake the corresponding paths in a mixed infrastructure plus human capital program. The preferred program depends on how policymakers evaluate this intertemporal tradeoff.

The mixed investment program features a 1 percent of GDP increase in investment allocated across basic education (34 percent), upper-level education (33 percent), and physical infrastructure (33 percent). The mixed investment program is superior to any program focusing only on an individual sector due to strong complementary effects (see the last column in table 3.2). Mixed investment increases net national income by almost 28 percentage points, real wages in the informal sector by 29 percentage points, and real income of the ex-ante poor by 36 percentage points. These findings have important policy implications. Although education should be prioritized, a mixed investment program will yield the highest returns.

Building physical and human capital can be costly. So, policymakers need to consider the public finance implications and the macroeconomic and distributional effects. Indeed, different financing strategies will have different macroeconomic and distributional effects, both in the short to medium run and in the long run, implying important tradeoffs in each time period and across time.[36] For instance, alternative financing strategies could shift the fiscal burden across different households or classes of labor, if the program design is distortionary, or across current and future generations.

Enhance efficiency through education expenditure audits and reviews

Among developing countries regions, Africa is the second highest spender on education as a share of GDP. But the efficiency of public spending is low, and government spending on education appears to have been more successful in boosting the quantity of education than the quality, suggesting the need for a more effective allocation of resources. Africa's challenge is to expand the education and skills of its people by improving both the quantity and the quality of education, despite the government's limited financial space to maneuver.

Poorly targeted or misused education financing is a possible source of inefficiency and can diminish intended improvements in education access and quality. For example, a Public Expenditure Tracking Survey showed that schools in Uganda received, on average, only 13 percent of the public funds allocated to them over 1991–95 because of embezzlement by local officials.[37] In Zambia, a 2014 Public Expenditure Tracking Survey and Quality Service Delivery Survey showed that the amount of grants schools reported receiving was 32 percent less than the amount disbursed by the Ministry of Education, Science, Vocational Training, and Early Education.[38] While education expenditure diagnostic tools (such as budget and operational audits, Public Expenditure Tracking Surveys, and Public Expenditure Reviews) can improve efficiency by reducing "leaks" in education financing and guiding public financial management reforms, they have not always been successful. Some key requirements to increase the likelihood of success of Public Expenditure Tracking Surveys include:[39]

- Involve the ministries of education at all stages of the process, to build ownership and ensure that recommendations are implemented.
- Avoid analyzing too many flows (expenditures) or combining a Public Expenditure Tracking Survey with other investigations.
- Mobilize a national team to carry out the survey, both to develop capacity and to promote a better understanding of risks.
- Use a rigorous survey methodology (paying attention to sampling methods) to build confidence in results.

Africa's challenge is to expand the education and skills of its people by improving both the quantity and the quality of education

- Inform head teachers and parents of their entitlements, to empower communities and promote social ownership. This can be done by providing timely and regular information on public funds to districts and schools (for example, through mass media or web platforms).
- Finally, use monitoring and sanctions to stem leaks and deter dishonest behavior.

Improve teacher quality to reduce school repetition and dropout rates and improve systemwide internal efficiency

Reducing repetition and dropout rates depends on better quality teaching

Reducing repetition and dropout rates depends on better quality teaching. Although teacher compensation is typically the largest expenditure item in the education budget, low qualification, absenteeism, and poor performance of teachers contribute to the poor quality of education. To improve teaching quality governments should:[40]

- Recruit a higher proportion of qualified teachers.
- Provide more professional development for teachers.
- Solicit more feedback on school performance from a range of stakeholders, such as parents, students, and local authorities.
- Give schools more autonomy to allocate resources and recruit the teachers they need.
- Design better policies and strategies for recruiting and retaining able personnel.
- Improve school management and governance support programs.

Use performance-based financing to improve education quality and spending efficiency

By aligning incentives with outcomes, results-based financing, which conditions financial payments on the achievement of a verifiable outcome,[41] is a promising instrument for strengthening education system performance. Independent third-party verification of pre-agreed results is a key component of a results-based financing scheme, and requires putting in place strong monitoring and information systems for tracking indicators of results.

In education, examples of results-based financing include performance-based incentives, pay for performance, performance-based contracting, conditional cash transfers, and cash on delivery. Financing can be used to affect both supply-side agents, such as ministries, provincial authorities, districts, schools, and teachers, and demand-side beneficiaries, such as students and parents.

Results-based financing has been used recently in education projects in several African countries, including Cameroon, Democratic Republic of Congo, Mozambique, and Tanzania, but it is too soon to evaluate long-term impacts. The African Development Bank approved a results-based financing instrument in November 2017, but there have not yet been any projects in education using it.

Mobilize more private sector resources through public–private partnerships

While education is primarily the responsibility of the public sector, the private sector can contribute to both the provision and financing of education. Public–private partnerships enable the government and the private sector to join in providing education infrastructure, products, and services and in sharing costs and resources. Examples of public–private partnerships in education include voucher schemes, loans, and scholarships to expand school choice beyond public schools. The private sector is also involved in supporting activities such as teacher training, tutoring, provision of textbooks, and school construction. Such knowledge and skill exchanges can benefit both parties and society at large by finding solutions to real-life problems.

The government's role in public–private partnerships is as direction-setter, regulator, and partner.[42] As direction-setter, the government can work with the private sector to increase the provision of education services in priority sectors or locations, in line with the national development plan or industrial policy. As regulator, the government should ensure that the business environment in which firms emerge and evolve is conducive to business and investment in education. Despite strong business fundamentals and investor interest, there are challenges to investing in the education sector that need to be addressed. As a partner with the private sector, the government has considerable potential to expand access and improve quality and relevance through public–private partnerships. These collaborations can contribute to education infrastructure, products,

and services while sharing related costs and resources, through initiatives such as:

- Exploring the use of service contracts or charter schools, which are publicly funded but independently managed by the private sector.
- Encouraging private sector firms to forge long-term collaborative partnerships with universities to fund research in specific domains of interest.
- Establishing a regulatory environment and monitoring mechanisms to ensure that public–private partnerships are in line with the country's development objectives, and create an investment climate that is conducive to such partnerships in education, including the possibility of long-term finance facilities.
- Establishing reliable standards of quality within public and private education and training institutions, with quality assurance mechanisms for performance monitoring.

Encourage private sector involvement in vocational education, training, and financing

Where public technical and vocational education and training budgets are limited, private sector involvement may be needed to cover shortfalls. Additionally, the private sector may be more in tune with market demands for skills. Public policies to improve vocational education and training should include:

- Supporting apprenticeships and training by encouraging partnerships among the private sector, the public sector, and educational and training institutions. An example is the tripartite collaboration in aeronautics in Morocco, which enabled the creation of training centers that respond to the needs of the industry.
- Opening a training market through competitive contracting with private training bodies and nongovernmental organizations.

Facilitate philanthropic private education financing

Philanthropy is a potential education financing source that has barely been tapped in Africa.[43] Endowments and foundations could be promoted to fund higher education and research on the continent. For example, leading US universities such as Harvard, Princeton, and MIT have multibillion-dollar endowments that generate millions in interest annually, while corporations could contribute to education financing through corporate responsibility programs.

African schools and universities could also mobilize funds through alumni associations. Dues and donations can be used to improve the school's facilities and curriculum and provide financial support for education to members of disadvantaged groups. Alumni associations could also be deployed to lobby governments for more effective education policies.[44]

Explore innovative finance options to channel more international private capital into education

Additional capital could be leveraged to finance education using such innovative finance options as social or development impact bonds to channel private capital into education while maintaining a focus on results. Social impact bonds and pay-for-success financing use private capital to finance social services. Repayment is made by the government conditional on achievement of a specified outcome. The first education-focused development impact bond was implemented in Rajasthan, India, and reached the repayment point in 2018 with successful achievement of outcomes.[45] The program achieved a 92 percent enrollment rate for out-of-school girls ages 7–14 by the end of year three, against a target of 79 percent. Development impact bonds are similar, except that a donor agency or foundation rather than the government repays the loans once the outcome is achieved (sometimes the government joins the third party in making the repayment).

Some 137 impact bonds have been contracted globally, but only 12 in the education sector.[46] Because the impact bond program is still new, evidence of better outcomes and sustained impact has yet to be established, but potential benefits include an increased focus on outcomes, drive for performance management, reduced risk for government, more collaboration across stakeholders, and building of a culture of monitoring and evaluation.[47]

The International Financing Facility for Education (IFFEd) is an important component of international efforts to address the global education financing gap and to attract new funding for education. The

Philanthropy is a potential education financing source that has barely been tapped in Africa

IFFEd financial mechanism will be implemented through its four participating multilateral development banks (African Development Bank, Asian Development Bank, Inter-American Development Bank, and World Bank). The facility is expected to raise $2 billion in contingent financing and grants from donor countries and is currently seeking a AAA bond rating from Standard & Poor's.

While IFFEd's focus is on basic education and girls' education, up to 25 percent of its support will be dedicated to postsecondary education (skill development, higher education, science and technology), with a focus on pro-poor investments and structural reforms to improve the quality and relevance of learning. Another innovative financing initiative is the African Education Fund, spearheaded by the African Development Bank (box 3.3).

The effectiveness of education aid needs to be increased as well as the amount

Improve aid targeting to enhance education quality

Donor financing for education to developing countries, while rising in recent years to $14.8 billion in 2017, is still less than half the estimated education financing gap of $39.5 billion over 2015–30. The effectiveness of education aid needs to be increased as well as the amount. That requires two major shifts in policy thinking: away from project-based aid toward systemic support and a greater focus on education quality and student learning.[48]

A shift toward systemic support requires greater use of government budget support for the education sector to align donor and recipient country incentives and objectives as laid out in education sector plans or national development plans. There are, however, important technical and political economy considerations that explain the dominance and persistence of project aid. Donors like project aid because it allows them to control project design and closely monitor performance. The need to maintain support from constituencies in donor countries (particularly in times of economic crisis) also fuels incentives to produce tangible short-term outputs (such as new school buildings or classrooms, school enrollment gains, and school material distribution) instead of investing in more complex quality-improving activities that take much longer to materialize.[49]

While basic supports to education (new classrooms and more teachers and instructional materials) are essential, so is a focus on education quality and student learning. Estimates by UNESCO suggest that about 250 million children are unable to read, write, or do basic math, including 130 million children who are still in school. Improving quality requires systemwide reforms relating to a commitment to education quality from national leaders, relevance of curricula and learning materials, school location and amenities,

BOX 3.3 The African Education Fund, an innovative financing mechanism for education

An additional $40 billion will be needed to finance education in Africa by 2030 and achieve the Sustainable Development Goal targets for education. To boost investments in education, the African Development Bank is designing an innovative financing vehicle, the African Education Fund (AEF), in partnership with the African Union and the Association for the Development of Education in Africa. The objective is to establish a pan-African financing instrument to accelerate the sustainable achievement of the continent's objectives in education and skill development.

The AEF will pool financial resources (loans and grants) from domestic sources, complemented by funds from external partners, to finance skill development projects across Africa. The AEF will operate with an initial capitalization of $300–$500 million, which is expected to grow to $1 billion over 10 years. The funds will be disbursed through grants to public and private sector entities, risk-sharing vehicles including guarantees, and anchor facilities and co-financing of African Development Bank–financed education projects in the long term at full capitalization. The grants and technical assistance will create an enabling environment for growth in postsecondary education, while the guarantee facility will unlock critical private sector financing and the viability funds will increase the bankability of public and private sector projects.

school management and leadership, teacher training, status of the teaching profession, and parent and community involvement in schools.

Address inequality in spending by using "progressive universalism" as a guiding principle for financing education

In a 2016 report, the International Commission on Financing Global Education Opportunity, chaired by UN Special Envoy for Global Education Gordon Brown, advocated for progressive universalism in addressing inequality in education.[50] Progressive universalism includes "prioritizing the poor or disadvantaged, prioritizing lower levels of education first where social returns are highest, and supporting the complementary role for private financing and cost recovery for higher levels of education where appropriate."

Ghana provides an African example of the application of progressive universalism in education. Starting with a focus on preprimary education, Ghana increased access to preprimary education from about 3 percent in 1970 to 51 percent by 2000. In 2007, preprimary education became free and compulsory, and by 2014, adjusted net enrollment reached 99 percent. As the focus shifted to basic education, net enrollment grew from 66 percent in 2000 to 89 percent in 2014 in primary school and from 30 percent to 52 percent in lower secondary school.

In line with progressive universalism, Ghana gave relatively low priority to higher education until 2000. Since then, university enrollment rates have grown rapidly, reaching 16 percent in 2014. More generally, as of 2018, 47 countries in Africa had fee-free compulsory primary education, and 30 countries had fee-free compulsory secondary education.[51] But implementing these laws can be a challenge. According to a 2014 Public Expenditure Tracking Survey in Zambia, more than 50 percent of primary schools and about 93 percent of secondary schools charge fees to finance their operations despite free education policies for primary and secondary school.

Governments seeking to pursue progressive universalism might consider:

- Greater use of formula funding of schools (use of a formula to calculate the public resources school districts will receive, based on specific indicators).
- Needs-based components that can be used to channel resources to geographic locations and schools that most need improvement.
- Expanding research on the use and impact of formula funding and on the distribution of financial responsibilities across levels of government can improve the delivery of education.[52]

Promote education-linked conditional cash transfers to girls and poor families, to reduce inequality

Children from the poorest backgrounds are more likely to be out-of-school and less likely to complete primary school than children from better-off households. The factors that prevent the most disadvantaged children and youth from completing school need attention. A root cause is likely to be out-of-pocket education costs that the poorest households cannot afford. Free primary education and conditional cash or nonmonetary transfers could alleviate this constraint.

Many developing countries have used targeted conditional cash transfers to increase household investment in education, health, and nutrition.[53] The transfers are targeted because they identify eligible households that are poor or vulnerable and have school-age children, and they are conditional because to receive the transfer, households must send their children to school.

Many developing countries have used targeted conditional cash transfers to increase household investment in education, health, and nutrition

Following successes with conditional cash transfers in Mexico starting in 1997, such programs have proliferated. Some 80 developing countries operate some form of conditional cash transfers, and many governments have mainstreamed the programs as an important tool for social protection and poverty alleviation.[54] Studies of 42 programs in Latin American find that they increased enrollment by 6 percent in primary school and by 10 percent in secondary school, increased school attendance by 3 percent for primary school and by 12 percent for secondary school, and reduced dropout rates by twice as much in secondary school as in primary school.[55]

Evidence for Africa also shows a positive impact of conditional cash transfer programs on education outcomes.[56] While the financial transfers in most programs represent a significant share of

poor households' income, even small transfers can have large effects. In Malawi, a monthly conditional transfer of $5 was as effective as a transfer of $10.[57] In Kenya, an education subsidy providing free school uniforms (costing $12 per student over two years) reduced dropout rates among girls by 3.1 percentage points from a base of 18.8 percent.[58] Other conditional cash transfer programs in education include the Kano Conditional Cash Transfer for Girls' Education program in Nigeria and the Child-Focused Social Cash Transfer in Senegal. Expanding such programs could be an effective demand-side education development tool.

Develop the student loan market, targeted financial assistance, and cost-sharing mechanisms

Student loan and financial assistance schemes for higher education can be a key component of cost-sharing initiatives

Because inequality is already higher at the secondary and higher education levels, instituting universal free secondary school or highly subsidized university education is likely to be regressive. Instead, resources should be targeted to the most disadvantaged students, to enable them to afford school at those levels.

Student loan and financial assistance schemes for higher education can be a key component of cost-sharing initiatives aimed at easing the pressure on government budgets. Because student financial assistance and loan programs in Africa have a mixed record, better policies are needed to enhance their effectiveness in expanding access to higher education for disadvantaged groups.[59] Among these should be:

- Diversifying sources of funding to reduce reliance on government financing.
- Establishing a robust monitoring system (by collecting and maintaining reliable data on students) to identify students who are in need of financial assistance.
- Allowing private sector student loans to make education more affordable, as illustrated by organizations like Brighter Investment in Ghana. Brighter Investment pays for the university costs of talented students (tuition and living

BOX 3.4 Student savings accounts in the Republic of Korea

Between 1971 and 1980, Korea increased the secondary school enrollment rate from 39 percent to 76 percent. Over the same period, the secondary school enrollment rate rose from 17 percent to 30 percent in Kenya and declined from 42 percent to 36 percent in Ghana, two countries that started out with a similar GDP per capita as Korea's. University enrollment rose from 7 percent to 12 percent in Korea, while it remained below 1 percent in Kenya and Ghana.

A government student savings account campaign helps to explain Korea's impressive enrollment performance. The campaign provided incentives to low-income households to start saving for their child's upper secondary education when the child is young. The Ministry of Education assigned a yearly savings deposit target to each school district. Schools invited bank staff to visit classrooms to assist every student in opening a bank account. Account funds were tax free and had a high interest rate. The day after the bank visit, students were expected to return to school with a parent's letter of consent committing to monthly and annual deposit amounts. Bank staff collected the deposits monthly at each school.

Classrooms displayed charts showing each student's savings performance. At the end of each semester, students who saved the most received a "Best Savings Child" award from the school principal or, if the deposit was unusually high, from the minister of education. After six years of regular savings and accumulated interest, students would have enough in their account by graduation from lower secondary school to pay for their upper secondary education. This wealth-building practice not only financed upper secondary education for children of low-income households, but it also gave them valuable experience in financial management and a lifetime habit of saving. To this day, adding to student savings accounts remains a popular choice among parents for their child's birthday gifts.

expenses) and provides a mentorship program. Repayment starts after graduates get a job and is based on future income over a limited time (typically 25 percent for 6–7 years for 4 years of financial support).

- Reducing the loan default rate through legal reforms that make it easier to recover loans from recipients with a demonstrated ability to repay.[60] The case of Brighter Investment is illustrative. It uses a data-driven algorithm that predicts students' career potential, allowing the firm to select the students who are most likely to generate returns on their education investment. A combination of social, practical, and legal incentives is also in place to reduce defaults.

Another popular instrument for financing secondary and higher education is the education savings plan. These plans are implemented through bank accounts, with specific government-granted benefits. Because the funds are earmarked to finance a child's education in the future, they are typically invested to generate growth over the longer term. The Republic of Korea successfully implemented an education savings plan to leverage household financing for education (box 3.4). As mobile money and banking expand in Africa, more households will be able to benefit from such plans.

Nudging employers as well as households to invest actively in training or certification programs for skill development can be another policy option. South Africa illustrates how a tax incentive can mobilize private resources to increase the relevance of training in a rapidly changing labor market (box 3.5).

Nudging employers as well as households to invest actively in training or certification programs for skill development can be another policy option

BOX 3.5 Mobilizing private resources for skill training through South Africa's Employment Tax Incentive scheme

African governments invest substantial resources in social and economic programs aimed at helping young people and adults develop the skills they need for decent work and entrepreneurship and at promoting equitable, inclusive, and sustainable economic growth. Mobilizing the necessary resources is crucial and involves both the government and the private sector. A South African initiative, the Employment Tax Incentive (ETI) scheme, offers insights on how countries can create skill enhancement zones where governments, the private sector, academic institutions, and nongovernmental organizations collaborate on plans to ensure that youth gain skills that are connected to industries with strong competitive potential.

Each year, 1.1 million South African youth enter the labor market, but only 6 percent enter formal employment. An additional 8 percent are informally employed, while the remaining 86 percent are either continuing their education, looking for jobs, or becoming discouraged by the system. Prolonged spells of unemployment increase the risk that youths classified as not in employment, education, or training will face diminished work options for most of their lives. Chronic unemployment means that youth who are unable to find work early in life will face reduced chances for social mobility and employment.

The ETI, South Africa's primary active labor market intervention, aims to boost demand for labor among youth ages 18–29. Introduced in 2014, the ETI is a wage subsidy (covering up to 50 percent of wages) targeting hard-to-employ youth. The tax incentive seeks to encourage private employers to create jobs for youth earning a monthly income of up to 6,000 rand (about $420). Once participants are employed, they are qualified for up to two years of wage subsidies. Firms can claim the subsidy when filing their taxes. By lowering hiring costs, the subsidy is expected to lessen the financial risk associated with hiring inexperienced low-skilled youth and to raise the long-term employment prospects of young hires who gain work experience through on-the-job training during the period of subsidized work.

Source: Levinsohn et al. 2014; National Treasury 2016.

ANNEX 3.1 BASIC STRUCTURE OF THE SECOND-GENERATION DEBT–INVESTMENT–GROWTH MODEL

- This open-economy, perfect foresight, general equilibrium model has three private sector activities: tradable agriculture, nontradable formal, and nonagriculture informal.
- A segmented labor market prevails in the three private sector activities.
- Firms in the formal sector pay efficiency wages, while in agriculture and the nonagriculture informal sector, wages are flexible.
- The formal sector features involuntary unemployment. Variants of the model allow for involuntary unemployment and underemployment in the informal sector.
- The model incorporates skilled labor and public investment in human capital; maintenance investment as well as new investment in infrastructure; and sector-specific taxes on wages, profits, and consumption. These features allow policymakers to specify the public investment program and supporting fiscal adjustment in greater detail and to evaluate more accurately the impact on inequality, growth, unemployment, and underemployment.
- The model allows for different government financing options. Grants and concessional borrowing flows and public investment in infrastructure and human capital are exogenously given. Thus, given the path of grants and concessional borrowing, the government is allowed to take on external commercial borrowing and domestic borrowing and some fiscal adjustments in order to finance its plan for public investment.
- The model captures how the level and tradeoffs of additional public investment translate into capital stock and output growth. Furthermore, it incorporates the fiscal adjustment and borrowing that may be required to finance the public investment surges.
- The model tracks the paths of several macroeconomic variables, including sectoral outputs, real GDP, private investment, private consumption, sectoral employment, unemployment, real wages, public capital, public debt, indirect and direct taxes, and transfers.

Source: For a detailed description of the model and calibration, see African Development Bank and IMF (forthcoming).

NOTES

1. UNESCO 2018a.
2. Wils 2015.
3. UNESCO 2015a.
4. UNESCO 2018a.
5. This variable represents total general (local, regional, and central) government spending on education (current, capital, and transfers), in purchasing power parity dollars. It includes transfers from international sources to the government. http://data.uis.unesco.org/?lang=en&SubSessionId=7ee53312-931f-425c-821b-796e37ba3a2a&themetreeid=-200.
6. A stochastic frontier analysis (SFA) model presents several advantages in estimating efficiency. First, as a parametric approach, it accounts for the presence of a random noise term in the estimation, usually the "bad luck" noise. This feature is important for evaluating public management in the sense that various environmental and political parameters are beyond the scope of policymakers and should not be attributed to public management (for example, natural disasters and terrorism). Second, the parametric approach allows more easily introducing multiple outputs and inputs compared with a determinist model, originally developed for a one-input-one-output approach. Third, SFA allows for checking the significance of our estimates using confidence intervals. Here, we consider the modified-least square dummy variable time-varying fixed-effects model developed by Cornwell, Schmidt, and Sickles (1990). The primary school completion rate is used as the single output, the secondary school completion rate is used as the dependent variable, and government education spending per student and GDP per capita are used as the two inputs (independent variables). Log of GDP per capita is used in the regression to account for a country's level of development, and a one-period lag of inputs is used to account for the delay in public actions and to mitigate endogeneity.
7. Calculated as 79 × (1 + (82 – 58)%), where 82 percent is the efficiency score in Asia or developing Europe, and 58 percent is the efficiency score in Africa.
8. UNESCO 2016.
9. UNESCO 2015b.
10. Behrman and Parker 2010.
11. Basu and Van 1998.
12. Zubairi and Rose 2019.
13. These are consumption data compiled by the African Development Bank from International Comparison Program data.
14. An important goal in financing social services, such as education and healthcare, is to ensure that the financial burden for these services is distributed fairly across households. Analyzing fairness requires measuring each household's financial contribution. Often, a household's financial contribution is defined as the ratio of spending to its ability to pay, where ability to pay relates to resources available after a household meets its basic subsistence needs. Because of the difficulty of measuring household ability to pay for services, nonfood consumption spending is often used as a proxy for the amount of resources left after paying for subsistence needs. Therefore, education payments as a ratio of the income remaining after essential expenditures have been subtracted is used as a measure of household financial burden on education (Xu et al. 2003).
15. World Bank International Comparison Program data, 2011.
16. Kandel and Kao 2001; Böhme 2015.
17. World Bank 2017.
18. UNESCO 2018b.
19. UNESCO 2012.
20. Riddell and Niño-Zarazúa 2016.
21. Birchler and Michaelowa 2016.
22. Riddell and Niño-Zarazúa 2016.
23. McGillivray and Clarke (2018) use a methodology in which a donor's allocative performance is maximized if the share of its aid to a developing country equals the country's share of global poverty.
24. UNESCO 2016.
25. Caerus Capital 2018.
26. According to the 2014 World Bank Global Financial Inclusion (Global Findex) Database that cover more than 150,000 adults in over 140 economies.
27. The Global Findex database, collected annually since 2005, covers a randomly selected nationally representative sample of about 1,000 people in each covered country. The target population is the entire civilian, noninstitutionalized population ages 15 and older. For more information, visit https://globalfindex.worldbank.org/.
28. 2014 World Bank Global Financial Inclusion (Global Findex) Database.

29. The dominant economic framework for the analysis of training is that of Becker (1964). The framework distinguishes between firm-specific human capital and general human capital in determining who should bear the costs of training. General skills are useful to all firms, while firm-specific skills have no value outside the firm that currently employs the worker. However, Lazear (2009) suggests a broader approach that sees all skills as general, and firms assign different weights to them. This broader approach is used in the discussion here.
30. Stern and Ritzen 1991; Acemoglu 1997.
31. ILO 2018.
32. Adams, Johansson de Silva, and Razmara 2013. Second chance and literacy education are particularly important for elevating workers' ability to transition to formal employment: over three-quarters of the workers in informal employment have primary education as the highest education level, and 44.5 percent have no education.
33. Note, however, that claims of government failures have also been made, including inefficiency in production, inequity in provision, institutionalization of low expectations, and rent-seeking by educators (Plank and Davis 2010).
34. Brunello and De Paola 2004.
35. Wils 2015.
36. African Development Bank and IMF forthcoming.
37. Reinikka and Svensson 2004.
38. A follow-up survey with government officials found that the District Education Board Secretaries used part of school grants for other purposes (delivering textbooks to remote schools and other operational costs).
39. Poisson 2016.
40. Akyeampong et al. 2018a; 2018b.
41. Lee and Medina Pedreira 2019.
42. See also Caerus Capital 2018.
43. Teferra 2013.
44. Teferra 2013.
45. Gustafsson-Wright and Boggild-Jones 2018.
46. Brookings Global Impact Bond database.
47. Gustafsson-Wright et al. 2017.
48. Niño-Zarazúa 2016.
49. Riddell and Niño-Zarazúa 2016.
50. International Commission on Financing Global Education Opportunity 2016.
51. UNESCO statistics. Countries with missing data are counted as not having compulsory education.
52. Aslam and Rawal 2018.
53. Adato and Hoddinott 2010; Budlender 2014.
54. Parker and Vogl 2018.
55. Saavedra and García 2012.
56. Kremer, Brannen, and Glennerster 2013.
57. Baird, McIntosh, and Özler 2011.
58. Duflo, Dupas, and Kremer 2015.
59. Johnstone 2015.
60. Loan defaults can be mitigated through legislation that ensures that student borrowers are aware of and fully commit to their repayment obligations and accept the consequences of defaults; that ensures flexibility through provisions for deferring payments in the event of unforeseen or unavoidable circumstances, such as unemployment; and that enhances the ability to collect from guarantors and cosignatories or empowers financial aid agencies to garnish wages when loans are in arrears.

REFERENCES

Acemoglu, D. 1997. "Training and Innovation in an Imperfect Labour Market." *The Review of Economic Studies* 64 (3): 445–464.

Adams, A. V., S. Johansson de Silva, and S. Razmara. 2013. *Improving Skills Development in the Informal Sector: Strategies for Sub-Saharan Africa*. Washington, DC: World Bank.

Adato, M., and J. Hoddinott. 2010. *Conditional Cash Transfers in Latin America*. Washington, DC: International Food Policy Research Institute.

African Development Bank and IMF (International Monetary Fund). Forthcoming. *Debt Sustainability, Investment and Growth with Segmented Labor Markets.*

Akyeampong, K., M. Delprato, G. Mindano, K. Lewin, and J. Sentengo. 2018a. "The Efficiency of Secondary Education in Sub-Saharan Africa: EESSA Project: The Case of Uganda." University of Sussex, Center for International Education. Paper prepared for the MasterCard Foundation report *Secondary Education in Africa: Preparing Youth for the Future of Work*.

Akyeampong, K., M. Delprato, G. Mindano, K. Lewin, and J. Chimombo. 2018b. "The Efficiency of Secondary Education in Sub-Saharan Africa: EESSA Project: The Case of Malawi." University of Sussex, Center for International Education. Paper prepared for the MasterCard Foundation report *Secondary Education in Africa: Preparing Youth for the Future of Work*.

Aslam, M., and S. Rawal. 2018. "Public–Private Partnerships and Private Actors in Secondary Education in Sub-Saharan Africa." Paper prepared for the MasterCard Foundation report, Secondary Education in Africa: Preparing Youth for the Future of Work. September 2018. Available at: https://mastercardfdn.org/wp-content/uploads/2019/07/Public-Private-Partnerships-FINAL-1.pdf.

Basu, K., and P. H. Van. 1998. "The Economics of Child Labor." *American Economic Review* 88 (3): 412–427.

Becker, G. S. 1964. "Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education." University of Illinois at Urbana–Champaign, Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1496221.

Behrman, J. R., and S. W. Parker. 2010. "Impacts of Conditional Cash Transfer Programs in Education." In *Conditional Cash Transfers in Latin America*. Washington, DC: International Food Policy Research Institute.

Birchler, K., and K. Michaelowa. 2016. "Making Aid Work for Education in Developing Countries: An Analysis of Aid Effectiveness for Primary Education Coverage and Quality." *International Journal of Educational Development* 48: 37–52.

Böhme, M. H. 2015. "Migration and Educational Aspirations—Another Channel of Brain Gain? *IZA Journal of Migration* 4 (12): 1–24.

Brunello, G., and M. De Paola. 2004. "Market Failures and the Under-Provision of Training." CESifo Working Paper Series 1286, Category 4: Labour Markets, CESifo Group, Munich, Germany. Available at: https://www.ifo.de/DocDL/cesifo1_wp1286.pdf.

Budlender, D. 2014. *Conditional Cash Transfers: Learning from the Literature*. New York: UN Women.

Caerus Capital. 2018. *The Business Education in Africa*. Available at: https://edafricareport.caeruscapital.co/thebusinessofeducationinafrica.pdf.

Cornwell, C., P. Schmidt, and R. C. Sickles. 1990. "Production Frontiers with Cross-sectional and Time-series Variation in Efficiency Levels." *Journal of Econometrics* 46 (1–2): 185–200.

Duflo, E., P. Dupas, and M. Kremer. 2015. "Education, HIV, and Early Fertility: Experimental evidence from Kenya." *American Economic Review* 105 (9): 2757–2797.

Elbadawy, A., and R. Assaad. 2007. "Education Returns in the Marriage Market: Does Female Education Investment Improve the Quality of Future Husbands in Egypt?" Mimeo. Cairo: Population Council.

Fergany, N. 1995. "SA Preliminary Mapping of the Necessary Effort Needed to Reduce the Gender Gap in Primary Education in Egypt by Districts (Rural/Urban) and Sections." Cairo: UNICEF.

Gordon, R., L. Marston, P. Rose, and A. Zubairi. 2019. "Achieving the Promise to Leave No Girl behind in Commonwealth Countries." *The Round Table* 108 (4): 383–398.

Guill, K., and K. Lintorf. 2019. "Private Tutoring When Stakes Are High: Insights from the Transition from Primary to Secondary School in Germany." *International Journal of Educational Development* 65: 172–182.

Gustafsson-Wright, E., and I. Boggild-Jones. 2018. "Are Impact Bonds and Outcome Funds a Solution to the Global Learning Crisis?" Education Plus Development Blog, Brookings Institution, Washington, DC. Available at: https://www.brookings.edu/blog/education-plus-development/2018/06/18/are-impact-bonds-and-outcome-funds-a-solution-to-the-global-learning-crisis/.

Gustafsson-Wright, E., I. Boggild-Jones, D. Segell, and J. Durland. 2017. "Impact Bonds in Developing Countries: Early Learnings from the Field." Center for Universal Education at Brookings 81, Brookings Institution, Washington, DC. Available at: https://www.brookings.edu/research/impact-bonds-in-developing-countries-early-learnings-from-the-field/.

ILO (International Labor Organization) 2018. *Women and Men in the Informal Economy: A Statistical Picture* (Third Edition). Geneva: International Labor Office.

International Commission on Financing Global Education Opportunity. 2016. *The Learning Generation: Investing in Education for a Changing World.* Available at: https://report.educationcommission.org/wp-content/uploads/2016/09/Learning_Generation_Full_Report.pdf.

Jayachandran, S. 2014. "Incentives to Teach Badly: After-School Tutoring in Developing Countries." *Journal of Development Economics* 108: 190–205.

Johnstone, D. B. 2015. "Making Student Loans Work in Africa." *International Journal of African Higher Education* 2.

Kandel, W., and G. Kao. 2001. "The Impact of Temporary Labor Migration on Mexican Children's Educational Aspirations and Performance." *International Migration Review* 35 (4): 1205–1231.

Kremer, M., C. Brannen, and R. Glennerster. 2013. "The Challenge of Education and Learning in the Developing World." *Science* 340 (6130): 297–300.

Lazear, E. P. 2009. "Firm-Specific Human Capital: A Skill-Weights Approach." *Journal of Political Economy* 117 (5): 914–940.

Lee, L., J. Diana, and O. M. Pedreira. 2019. *Results-Based Financing in Education: Learning from What Works.* Washington, DC: World Bank. Available at: http://documents.worldbank.org/curated/en/915061548222619389/Results-Based-Financing-in-Education-Learning-from-What-Works.

Levinsohn, J., N. Rankin, G. Roberts, and V. Schoer. 2014. "Wage Subsidies and Youth Employment in South Africa: Evidence from a Randomised Control Trial." Stellenbosch Economic Working Papers 02/14. Available at: https://www.ekon.sun.ac.za/wpapers/2014/wp022014/wp-02-2014.pdf.

McGillivray, M., and M. Clarke. 2018. "Fairness in the International Allocation of Development Aid." *The World Economy* 41 (4): 1068–1087.

National Treasury. 2016. "Employment Tax Incentive descriptive report." Pretoria, South Africa: National Treasury. Available at: http://www.treasury.gov.za/comm_media/press/2016/20160810%20-%20ETI%20descriptive%20memo%20With%20Exec%20summ%20For%20Nedlac.pdf.

Niño-Zarazúa, M. 2016. "Aid, Education Policy, and Development." *International Journal of Educational Development* 48: 1–8. Available at: https://doi.org/10.1016/j.ijedudev.2015.12.002.

Parker, S., and V. Vogl. 2018. "Do Conditional Cash Transfers Improve Economic Outcomes in the Next Generation? Evidence from Mexico." Working Paper 24303, National Bureau of Economic Research, Cambridge, MA.

Plank D. N., and T. E. Davis. 2010. "The Economic Role of the State in Education. In P. Peterson, E. Baker, and B. McGaw (eds.), *International Encyclopedia of Education,* Third Edition, 347–353. Amsterdam: Elsevier.

Poisson, M. 2016. "Public Expenditure Tracking Surveys: Lessons from Experience." *The IIEP Letter: News and Analysis on Educational Planning and Management* 32 (1). Paris: UNESCO International Institute for Educational Planning.

Reinikka, R., and J. Svensson. 2004. "Local Capture: Evidence from a Central Government Transfer Program in Uganda." *The Quarterly Journal of Economics* 119 (2): 679–705.

Riddell, A., and M. Niño-Zarazúa. 2016. "The Effectiveness of Foreign Aid to Education: What Can Be Learned?" *International Journal of Educational Development* 48: 23–36.

Saavedra, J. E., and S. García. 2012. "Impacts of Conditional Cash Transfer Programs on Educational Outcomes in Developing Countries: A Meta-Analysis." RAND Labor and Population Working Paper Series WR-921-1, RAND Corporation, Santa Monica, CA.

Stern, David, and Jozef Ritzen. 1991. *Market Failure in Training? New Economic Analysis and Evidence on Training of Adult Employees*. Berlin: Springer-Verlag.

Teferra, D. 2013. "Funding Higher Education in Africa: State, Trends and Perspectives." *Journal of Higher Education in Africa/Revue de l'enseignement supérieur en Afrique* 11 (1–2): 19–51.

UNDP (United Nations Development Programme). 2015. *Impact Investment in Africa: Trends, Constraints, and Opportunities*. Addis Ababa: UNDP. https://www.undp.org/content/dam/undp/library/corporate/Partnerships/Private%20Sector/Impact%20Investment%20in%20Africa/Impact%20Investment%20in%20Africa_Trends,%20Constraints%20and%20Opportunities.pdf.

UNESCO (United Nations Educational, Scientific, and Cultural Organization). 2012. *Youth and Skills: Putting Education to Work: EFA Global Monitoring Report 2012*. Paris: UNESCO.

——. 2015a. *Education for All (EFA) Monitoring Report. Education for All 2000–2015: Achievements and Challenges*. Paris: UNESCO. Available at: https://unesdoc.unesco.org/ark:/48223/pf0000232205.

——. 2015b. "The Challenge of Teacher Shortage and Quality: Have We Succeeded in Getting Enough Quality Teachers into Classrooms?" Education for All Global Monitoring Report Policy Paper 19, UNESCO, Paris. Available at: https://unesdoc.unesco.org/ark:/48223/pf0000232721.

——. 2016. "Who Pays for What in Education? The Real Costs Revealed through National Education Accounts." Paris: UNESCO. Available at: https://unesdoc.unesco.org/ark:/48223/pf0000246277.

——. 2018a. *Global Education Monitoring (GEM) Report 2019: Migration, Displacement and Education—Building Bridges, not Walls*. Paris: UNESCO. Available at: https://unesdoc.unesco.org/ark:/48223/pf0000265866.

——. 2018b. "Funding Skills Development, the Private Sector Contribution." Paris: UNESCO. Available at: https://unevoc.unesco.org/go.php?q=Publications+UNEVOC&lang=en&null=&null=&akt=id&st=&qs=6098.

Wils, A. 2015. "Reaching Education Targets in Low and Lower Middle-Income Countries: Costs and Finance Gaps to 2030." Background paper commissioned by the Education for All Global Monitoring Report. Available at: http://unesdoc.unesco.org/images/0023/002325/232560e.pdf.

World Bank. 2017. *Remittance Prices Worldwide* 21 (March 2017). Available at: https://remittanceprices.worldbank.org/sites/default/files/rpw_report_march_2017.pdf.

Xu, K., J. Klavus, K. Kawabata, D. B. Evans, P. Hanvoravongchai, and J. Ortiz de Iturbide. 2003. "Household Health System Contributions and Capacity to Pay: Definitional, Empirical and Technical Challenges." *Health Systems Performance Assessment: Debates, Methods, and Empiricism*. Geneva: World Health Organization.

Zubairi, A., and P. Rose. 2019. "Equitable Financing of Secondary Education in Sub-Saharan Africa." Background paper for the MasterCard Foundation. Research for Equitable Access and Learning (REAL) Centre, University of Cambridge, Cambridge, UK. Available at: https://mastercardfdn.org/wp-content/uploads/2019/03/SEA-Finance-Equity_REAL_Final-Version_Feb-2019-1.pdf.

COUNTRY NOTES

Algeria

Macroeconomic performance and outlook

Real GDP growth is estimated at 2.3% for 2019, up from 1.4% in 2018, on the back of a slight rebound in hydrocarbon prices. The hydrocarbon share of GDP fell from 34.2% in 2012 to 19.7% in 2017 (it was 44.3% in 2005), and agriculture and services gained slightly in weight. The relatively subdued economic growth is mainly due to the fall in value added of the hydrocarbon sector, while growth in the nonhydrocarbon sector continues to be modest. The fall in private consumption and the public investment freeze have also been drags on growth.

Inflation, 4.3% in 2018, remains under control and is estimated to decline to 2.0% in 2019. The Algerian dinar has depreciated in recent years, with the average exchange rate weakening from 77.6 dinar to the dollar in 2012 to 120 dinar in 2019, and the parallel foreign exchange market offering a premium of around 60%.

Fiscal and current account deficits are estimated to rise in 2019 (7.9% and 12.6% of GDP, respectively, compared with 7.0% and 9.6% in 2018). The Oil Stabilization Fund (FRR), which financed the fiscal deficit, was depleted in 2017. Since then, the central bank has had recourse to unconventional financing. From mid-November 2017 to April 2019, it raised $55 billion, equivalent to 32% of GDP in 2018.

The poverty rate has come down since the 1990s thanks to direct transfers, universal subsidies, and measures in favor of social inclusion, amounting to 12.3% of GDP. Data from 2011 give a poverty rate of 5.5%, with an extreme poverty rate of only 0.5%. The unemployment rate, estimated at 12.6% for 2019, is forecast to rise to 13.7% in 2020.

Tailwinds and headwinds

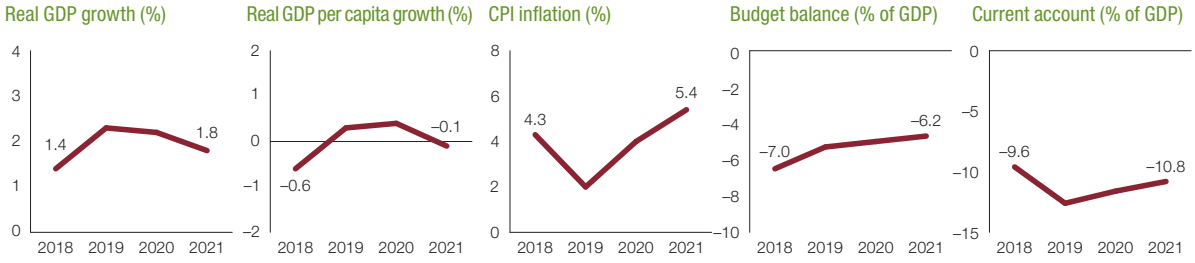
In the medium term, economic growth is forecast to remain relatively stable, at 2.2% in 2020 and 1.8% in 2021. The authorities have an ambitious plan of structural reforms with a view to streamline business regulation, improve governance and transparency, reform the pension system, and modernize the financial sector. This plan is based on actions already taken to improve the business climate, including opening sea and air freight to the private sector.

The country's low external debt and substantial foreign exchange reserves should enable it to weather any shocks and implement its reform program without sacrificing social programs. External debt remains negligible (less than 2% of GDP), but domestic debt (excluding guarantees) rose from 7.2% of GDP in 2015 to more than 26% in 2018.

The Algerian economy will continue to be dependent on and vulnerable to oil and gas prices (96% of export receipts in 2017). The rise in oil prices since 2018 (to around $70) will not enable Algeria to balance its budget (according to a study by the IMF, Algeria would need an oil price of $90 a barrel). A further fall in oil prices cannot be ruled out given the trend increase in US production.

Official foreign exchange reserves fell from $114.1 billion (22.5 months of imports) at the end of 2016 to $79.8 billion (16 months) at the end of 2018.

In 2019 and 2020, economic activity will be curbed by the sharp fall in public investment spending and by political uncertainty. The main challenge in the short term is to continue to maintain price stability and deal with inflationary pressures in an environment of substantial and persistent surplus liquidity.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Angola

Macroeconomic performance and outlook

Angola continues to face a challenging macroeconomic environment since the sharp drop in oil prices in 2014. A real GDP contraction of 0.1% is estimated for 2019, indicating that the recession has not yet ended. Even so, there are signs of recovery, and growth of 2.8% is predicted for 2020. The oil price shock of 2014 reduced oil revenues from 35.3% of GDP to 17.5% in 2017, leaving an estimated fiscal deficit of 0.1% of GDP in 2019. The value-added tax adopted in 2019 should broaden the tax base and reduce government dependency on oil-related revenues.

The current account surplus is estimated to narrow from 6.9% of GDP in 2018 to 0.5% in 2019, driven by lower export earnings from the oil sector. Pressure on the exchange rate and inflation continues. To reduce the overvaluation of the real exchange rate and ensure that international reserves remain adequate, the government tightened public spending and increased exchange rate flexibility. Reserve money targeting, introduced at the end of 2017, is beginning to stabilize inflation, which dropped from 29.8% in 2017 to an estimated 17.5% in 2019. The fiscal deficits are being financed by external debt and by budget support from multilateral organizations.

Foreign currency shortages generally pose challenges to the tradable (mainly nonoil) sector. Manufacturing contracted 6.5% in the first quarter of 2019. In contrast, construction, electricity, and agriculture posted positive growth, on balance increasing the nonoil sector's growth. Unemployment is currently 28%, and real GDP per capita growth is expected to stay negative given the low productivity and fast population growth.

Tailwinds and headwinds

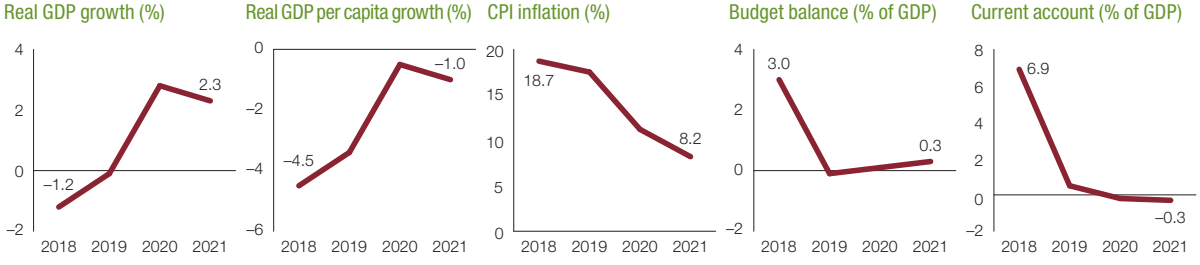
Structural reforms will contribute to the economic recovery from 2020 onward. Strategic investments in infrastructure, human capital, and credit markets should diversify Angola's economy, improve its current account balance, and generate international reserves (about 98% of exports are oil and diamonds).

Government support for export diversification and import substitution is identifying priority sectors to benefit from such initiatives as the credit support program announced in May 2019. Enhanced investments in energy will stimulate growth.

Investments in activities and value chains based on comparative advantages in agriculture, fisheries, and petrochemicals need to be aligned with skill upgrading and human capital development.

A 9% reduction in oil production in 2018 is due to the aging of oil production infrastructure and poor performance of new oil fields. Low workforce skills are also hindering private investment and economic diversification, with only 15% of females and 21% of males completing upper secondary school. The business environment needs to improve private sector-led growth and competitiveness. Structural reforms and macroeconomic stabilization must pave way to economic recovery, diversification, and job creation.

Gradual reductions in subsidies for water, petrol, electricity, and public transport are expected in 2020 as part of an effort to rationalize the tax system and generate nonoil revenue. The likelihood of greater private investment and participation in the economy is limited but expected to improve given the privatization program announced in August 2019 (including 195 state-owned enterprises). The Regulatory Authority for Competition was established in February 2019 to increase private competition.



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Benin

Macroeconomic performance and outlook

Economic growth in Benin remains robust (estimated at 6.7% in 2019), thanks in part to an increase in public investment from 21% of GDP in 2016 to 29.6% in 2019. On the supply side, growth is due to the performance of the agricultural sector led by cotton, whose production rose from 269,222 tons in 2016 to 726,831 in 2019; the vitality of the construction industry; and the dynamism of the port of Cotonou. Inflation remained low, estimated at –0.1% in 2019, and below the WAEMU 3% threshold. The CFA franc, pegged to the euro, appreciated against the dollar over 2017–19.

The fiscal deficit, financed through loans and grants, was reduced to 2.5% of GDP in 2019. The current account deficit, which improved thanks to cotton exports, has been financed primarily through official loans (33%), private loans (27%), and foreign direct investment (19%).

Foreign exchange reserves fell to $20.93 million in 2018 (or 0.07 months of imports). The public debt is estimated at 54% of GDP in 2019. In March 2019, the country issued a €500 million eurobond (5.2% of GDP), but the risk of overindebtedness is deemed moderate. Benin is rated B+ by the rating agency Standard & Poor's.

The high levels of poverty (40% of the population) and inequality reflect the noninclusiveness of the country's growth.

Tailwinds and headwinds

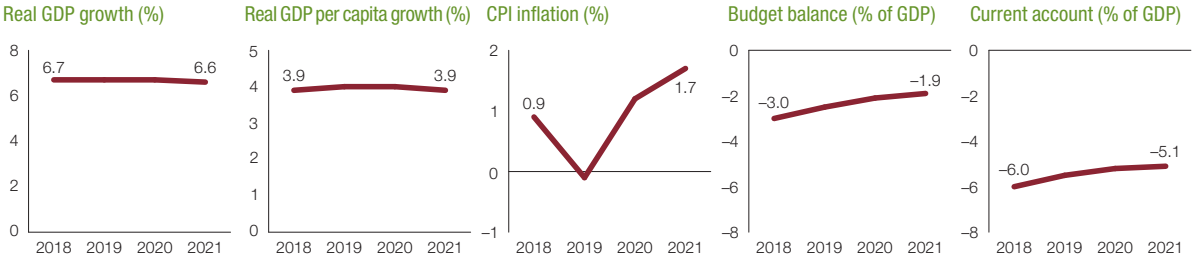
The outlook for the Benin economy is positive, with GDP projected to grow at 6.7% in 2020 and 6.6% in 2021. In agriculture, the implementation of the Strategic Plan for Agricultural Sector Development 2017–25 targets improving agricultural productivity, developing agriculture value chains (cashews, pineapple, cassava, corn, rice, meat, milk), strengthening the resilience of farms, and establishing financing and customized agricultural insurance mechanisms.

Electricity generation capacity increased 67% between 2016 and 2019. Electricity represents approximately 0.8% of GDP, and the country remains highly dependent on Nigeria and Ghana, which provide about 90% of its supply. The Electricity Emergency Plan ($27 million) supports the country's energy strategy, with the aim of increasing capacity from 354MW in 2019 to 1,400MW by 2035.

Inadequate infrastructure reduces the profitability of economic activity and is an obstacle to growth. The economy is characterized by low productivity and a predominantly informal economy, which reinforces structural imbalances and widens the gap between real and potential growth. The structure of the economy has remained more or less stable since 2000 (the primary sector accounts for 26.4% of GDP, the tertiary sector dominates at 49.2%, and the secondary sector is little developed at 16.4%).

The economy must address a trend decline in total factor productivity in agriculture and industry. Agricultural productivity remains low and the industrial structure is based on agribusiness, manufacturing, construction, and public works. The weak performance of the education, healthcare, and social welfare sectors is notable. In addition, both population growth (2.8%) and underemployment (67.2%) are very high.

The country remains highly exposed to changes in the trade and currency policies of Nigeria, Benin's leading trading partner and the recipient of 51% of its exports.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Botswana

Macroeconomic performance and outlook

Real GDP is estimated to have grown 3.5% in 2019 after averaging nearly 4% in 2016–18, driven by the continued recovery in diamond production, following a rebound in global demand and resumption of operations at the Damtshaa mine in January 2018. With a fairly robust and broad-based expansion in nonmining activities. Supported by higher public investment and accommodative monetary policy, Botswana's economy has recovered well from the recession in 2015.

Inflation averaged 3% between 2015 and 2018 and will remain stable at about 3.1% in 2019. Monetary policy has been progressively loosened, with periodic reductions in the policy rate (to 4.75% in August 2019 from 5% in October 2017). Low inflation reflects a combination of low domestic demand and modest increases in foreign prices.

The fiscal position has weakened on the back of higher spending associated with stimulating the economy and lower mineral revenues and receipts from the Southern African Customs Union (SACU). The fiscal deficit is estimated at 2.4% of GDP in 2019, financed primarily through drawdowns of fiscal savings and issuance of securities under the Government Note Program. Public debt, estimated at 23% of GDP in 2019, thus remains low.

The external position remains moderate, though the surplus in the current account shows signs of narrowing and is estimated to drop to 1.0% of GDP in 2019 from 1.9% in 2018. Faced with volatile diamond export revenues, the government has financed its public investments through reserve drawdowns rather than foreign debt. International reserve buffers have thus been declining since 2016, but remain high ($6.6 billion at the end of 2018, or 13 months of imports).

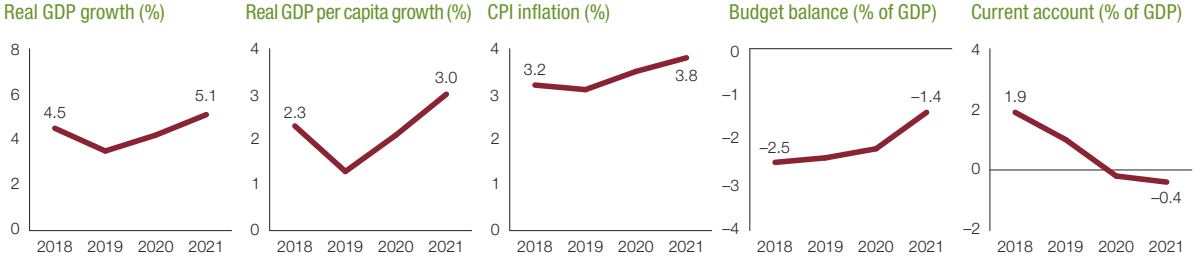
Tailwinds and headwinds

The medium-term outlook remains positive, with growth projected to rise to 4.2% in 2020 and 5.1% in 2021. Conducive conditions include accommodative monetary policy, initiatives to improve the business climate, and ongoing strategies laid out in the 11th National Development Plan to diversify both production and exports away from mining into other growth-enhancing and job-creating sectors. When implemented, these initiatives should accelerate growth over the medium term, strengthening the government's ability to address socioeconomic challenges and improve human development outcomes.

The Economic Diversification Drive is supporting local production of goods and services. Eight special economic zones have been identified. The Revitalization Program offers incentives to firms to invest in preferred industries. And the Cluster Development Initiative seeks to improve business productivity, value chains, and competitiveness in five sectors.

Despite the positive outlook, Botswana's economy faces significant external headwinds from weaker global diamond demand. Other risks arise from ongoing weak growth prospects of South Africa and lower SACU revenues. This reflects the country's heavy dependence on exports of diamonds. Despite rapid economic progress and its benefits to the country, the economic base remains narrow. Spatial poverty is still high in rural areas, remote communities, female-headed households, and among those with low education. Inequality remains high despite recent improvements. At 18%, unemployment is also high, especially for youth. To address these issues, the country would benefit from diversifying its current development model driven by diamond mining and public sector–driven investments.

Botswana needs to transition to a private sector–driven model and undertake reforms to exploit global and regional comparative advantages. The small domestic economy means that the expected benefits from this transition would bear fruit only if the country relies much more on exports. That requires fostering private firms that can integrate competitively into global value chains by addressing constraints that hinder private sector engagement in trade and investment.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team. Data on the budget balance correspond to Botswana's fiscal year, which runs from April 1 to March 31.

Burkina Faso

Macroeconomic performance and outlook

Real GDP growth is estimated at 6% for 2019 (6.8% in 2018), driven primarily by dynamic secondary sector (8.3% growth) and services (6.6%), as well as by sustained growth in private consumption (7.5%) and public consumption (6%).

The inflation rate, estimated at 0.3% in 2019, is projected to rise to 1.6% in 2020 and 2% in 2021. The fiscal deficit was reduced from 7.8% of GDP in 2017 to 3% in 2019, thanks mainly to a reduction in investment from the government's own resources, which seems to be the key adjustment variable. This investment fell from 11.6% of GDP in 2017 to 7% in 2019. Additional revenue generated by telecom licensing (about 1.4% of GDP) could mitigate the fall in public investment.

Tax revenues improved from 16.7% of GDP in 2018 to 17.8% in 2019. The current account deficit deteriorated slightly from 5.8% of GDP in 2018 to 6.3% in 2019. The IMF's debt sustainability analysis concluded in 2018 that Burkina Faso continues to present a moderate risk of debt distress. The debt ratio is estimated at 42.5% of GDP for 2019 (the WAEMU limit is 70%), with external debt the largest component (23.1%).

Tailwinds and headwinds

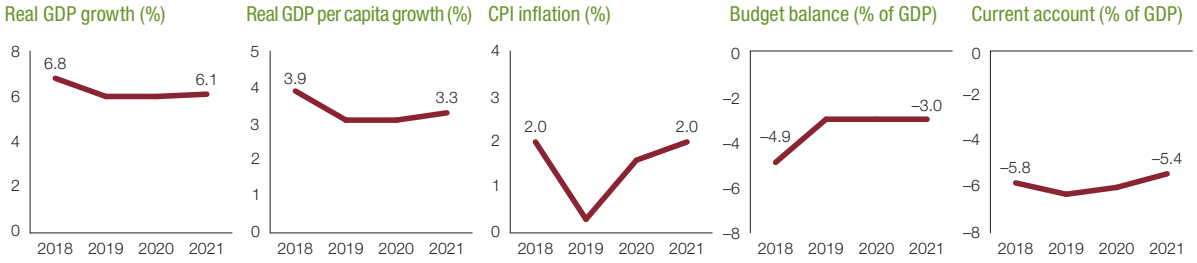
GDP is projected to grow by around 6% in 2020 and 6.1% in 2021. Despite the very challenging security situation, the authorities do have options—improving agricultural returns and implementing strategic investments in energy and infrastructure. They initiated action in the agricultural sector with the irrigation of 25,000 hectares planned in 2019–20, provision of 150,000 animal traction units to producers, and construction of a tractor and tiller assembly unit. To promote access to agricultural production areas, the proportion of upgraded rural roads is projected to increase from 32.6% in 2018 to 43% in 2020.

On the energy front, the construction of new solar power plants is expected to supply 155MW of electricity. Gold production is expected to reach 55.3 tons in 2020 (52.9 tons in 2019).

The security situation, which affects the main mining and agricultural regions, is likely to have a severe impact on the country's economy. Total budget allocations to the security and defense sector increased by 34% between 2018 and 2019 to 3.9% of GDP in 2019. Moreover, the increase in public spending to address the security challenge and the continued high wage bill (projected to be 9.5% of GDP in 2020) will weigh on the country's growth outlook.

The poverty rate in 2014 was 47.5% in rural areas and 40.1% at the national level. Humanitarian problems related to population displacement indicate that poverty has risen in the Sahel and the North, regions affected by the insecurity.

On human development, almost 75% of the labor force has received no schooling. The unemployment rate among women (9.3% in 2014) is higher than the national rate (6.6%), while the unemployment rate among 15–24 years old is 8.6%. The fertility rate was estimated at 5.4 children per woman in 2015.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Burundi

Macroeconomic performance and outlook

The economic recovery strengthened in 2019 (3.3% growth in real GDP) on the back of higher coffee exports, a slight increase in public investment, and a particularly good year for agricultural production.

The fiscal deficit rose to 4.2% for 2019, after 3.3% in 2018, mainly due to an increase in recurrent expenditures that was not offset by good performance in tax collection. The deficit has been financed through increased recourse to central bank advances and the accumulation of domestic payment arrears. The risk of debt distress remains high (63.5% of GDP in 2019 compared with 58.4% in 2018) because of increased domestic debt. In inflation, the fall starting in 2018 (from 16.1% in 2017) continued in 2019, with a rate of –3.1% (food prices dropped almost 11%).

The country's external position remains fragile. The current account deficit inched lower to 10% in 2019, financed primarily by government borrowing from the banking sector through the issuance of treasury bills. In 2019, official reserves did not cover one month of imports, whereas in 2018 they stood at 1.1 months. In June 2019, the official exchange rate was 1,842.4 francs to the dollar, depreciating 11% since 2016.

Almost two-thirds of the population lives below the poverty line (2017 estimate), and the youth unemployment rate is particularly high (65%).

Tailwinds and headwinds

The economy is projected to grow 3.7% in 2020 and 4.3% in 2021 on the back of higher coffee exports, a slight increase in public investment, average growth of 6% in food production, and steady, prudent monetary policy. The central bank has initiated significant regulatory reforms in exchange rate policy, which could relieve pressure on the country's foreign reserves.

Various initiatives are under way to modernize and diversify agricultural production, build the Jiji and Mulembwe power plants, improve access to the country (rehabilitating the port of Bujumbura), increase regional trade by strengthening the transport network, and improve the quality of human resources.

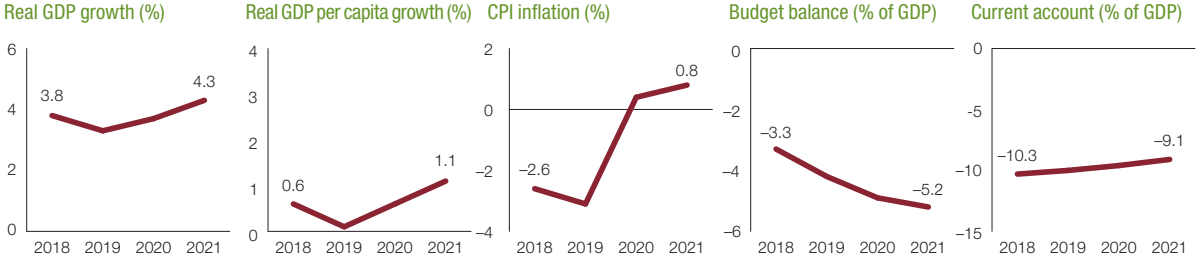
With a small export base (coffee and tea) and an agricultural sector highly vulnerable to weather shocks, Burundi's current account is in deficit (10% in 2019). The fiscal deficit (4.2% in 2019) could increase further in 2020 (4.9% of GDP) and 2021 (5.2% of GDP).

Food security remains a major challenge, and 6 of 10 children were stunted in 2017. Health indicators are weak. Life expectancy, 57 years in 2014, fell to 52.6 in 2017. The under-five mortality rate is 42.5 per 1,000 live births. And the incidence of malaria is 156.2 per 1,000 population at risk. The risks of natural disasters are real (70% of internal displacement is due to natural disasters).

The overall level of human capital is low due to an underperforming education system and persistent mismatches between skills and labor market needs.

The agricultural sector is predominant, accounting for 40.7% of GDP in 2018 and employing around 80% of labor. But it faces significant agronomic, technological, and institutional constraints.

Energy infrastructure development is inadequate, with low electricity access (1.2% in rural areas and 58.5% in urban areas in 2016).



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Cabo Verde

Macroeconomic performance and outlook

The economic growth momentum in Cabo Verde remains strong with real GDP growth estimated at 5% in 2019, thanks to robust activity in industry, fisheries, commerce, and tourism. Public investment's impact on growth underperformed its potential due to inefficiencies in the large parastatal sector, which resulted in high public debt. Fiscal consolidation was put in place to counter debt, including a 3% of GDP cap on domestic borrowing. These measures started to pay off as the fiscal deficit contracted below 3% of GDP in 2018, financed through concessional loans and treasury bond issuances. Public debt came down from 128.4% of GDP in 2016 to 123.9% in 2018, and is projected to decline to 98.5% of GDP by 2023.

Monetary policy has been in line with maintaining the exchange rate peg to the euro and, combined with the appreciation of the real exchange rate, helped keep inflation below 2%. The current account deficit has narrowed, reflecting higher export revenues amid declining import demand, and is financed mainly through official and private inflows. Meanwhile, the reduction of public investment due to fiscal consolidation has limited infrastructure investments to accelerate economic diversification. As a result, inadequate interisland connectivity hampers the competitiveness of local firms in global value chains. High electricity tariffs—about $0.25/KWh compared with $0.19/KWh in Mauritius—also impede manufacturing output growth as most firms rely on costly diesel power, draining foreign reserves.

Cabo Verde's economic growth has translated into substantial poverty reduction (from 58% in 2001 to 35% in 2015) and declining income inequality (from a Gini coefficient of 0.53 in 2001 to 0.42 in 2015). But high unemployment rates, especially among youth and women (32.4%), could undermine social cohesion.

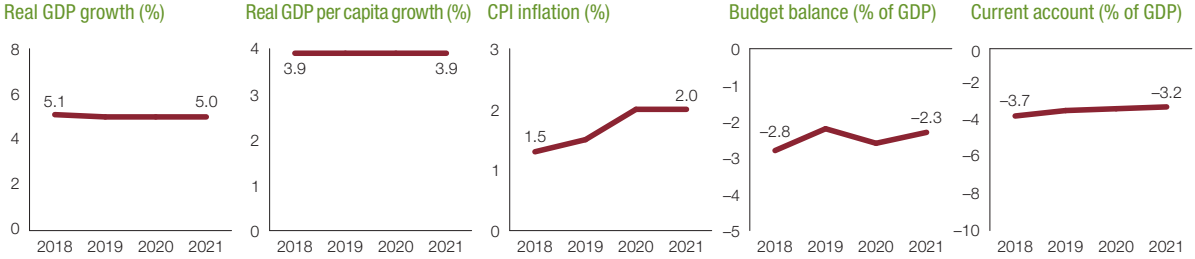
Tailwinds and headwinds

Real GDP growth is projected to average 5% during 2020–21, driven by industry, fisheries, commerce, and tourism. Cabo Verde could capitalize on its ocean wealth by addressing transport and logistical infrastructure bottlenecks to develop a more diversified economy. The March 2019 privatization of Cabo Verde Airlines and the August 2019 entry into operation of the maritime transport concessionaire (Cabo Verde Interilhas) are steps in the right direction to enhance market integration and improve the flow of goods and people. Plans to adopt the ECOWAS common external tariff, and adhere to the future single regional currency (eco) could increase intraregional trade.

Tourism accounts for 21% of GDP, and tourist arrivals are expected to reach 1 million by 2020. Even so, large hotels and resorts still import more than 80% of their food and beverage needs, at an estimated cost of $29 million annually. Tourism would benefit from accelerating the planned infrastructure investments, notably the construction of the Maio island port and the regional multimodal Praia–Dakar–Abidjan transport corridor.

Inadequate infrastructure constrains interisland mobility and tourism development. Inadequate cargo handling infrastructure, deficient airport facilities across islands, and lack of logistics to support intermodal transport tend to increase the costs of tourism services and constrain value chain development. Nonperforming loans—about 12.2% of total loans—remain a source of concern and could depress consumption and investment and slow economic growth. High dependence on tourism and remittances makes the country vulnerable to adverse developments in Europe, including risks related to Brexit—about 25% of the country's tourists come from the United Kingdom.

Climate risks, if not mitigated, could derail both growth and equity objectives. Although the government attaches great importance to skill development—spending 5.4% of GDP on education, well above the developing country average of 4.1%—the lack of skills remains a challenge for the private sector. To reap a demographic dividend, a subsidized internships program has placed 5,000 youth in the labor market.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Cameroon

Macroeconomic performance and outlook

Despite exogenous shocks and security challenges, Cameroon's economy grew an estimated 4.1% in 2019 thanks to a dynamic tertiary sector and growth in consumption and investment.

However, economic growth has not been inclusive enough to develop human capital. Cameroon continues to underachieve in human development, ranked 151 in the world (21 in Africa) on the 2018 Human Development Index. The poverty rate has inched lower, from 39.9% in 2007 to 37.5% in 2014. However, the current trend will not achieve two goals in the Growth and Jobs Strategy Paper: workforce underemployment falling from 76% to 50%, and a poverty rate at 28.7% in 2020.

The inflation rate rose from 1.1% in 2018 to 2.4% in 2019, but remained below the CEMAC 3% limit. The fiscal deficit has been declining (3.8% of GDP in 2017, 2.5% in 2018, and 2.3% in 2019) thanks to fiscal consolidation in the context of the three-year plan for 2017–19. The current account deficit is estimated at the same level in 2019 as in 2018 (3.7% of GDP) before declining to 2.6% in 2020 (its 2017 level). Cameroon continues to have a high risk of debt distress, according to the IMF's assessment in November 2018 (debt was almost 39% of GDP in 2018, compared with 12% in 2007).

Tailwinds and headwinds

Growth is projected to remain around 4% in 2020 before slowing to 3.4% in 2021. The IMF program will end in June 2020, and its effects are likely to continue into 2020 and 2021.

Cameroon plays a central role in the Economic and Monetary Community of Central Africa (CEMAC), holding nearly 40% of its money supply. Over 2014–17, its share of total intracommunity trade amounted to 24.7%, aided by the relative diversification of its economy and the existence of road corridors with all CEMAC countries as well as Nigeria. The country's ratification of the African Continental Free Trade Agreement in June 2019 continues in this vein. The merger in 2020 of two stock exchanges (Cameroon and Gabon) is expected to lead to further financial integration in the CEMAC area.

The implementation of significant value chain projects in the agroforestry, pastoral, and fisheries sectors should help to strengthen the economy.

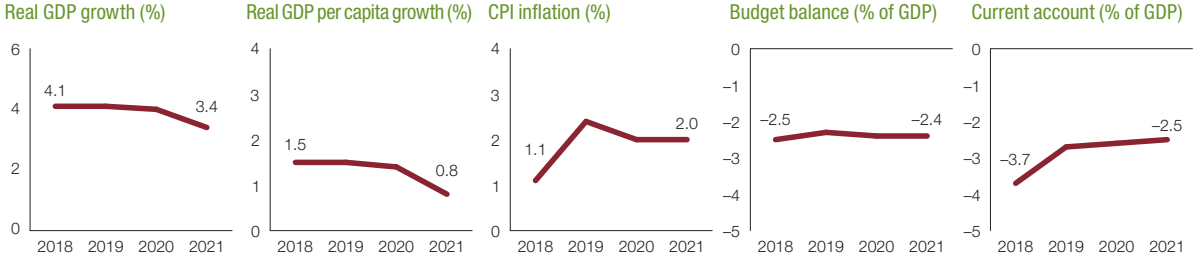
The persistence of security problems, specifically Boko Haram, in the far north and sociopolitical tensions in the northwest and southwest are affecting the economy, with transport, hospitality, telecommunications, and commercial agriculture recording significant material and financial losses. In September 2019, the government initiated a national dialogue to address the challenges.

The security expenses generated by the various security crises and the shutdown of SONARA (the national oil refinery) in June 2019 following a fire weakened the country's fiscal and current account positions.

Constraints remain in meeting needs in education, healthcare, poverty, and employment, and hold the country back from capitalizing on the potential of the demographic dividend.

Imparting high skills and training sufficiently skilled labor feature among the country's biggest challenges.

Implementing the Growth and Jobs Strategy Paper 2010–19 has led to the creation of infrastructure, financed largely by public sector borrowing. However, growth remained below the goal of an average 5.5% over the period.



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Central African Republic

Macroeconomic performance and outlook

The Central African Republic's economy is improving, despite a difficult security and humanitarian environment. Real GDP growth increased from 3.8% in 2018 to 4.5% in 2019, spurred by the steady recovery of agricultural and mining activities. However, inflation rose to 3.5% in 2019 (up from 1.6% in 2018) due to food supply problems and the security situation in some farming areas.

The fiscal balance was in surplus in 2019 (2.4% of GDP compared with 0.4% in 2018), thanks to better control of public expenditure and a gradual increase in revenue as a result of the implementation of fiscal measures. Following the IMF reform program, which was implemented in a satisfactory manner, another three-year program (2020–22) is being negotiated to strengthen and consolidate the country's macroeconomic framework.

Despite an external position in structural deficit, the current account deficit fell from 8.3% of GDP in 2018 to 5.2% in 2019, due to the resumption of domestic production and improvement of current transfers. The country shows an elevated risk of overindebtedness, but the public debt ratio dropped from 48.5% of GDP in 2018 to 42.2% in 2019, reflecting the government's prudent borrowing policy.

About 58% of job seekers are between 20 and 29 years old. Social inequalities are very high, especially in rural areas affected by conflict. Women represent 53.7% of the labor force, their illiteracy rate is higher than men's, and 80% of women ages 15–49 have not had access to education.

Tailwinds and headwinds

The economic prospects are promising. Real GDP growth is predicted to reach 4.8% in 2020 due to an improved security situation that should come in the wake of the peace and reconciliation agreement signed by the government and the rebel groups on 6 February 2019 in Bangui.

The increased capacity of Boali's hydroelectric production and the plans to build the Boali 2 hydroelectric plant should increase the country's electric capacity to 10MW and improve the water supply.

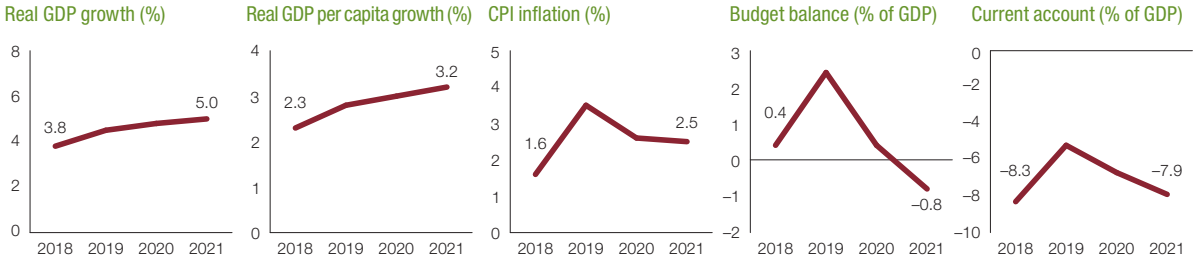
To reinvigorate agricultural and livestock farming, a project is under way to develop value chains and increase production in manioc, corn, rice, and livestock.

To improve its integration in Central Africa and its subregional exports, the Central African Republic ratified the African Continental Free Trade Agreement. Implementing various structural projects as part of the national development plan should help meet the country's many development challenges. The Bangui airport modernization project should encourage trade.

The Central African Republic, a transition country with a very long period of institutional and political instability, now faces an infrastructure deficit, youth unemployment, high social inequalities, and weak human capacities. The Human Development Index ranked it 188 of 189 countries (52 in Africa) in 2018.

Impeding the country's desire and ability to address these challenges are a lack of funding, sociopolitical instability, and administrative weaknesses. The implementation of the peace agreement is lagging, and security tensions and the political polarization may undermine the sociopolitical environment in 2020–21.

The ability to attract private investments continues to depend on a steady supply of electricity, greater economic and political stability, improved access to long-term financing for the private sector, and a healthier business environment.



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Chad

Macroeconomic performance and outlook

After two years of recession (2016 and 2017) following the fall in the price of oil, which led to a debt crisis, real GDP growth turned positive, reaching 2.4% in 2018 and 2019, driven by the good performance of grain (up 1.2% in 2019), cotton (142%), and oil production (14%, or 146,000 barrels a day).

Inflation averaged 3.0% in 2019, within the CEMAC criterion of 3%. Fiscal consolidation in the framework of an IMF program, including debt rescheduling in 2018 with the Glencore corporation, contributed to the sustainability of public spending.

The fiscal balance turned positive in 2018 (1.9% of GDP) and 2019 (0.2%), but domestic arrears remain high (10% of GDP in 2018), a big obstacle to the resumption of economic activity. Financing the public deficit with bank loans weakened the viability of the country's banks and had a crowding-out effect that reduced financing to the private sector. The current account deficit was 6.7% of GDP in 2019, up from 3.4% in 2018.

With a poverty rate of 46.7%, Chad ranks 186 of 188 countries on the Human Development Index. The unemployment rate is 5.8%, with youth unemployment very high, rising from 42% in 2015 to 60% in 2017 due to the economic recession.

Tailwinds and headwinds

Prospects are good, with 5.5% GDP growth projected for 2020 and 4.9% for 2021.

As a member of CEMAC, Chad is a stakeholder in the regional strategy launched in 2017 to correct the fiscal and external imbalances of all countries in the region. With significant potential for arable land and livestock, agriculture accounts for nearly 35% of GDP and employs 75–80% of the population. In August 2018, the government adopted a bill for a framework law on agriculture to support value chain development. It brought in foreign investors, specifically the Olam Group, to revitalize the cotton sector and implement initiatives to promote exports of livestock and meat.

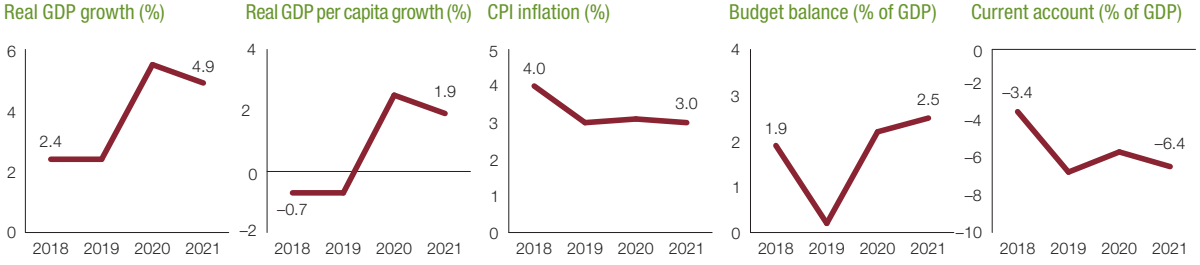
Chad is contributing to regional infrastructure (roads, electricity interconnection, preservation of the Lake Chad Basin, internet backbone, and the Trans-Sahara Highway linking Algeria to Nigeria).

The following factors pose risks to the outlook:

- Dependence on oil (79% of export revenues and 37% of budget receipts in 2019) and an unattractive business environment.
- Endemic poverty, high youth unemployment (60% of college graduates without work), and demographic pressure (3.5% population growth and a fertility rate of 6.4 children per woman).
- High exposure to the effects of climate change.
- Political instability and security concerns.

In 2018, Chad ranked 51 of 54 countries on the Africa Infrastructure Development Index. With heavy dependence on oil, it needs to diversify its economy by developing its agricultural resources.

The country has big shortages of human capital and skills in almost all economic sectors, which partially explains Chadians' disinclination to enroll in scientific and technical education programs (fewer than 2% of secondary students enroll in science courses). So in several sectors, Chad relies on foreign labor, mainly from Cameroon.



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Comoros

Macroeconomic performance and outlook

Real GDP growth for 2019 was 1.5%, half that in 2018, explained by cyclone Kenneth in April 2019, which caused destruction (power plants, roads, and production capacity) equivalent to 12.5% of GDP. Growth has been driven primarily by electricity and transport on the supply side, and by public investment on the demand side. For 2019, inflation is estimated at 2%, the fiscal deficit at 2.6% of GDP (financed by statutory advances from the central bank to the treasury, loans, and external aid), the current account deficit at 8.9% of GDP, and external debt at 32.4%, up slightly from 2017 (29.3%). The IMF's latest debt sustainability analysis rated the risk of debt distress as moderate.

Poverty (at the national poverty line) affects 44.1% of the population, and the income distribution is unequal, with a Gini coefficient of 0.39. Unemployment is estimated at 3.7% in 2018, and youth unemployment at 8.5%.

Tailwinds and headwinds

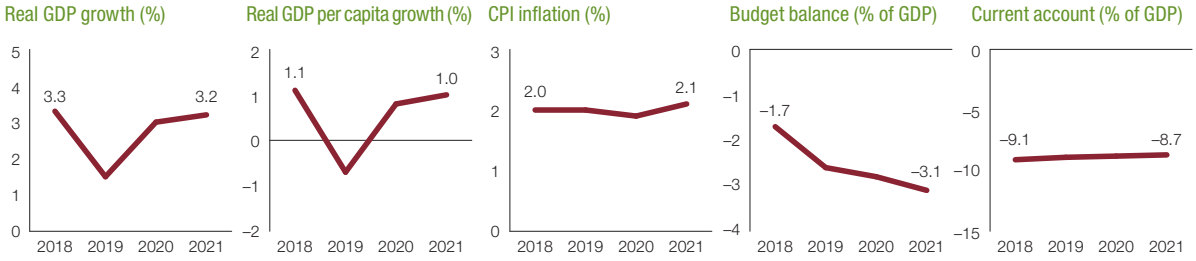
The post-cyclone cleanup and the support from development partners (for macroeconomic stabilization and sectors affected by the cyclone) are expected to lift GDP growth to 3% in 2020 and 3.2% in 2021. The financing already obtained will be used to relaunch socioeconomic, production, and private sector support infrastructure. Inflation is projected at 1.9% for 2020 and 2.1% for 2021, the fiscal deficit at 2.8% of GDP then 3.1%, and the current account deficit at 8.8% of GDP then 8.7%.

Between 2016 and 2018, the real electricity access rate rose from 75.4% to 77.8% and available capacity increased by 32% (from 19MW to 25MW). The government aims to stabilize the energy sector by implementing decrees to separate water and electricity, create a new electricity company, and review the electricity tariff structure.

Structural challenges include vulnerability to climate change, with increasingly frequent and violent cyclones. Labor and capital productivity is low. The diversification of national production and exports (ylang ylang, vanilla, and clove) is weak, market size is small with fewer than 1 million inhabitants, and given the country's isolation, costs are high for international transport. Structural transformation is very slow, with industry's share of the economy stable at 9.6% of GDP. Barriers to the private sector are high, and there was no policy for its development until 2017.

The income distribution is highly unequal, and unemployment is high, especially among the young (8.5%). Human and institutional capabilities are weak —almost half the active population lacks education qualifications.

National strategies have not been fully implemented, as with the industrialization strategy (2017), the employment policy (2013), the agricultural policy and the fight against food insecurity (2014), the education sector transition policy (2017), and the national strategy for the blue economy (2013).



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Congo

Macroeconomic performance and outlook

Congo's economic growth has remained on track despite a still weak domestic environment. The growth upturn in 2018 (1.6%) accelerated slightly in 2019 to 2.2%, attributable to the oil sector, which grew 5.5%, and construction and public works, up by 0.8%.

Inflation remains contained below the community target at an estimated 1.8% in 2019 versus 1.2% in 2018, in line with the fiscal adjustment and the continuing implementation of a prudent monetary policy.

Efforts to consolidate fiscal and foreign accounts as part of the CEMAC regional economic and financial reform program produced a fiscal surplus of 8.8% of GDP in 2019 (from 6.8% in 2018) and a current account surplus of 8% of GDP in 2019 (from 6.7% in 2018).

The debt ratio was 88% of GDP including 62% for external debt, despite a restructuring obtained from China. Facing problems servicing its debt, the country had arrears climb to 21% of GDP in 2019, from 8% in 2018.

The social situation is marked by persistent poverty (40.9%) and income inequality (with a Gini index of 0.46 in 2011). The local workforce is characterized by inadequate training relative to labor market needs, explained by the meager availability of technical and vocational training.

Tailwinds and headwinds

Congo's economic prospects will be marked by the implementation of the National Development Plan 2018–22 and reforms under the IMF's Extended Credit Facility. Real GDP growth is expected to be 4.6% for 2020 and 1.8% for 2021. The fiscal and current account balances should remain in surplus, thanks to fiscal and external consolidation. Inflation should remain contained at an average of 2.2% over the next two years.

These prospects will be supported by continuing reforms, dividends from investments, and economic diversification.

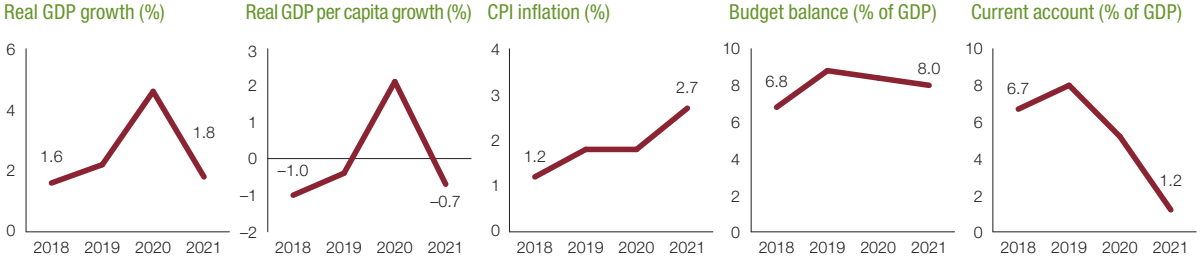
Congo has major agricultural potential as well as enormous natural resources not yet fully exploited (oil, iron, lead, zinc, potash, copper, uranium, diamonds, phosphates, magnesium, and hydropower).

The economy remains heavily dependent on the oil sector, which accounts for 55% of GDP, 85% of exports, and 80% of tax revenue.

Two factors are having a negative impact on business productivity: the lack of stable, high-quality electricity supply, and the length of time to process requests to connect to the grid.

And the slowness in paying the country's domestic debt could jeopardize economic recovery.

Better debt management remains a major challenge. The debt viability analysis by the IMF in 2017 concluded that the country was suffering from a debt overhang. Similar to the restructuring agreement with China, one is necessary with trade creditors to ensure debt's viability in the long term.



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Côte d'Ivoire

Macroeconomic performance and outlook

The economy continues to post good numbers. Real GDP growth was 7.4% in 2018 and 2019, and could remain above 7.0% during 2020–21, assuming good rainfall and favorable terms of trade. The service sector remains the main driver of the economy, contributing 3.4 percentage points to growth in 2018. Industry contributed 1.5 percentage points in 2018 thanks to a dynamic agrifood industry and construction and public works sector. The primary sector contributed 0.8 point thanks to agriculture, which benefited from good rainfall and seed distribution by the government. The contribution of extractive industries fell due to the slump in oil production.

In 2019, taxes and duties on exports are estimated to form about 10% of total tax revenues. Imports of petroleum products and food products are still more than 40% of the country's total imports.

Public debt rose from 49.8% of GDP in 2017 to 52.0% in 2018. The current account deficit deepened to 4.7% in 2018, due to the decline in cashew and rubber prices, but improved to an estimated 3.9% in 2019. The fiscal deficit in 2018, financed mainly by bonds, was at 3.9% of GDP and in 2019 was an estimated 3.1% of GDP.

Tailwinds and headwinds

A demand-side breakdown of growth shows the strong contribution of private investment. For 2019–20, the service sector and private investment will remain the main sources of growth and should benefit from the dynamism induced by new activities in trade, transportation, and telecommunications.

Cacao farming contributes 15% of GDP and about 38% of exports. Market prices promise to be favorable for the 2019–20 harvest. In September 2019, Côte d'Ivoire and Ghana (62% of world production) signed an agreement to increase the bean prices paid to farmers. Agricultural processing will benefit from the growth in private investment, which should remain above 10% in 2021.

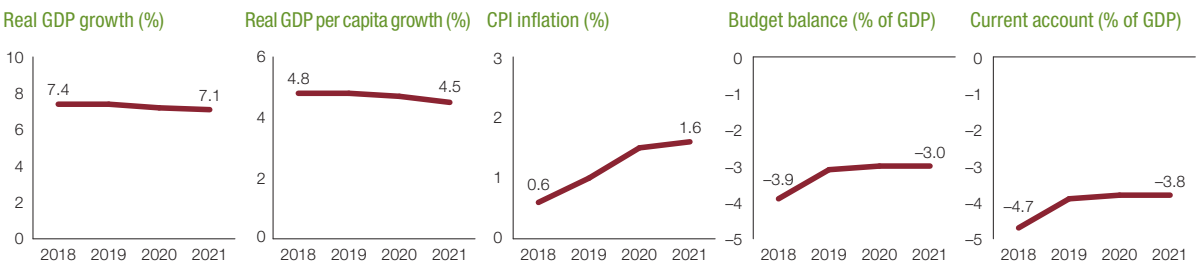
In July 2019, the Senate passed legislation raising to 30% the quota for women's representation in elected assemblies. Women currently form only 12% of parliamentarians and 2% of mayors.

In the past three years, the government initiated several reforms in tax administration, but the tax ratio, estimated at 15.6% in 2019, is still below the WAEMU minimum target of 20%. Tax policy suffers from a wide range of exemptions and high taxation of exports, something that many countries have abandoned because it is not socially distributive. Reforms are, however, under way to improve tax revenue collection.

The CFA franc rate appreciated against the US dollar, adversely affecting exports.

Public finances face risks related to state-owned enterprises and government agencies, whose total debt approached 8% of GDP at the end of 2018.

Orderly elections in the fall of 2020 would help strengthen the favorable political and business climate, as well as sustain the current economic momentum.



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Democratic Republic of Congo

Macroeconomic performance and outlook

Real GDP growth dropped to 4.3% in 2019 from 5.8% in 2018 due to a slowdown in extractives, the economy's main driver despite a fall in the price of some raw materials (copper and cobalt). Agriculture has suffered from low productivity while energy shortages have hindered industrialization efforts. Growth has been driven by domestic demand, particularly private investment and public consumption.

Thanks to good coordination in monetary and budget policies, the inflation rate, which reached 29.3% in 2018, fell to 4.5% in 2019.

Despite considerable rationalization in public expenditure, the fiscal deficit for 2019 was 0.4% of GDP due to the implementation of the presidential emergency plan (the fiscal surplus was 0.4% in 2018). Fiscal pressure averaged 10.2% from 2016 to 2019 (the continental standard being at least 20%). The current account deficit was 2.6% of GDP, financed primarily by direct foreign investment. Low currency reserves (equivalent to 3.7 weeks of imports in 2019) pose a threat to external stability. The country faces a moderate risk of debt distress.

Poverty remains a concern with 77% of the population living on less than $1.90 a day. Other concerns include inequality and underemployment, which affects 86% of workers according to the *1.2.3* Survey in 2012. Young people have limited access to jobs and socio-professional insertion programs.

Tailwinds and headwinds

The expected adoption of the 2019–23 Strategic Development Plan will give national priorities more visibility. Thanks to the country's low debt (13.7% of GDP for external debt and 6.5% for domestic debt in 2018), new external concessional loans can be secured.

Moreover, normalization of the political situation and a new determination to reform and fight corruption instill a climate of confidence, which promotes new private investment in sectors that drive the economy. Average inflation in 2020 and 2021 is expected to stay around 5%.

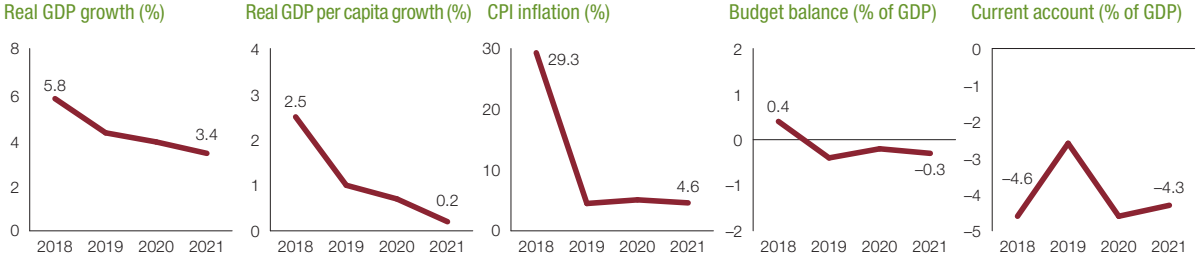
A medium-term economic and financial program supported by the IMF would pave the way for additional economic stimulus.

Forecasts suggest a slowdown in GDP growth in 2020 (3.9%) and 2021 (3.4%) due to reduced mining production. The current account deficit will likely worsen in 2020 (to 4.6% of GDP) and 2021 (4.3% of GDP), and the fiscal balance will remain in the red (0.2% of GDP in 2020 and 0.3% in 2021), partly from financing the free education policy.

The economy remains dependent on mining products, which makes it vulnerable to global price fluctuations. The dollarization of the economy reduces the efficiency of monetary policy. Structural weaknesses in internal revenue systems make it difficult to fund priority programs. Infrastructure shortages in most sectors continue to dampen economic development significantly.

DRC was ranked 184 of 190 countries in the World Bank's 2019 *Doing Business* report.

The ongoing Ebola epidemic in the provinces of Ituri, Nord-Kivu, and Sud-Kivu, where insecurity remains a concern, continues to hinder economic development in these areas.



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Djibouti

Macroeconomic performance and outlook

Real GDP growth has remained strong, estimated at 6% for 2019. From a demand point of view, it is driven by public investment in rail and port infrastructure. On the supply side, it should continue to be driven by the tertiary sector, notably trade with Ethiopia, which accounts for 80% of Djibouti's port activities. Inflation is estimated at 2.2% for 2019.

The fiscal deficit is estimated at 14.2% of GDP in 2019, funded mainly by borrowing and foreign aid. The current account deficit is estimated at 12.5% of GDP in 2019, funded by foreign borrowing and foreign direct investment.

At 35.8%, the level of poverty remains worrying. Income distribution is uneven with a Gini index of 0.42, and unemployment is estimated at 39.4%.

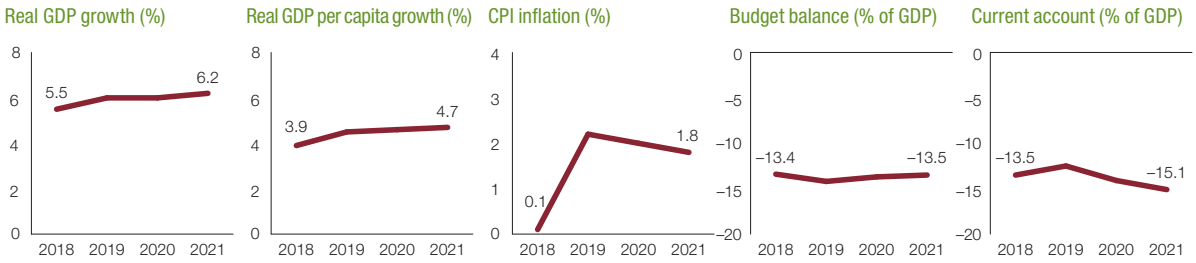
Tailwinds and headwinds

Real GDP growth should remain strong with 6% projected for 2020 and 6.2% for 2021. Inflation is projected to be 2% in 2020 and 1.8% in 2021. Thanks to Djibouti's coastal location, the first African international electric railway line, linking Addis Ababa to Djibouti, has been operational since January 2018. The geothermal drilling currently under way should increase the supply of energy through public–private partnerships. The 4th Djibouti Household Survey of social indicators achieved in 2018, shows that approximately 57% of households had access to electricity in 2017, a gain of more than 7 percentage points from 2011 (49.8%). Chronic food insecurity affected 29% of the population in 2019.

The government has implemented three major policies that should boost economic momentum: The National Employment Policy 2014–24, which aims to develop the small and medium enterprises subsector, the Education Action Plan 2017–19, and the National Agricultural and Food Security Investment Plan 2016–20.

The fiscal deficit is projected to be 13.7% of GDP in 2020 and 13.5% of GDP in 2021. The current account deficit is projected to be 14.1% of GDP for 2020 and 15.1% of GDP for 2021. External debt is estimated at 102.9% of GDP in 2018, up slightly from 2017 (97.4% of GDP), due mainly to loans for financing large infrastructure projects. According to the latest IMF debt sustainability analysis, the country remains exposed to a high risk of debt distress.

The country's main challenges are vulnerability to climate change, reflected in average precipitation barely exceeding 150 millimeters a year across a large part of the country (drought and floods), low factor productivity (labor and capital), little diversification of national production and exports, small domestic market (population of less than 1 million inhabitants), a longstanding unchanged GDP structure, low purchasing power, unequal distribution of income, high unemployment, and low institutional and human capacities reflected in weak project implementation.



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Egypt

Macroeconomic performance and outlook

Economic growth in Egypt, estimated at 5.6% for 2019, is forecast to strengthen to 5.8% in 2020 and 6% in 2021, supported by broad-based economic reform programs since 2016. Other factors supporting growth include the recalibration of government's social inclusion programs away from general subsidies on energy products to targeted transfers and improvements in the business environment. Tourism, construction, and oil and gas were driving growth. On the demand side, consumption remained subdued as exports and investments were more robust.

A broad-based consolidation plan introduced a new value-added tax and a gradual reduction in energy subsidies, putting the fiscal deficit on a downward trend from 12.5% of GDP in fiscal 2016 to 8.7% in fiscal 2019. Primary balances registered a surplus over the past two years. Debt growth has been contained as the debt-to-GDP ratio fell from 103% in 2017 to 89.5% in 2019, partly a result of fast-growing nominal GDP. The current account deficit narrowed to 2.3% in 2019, and foreign exchange reserves reached an all-time high at $44.96 billion in August 2019. Inflation pressures are also easing, standing at 8.7% year-on-year in July 2019, the lowest in the past four years.

The 2020 fiscal budget assumes an optimistic yet attainable 6% growth rate. In the first quarter of 2019, the unemployment rate dropped to 8.1%, its lowest in 20 years.

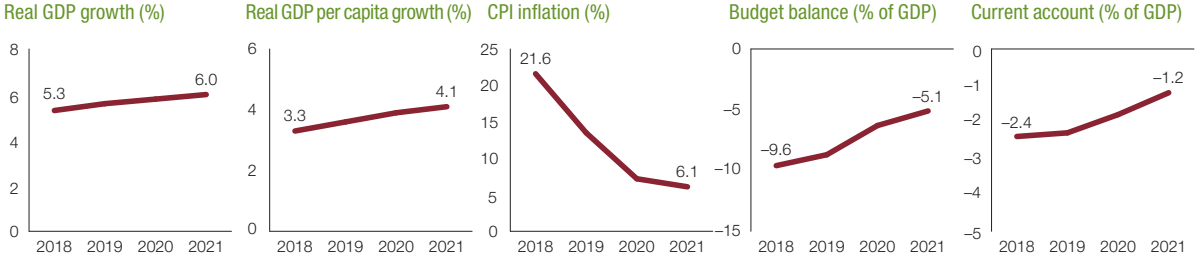
Tailwinds and headwinds

Egypt's prospects are favorable. Real GDP growth is projected to maintain momentum driven by high domestic demand and export growth. Egypt is now a gas exporter, following the discovery of the Zohr field. With growth becoming increasingly inclusive, unemployment declining, pensions improving, and civil servant wages increasing, consumer spending should pick up. The government is advancing Egypt's integration with the rest of Africa, which should boost exports.

Egypt climbed six ranks to 114 of 190 countries in the latest edition of the World Bank's *Doing Business.* The improving business environment should boost domestic investment and further attract foreign direct investment. The decline in inflation is expected to continue. As a result, monetary policy is becoming less restrictive. Cuts in central bank rates would also ease the repayment burden of the government's large short-term debt.

The 2016 currency depreciation triggered a sharp increase in the cost of living. Despite government social inclusion policies and the positive economic results of the reforms, poverty rose from 27.8% in 2016 to 32.5% in 2019. This increase could further influence government social protection programs. In particular, the main cash transfer programs, Takaful and Karama (Solidarity and Dignity), have been significantly expanded since their introduction in 2016, from 200,000 households to 2.3 million households in 2019. Yet, they only benefit a third of the poor, around 10 million people.

The agricultural and manufacturing sectors, accounting for around 13% and 15% of GDP, remained flat. Private investment, concentrated in real estate and energy, still does not exceed 9% of GDP. And private credit remains subdued, going from 36.2% of total credit in 2011 to 22.7% in 2019. Although net exports became the largest contributor to GDP growth in 2019, nonoil exports remain modest, showing the weak pass-through of currency depreciation. And 60% of debt still carries a maturity of one year or less. While unemployment has been trending down, it is still high among youth (26%) and women (38%).



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team. Data in the figure correspond to Egypt's fiscal year, which runs from July 8 to July 7.

Equatorial Guinea

Macroeconomic performance and outlook

Equatorial Guinea continues to struggle to emerge from the economic recession caused by the 2014 slump in oil prices. Real GDP is estimated to have shrunk by 4.1% in 2019 after a contraction of 6.1% in 2018 due to less activity in the oil sector. The inflation rate remains low, at 1.4% in 2019 versus 1.3% in 2018, below the CEMAC target of 3%.

In 2018, public finances improved thanks to implementing most of the benchmarking program measures signed with the IMF. Big cuts were made in public capital spending (down 20.6%) and tax revenue collection improved, with nonoil revenues increasing by 7.2%. The budget balance, which showed a deficit of 2.6% of GDP in 2017, became a surplus (0.5% of GDP in 2018 and 1.3% in 2019). The current account deficit improved from 7.7% of GDP in 2018 to 5.6% in 2019 following a better trade balance due to the reduction in capital goods imports.

Progress in human development is below Equatorial Guinea's economic potential. According to the human development index, the country went from 139 of 188 countries in 2016 to 141 of 187 in 2017. The gross enrollment rate in primary education was 80%, and the grade repetition rate 24%. Unemployment affected 25% of the working-age population in 2017, and the hydrocarbon sector employed only 4% of the workforce.

Tailwinds and headwinds

The oil windfall has enabled the country to modernize its infrastructure over the past two decades. Ambitious programs are being carried out in a variety of infrastructure (roads, ports, airports, water supply, and electricity production, transmission, and distribution), which are generally new and in good condition.

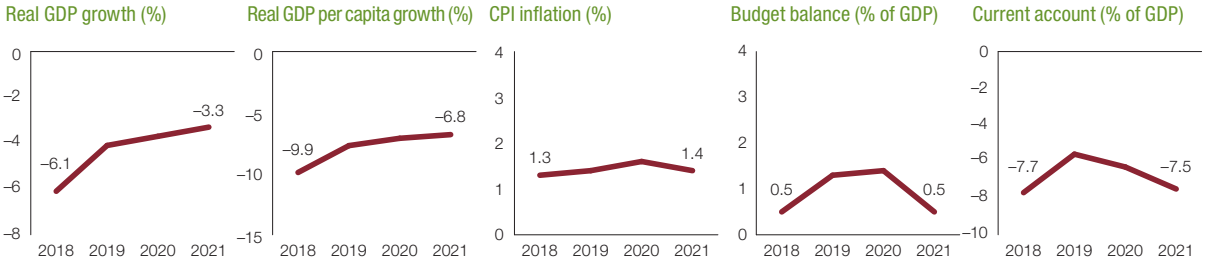
Economic diversification, which is slow to materialize, remains an important goal for the country's long-term economic growth and stability. The agricultural sector, whose contribution to the national economy was less than 2% of GDP between 2014 and 2018, has good potential on 850,000 hectares of land (versus only 20,000 hectares currently in cultivation). The National Agricultural and Food and Nutrition Security Investment Plan 2015–20 emphasizes training farmers and creating small and medium agricultural enterprises.

The fisheries and aquaculture sector (0.2% of GDP between 2014 and 2018) could also be an important source of diversification thanks to the size of the country's exclusive economic zone (maritime territory).

The economy remains dominated by hydrocarbons, even though nonoil activities increased from about 40% of GDP in 2013 to 56% in 2017. The country's overall economic outlook remains negative with a recession expected in 2020 along with a predicted decline in oil sector activity (down 6.8% in 2020). However, inflationary pressures should remain moderate, with inflation rates of about 1.6% in 2020 and 1.4% in 2021.

To maintain the dynamism established to reduce economic imbalances and ensure the stability of the country's macroeconomic framework in the medium term, the government has made the necessary efforts to implement the Benchmarking Program with the IMF, and negotiations for an Extended Credit Facility began in September 2019. This program is expected to focus on maintaining macroeconomic stability and strengthening the banking sector, while promoting social welfare, economic diversification, good governance, and transparency. The budget balance should improve, recording surpluses of 1.4% of GDP in 2020 and 0.5% in 2021.

At the institutional level, the country is hampered by structural weakness in its ability to manage public finances and by governance in implementing its economic and social transformation policy.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Eritrea

Macroeconomic performance and outlook

Real GDP is estimated to have fallen to 3.1% in 2019 due to subdued final demand of investment and exports. On the supply side, mining and agriculture remained the dominant contributors to real GDP growth. On the demand side, government investment in infrastructure—notably in energy, roads, and irrigation—underpins growth. The economy has experienced a persistent fall in consumer prices for three consecutive years (2017–19), down 13.3% in 2017, 14.4% in 2018, and an estimated 27.6% in 2019. Deflation is structurally driven by the low prices of imported consumer goods supported by contraband trade and an overvalued exchange rate (by 14.9% in real effective terms).

The fiscal balance is estimated at 0.6% of GDP in 2019, down from 10.9% in 2018, and domestic credit is estimated to grow at 1.4%. With total debt at 248.9% of GDP in 2019, Eritrea is already at high risk of debt distress, reducing its debt carrying capacity. While the bulk of this debt is domestic, external debt is estimated at 64.4% of GDP.

The current account surplus fell to 11.3% of GDP in 2019, largely reflecting a drop in net exports. In 2019, gross international reserves are estimated to cover 3.1 months of imports, up from 2.7 months in 2018, but are less than adequate to weather external shocks.

Tailwinds and headwinds

The economic outlook is positive, with real GDP growth projected to increase to 3.9% in 2020 and 4.0% in 2021. Per capita income is expected to grow from 1.8% in 2019 to 2.6% in 2021. Underpinning this outlook are the removal of UN sanctions, the dividends from continuing the September 2019 peace and friendship agreement with Ethiopia, and the cessation of hostilities with Djibouti. This has paved the way for the re-engagement of various international organizations that will support various sectors of the economy. There is confidence in the country's macroeconomic outlook, particularly the possibility for embarking on financial reforms.

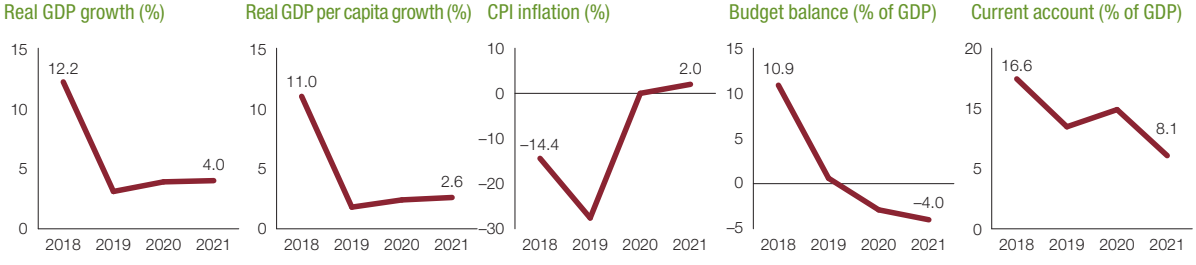
The main opportunities are in mining, tourism, and agriculture. Increased investment in copper, zinc, and Colluli potash is expected to drive growth in mining. The Africa Finance Corporation and the Africa Exim Bank will jointly finance potash production. And investors from Italy and the Eritrean diaspora have expressed interest in developing the islands and coastlines, which would boost tourism. Agriculture is attracting development partner investments in irrigation, microcredit, and alternative livelihoods. The Horn of Africa initiative is focusing on infrastructure and human development as drivers of growth.

Debt distress could culminate in a drop in the sovereign rating and a rise in interest spreads, constraining growth. Given the dominance of state enterprises and their dependence on state financing, the spillover effects of sovereign debt on these enterprises could reduce output.

Dependence on exports of gold and zinc and agricultural raw materials makes the country vulnerable to external shocks. The demand for Eritrea's commodity exports could be reduced by sluggish growth in the global economy, particularly the key trading partners in Europe and the Far East.

Vulnerability to climate shocks and delayed agricultural transformation have reduced agricultural productivity. Given the size and importance of this sector for food security and employment, lower productivity could constrain the potential contribution of agriculture (now 20% of GDP).

Constraints on starting a business, dealing with construction permits, registering property, obtaining electricity, obtaining credit, and protecting minority investors increase financing costs and reduce returns on investment. Skill mismatches, poor roads, weak domestic finance, and inadequate information and communications technology also reduce the returns to investment and projected growth. The government is addressing skill mismatch by building capacity and developing appropriate curricula for technical and vocational education and training. Eritrea remains low on the Human Development Index, ranked 182 of 189 countries.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team. Data on the budget balance correspond to Eritrea's fiscal year, which runs from July 1 to June 30.

Ethiopia

Macroeconomic performance and outlook

Real GDP growth slowed to an estimated 7.4% in 2019 from 7.7% in 2018, caused by social unrest and fiscal consolidation to stabilize the public debt. On the supply side, industry and services continued to lead growth in 2019. Industry was driven by construction, notably for industrial parks and infrastructure investments. Structural transformation is under way but needs to accelerate. While agriculture's share in GDP has fallen, the sector still employs more than 70% of Ethiopia's workforce. Manufacturing accounts for less than 10% of GDP. On the demand side, private consumption and domestic investment were the primary growth drivers in 2019, but domestic investment slowed, reflecting fiscal consolidation.

Monetary policy was tight. But inflation remained in double digits in 2019 and above the 8% central bank target because of central bank advances to finance the fiscal deficit. Ethiopia's managed float exchange rate foresees a 5%–6% annual depreciation to adjust for inflation differentials with trading partners. High inflation has, however, contributed to overvaluation of the Ethiopian birr despite the 15% devaluation in 2017, necessitating a gradual shift to a more competitive exchange rate. Fiscal consolidation has ensured low and stable fiscal deficits, despite a low tax–GDP ratio, averaging 11% during 2016–19. Tax reforms are under way to boost revenue mobilization, but deficit financing through central bank advances has fueled inflation and reduced monetary policy effectiveness.

Current account deficits have stabilized because of the phased reduction of import-intensive capital projects—in line with the government's strategy of reducing external borrowing—and been partly offset by official and private transfers. Ethiopia's debt sustainability rating deteriorated to high risk in 2018 because of worsening terms of trade and the subsequent weak export performance.

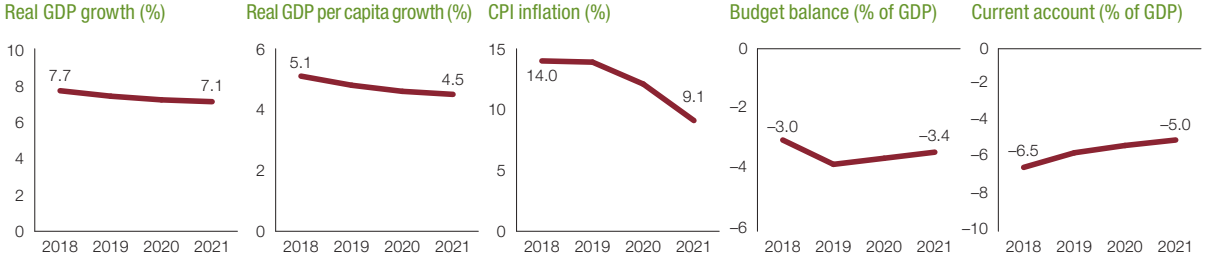
Tailwinds and headwinds

The economic outlook is positive, and real GDP growth is projected to stabilize at 7.1%–7.2% in 2020–21 due to ongoing political and economic reforms and normalizing relations with Ethiopia's neighbors. Growth should benefit from the Homegrown Economic Reform Program, which seeks to address macroeconomic imbalances and unlock structural and sectoral bottlenecks, improving governance of state-owned enterprises and strengthening institutional capacities. Measures to open key sectors to competition—notably transport, logistics, manufacturing, and telecommunication—will attract private investment, catalyze high value-added services, and boost competitiveness.

Transport investments, such as the Addis Ababa–Djibouti railway, and ongoing logistics reforms, including measures to improve first- and last-mile railway connectivity, will produce efficiency gains in trade and manufacturing.

Ethiopia's public–private partnership framework will diversify the country's development finance sources, improve debt sustainability, and sustain growth-generating infrastructure investments. Ongoing financial reforms, particularly to develop a capital market, will enhance domestic resource mobilization.

Overdependence on unprocessed agricultural exports has contributed to persistent trade deficits. Foreign exchange shortages, unstable electricity supply, low access to credit, weaknesses in raw material supply chains, and shortages of skilled labor have hindered business growth and reduced production capacity utilization for manufacturing firms (57% in 2018 versus the targeted 68%). Inefficient trade logistics have also slowed the development of a competitive manufacturing sector. Weak export growth and high debt-service ratios are depressing the growth outlook. Intermittent interregional conflicts could impede socioeconomic progress. Youth unemployment is high, particularly in urban areas (at 25%), requiring improvements in education quality to enhance employability.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team. Data in the table correspond to Ethiopia's fiscal year, which runs from September 11 to September 10.

Gabon

Macroeconomic performance and outlook

Gabon's economic recovery continued in 2019, thanks to the momentum of nonoil activities (mines, timber, rubber, and palm oil), with estimated real GDP growth of 3.4% in 2019 (0.8% in 2018), driven by the exploitation of new oil wells (up 11.8%), nonoil exports (18.6%), and total investment (4.5%). The inflation rate declined from 4.8% in 2018 to 3.4% in 2019, approaching the CEMAC community target of 3%.

Following the slump in hydrocarbon prices in 2014, the government implemented an Economic Recovery Plan for 2017–20. The budget deficit improved from 1.9% of GDP in 2017 to 0.7% in 2019 thanks to the reduction in payroll (48.1% of tax revenues in 2019 versus 85.3% in 2017). The current account deficit deepened to 3.2% of GDP in 2019, from 2.3% in 2018, due to the increase in imports to cover 80% of Gabon's food needs. To fund its current account deficit, the government had to resort to foreign borrowing, bilateral and multilateral, and cash constraints led to an accumulation of domestic arrears. Total public debt rose from 52.5% of GDP in 2016 to 64.3% in 2018 (and is estimated at 62.2% for 2019). The debt viability analysis by the IMF shows that the debt is sustainable.

Tailwinds and headwinds

Real GDP growth is expected to be 3.7% in 2020 and 3.6% in 2021, driven by renewed activity in the nonoil sector, which should offset a decline in the oil sector. The fiscal surplus should stabilize in 2020 (1.0% of GDP) and in 2021 (1.5%). The external account deficit should ease from 0.6% of GDP in 2020 to equilibrium in 2021.

The strategy to diversify the economy fostered development of new sectors of activity, mainly in agribusiness. Thanks to investments by the Singapore Olam Group (€2 billion since 2010, more than 45% of the total FDI in Gabon over the same period), palm oil and rubber plantations have been developed on an industrial scale. In 2018, three new palm oil processing factories started up and produced 27,045 metric tons of oil.

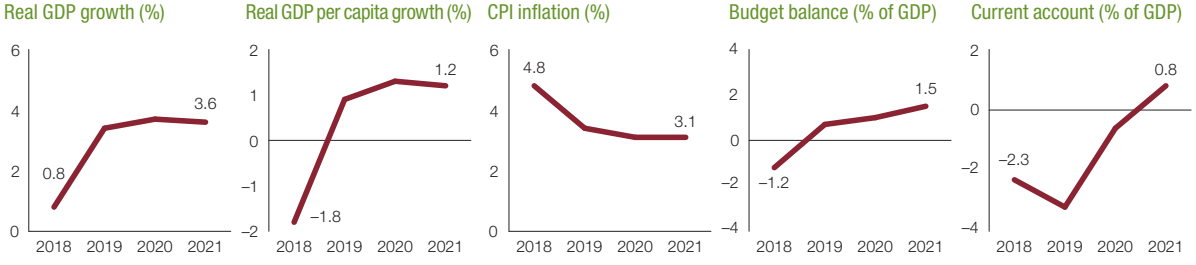
Following a November 2009 ban on the export of unprocessed logs, the country created a fully developed industrial timber sector, now the largest African exporter of veneers and plywood.

The Gabon Special Economic Zone, created in 2010, now has some 60 international and local companies (building materials, metallurgy, chemicals, and so on) and their activities contribute 14% of the country's exports. The zone has also invested in airports, ports, and roads.

Gabon harbors 25% of the world's proven reserves of manganese. National exports grew by 47.7% thanks to an increase in world demand (China, Europe, and India). In 2014, the government decided to process some of it locally, and the investments under way for the local conversion of manganese to ferromanganese should eventually triple the value added produced.

Gabon dropped from 23 to 41 in the Ibrahim Index of African Governance between 2017 and 2018, and slipped three places in 2019 in the *Doing Business* report.

The high cost of production factors is a barrier to the growth and competitiveness of firms, and the Trans-Gabon Railway, the only means of shipping out resources, is close to saturation, spurring the government to launch a Gabon Infrastructure Support Program. The lack of skilled labor is also a constraint to economic diversification. Although firms need skilled workers, vocational and technical training reaches only 8% of students in post-primary education. Last, the economy remains heavily dependent on the oil sector, with 79.5% of exports and 25.5% of GDP in 2018.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Gambia

Macroeconomic performance and outlook

Following the 2016 political transition, GDP growth accelerated to 6.6% in 2018 driven by a recovery in agriculture, tourism, construction, and trade. It then fell to an estimated 5.4% in 2019 due to weak fiscal management and delays in budget support disbursements. Inflation subsided owing to a stable exchange rate, which depreciated by only 3.2% since September 2018, strong food supply, and declining commodity prices. Gambia's dependence on food and fuel imports widened the current account deficit during 2015–18, but improvements in net services, private capital flows, and remittances from the diaspora mitigated the deficit in 2019. Fiscal consolidation helped to reduce fiscal deficit to 4.1% of GDP in 2019, financed through budget support loans and grants and expensive domestic borrowing, crowding out private investment.

Debt remains unsustainable (81.8% of GDP in 2018), and debt service consumed more than 53% of revenues in 2016–18, leaving limited fiscal space to finance priority spending. The high public debt and limited fiscal space kept poverty stagnant (48.4% in 2010 and 48.7% in 2015) and unemployment high (35.2% in 2018).

Gambia faces major challenges in energy and infrastructure. And agriculture, despite its potential, has not contributed much to poverty reduction as 91% of the rural poor work in smallholder-based subsistence farming.

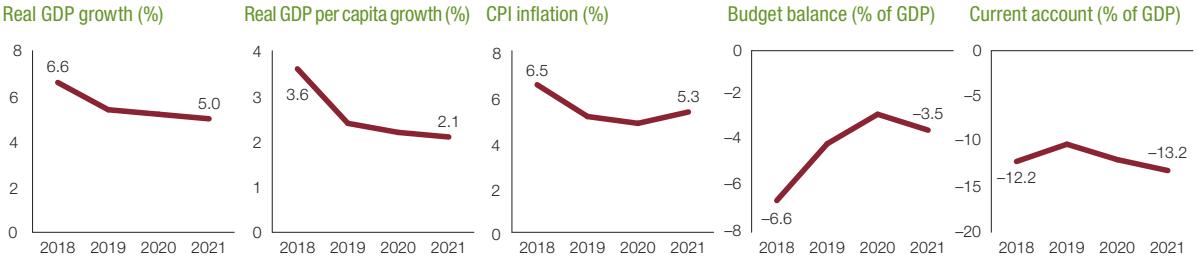
Tailwinds and headwinds

Real GDP growth is projected around 5.1% during 2020–21, led by agriculture, tourism, increased external financing for energy and roads, and trade boosted by the recent opening of the Trans-Gambia Bridge. As a small, highly open economy, Gambia could benefit from greater regional trade integration from the Africa Continental Free Trade Area and the adoption of a future regional single currency (eco). Investments in modernizing the Port of Banjul are crucial to generate revenues from transit trade and new business opportunities in transporting imported liquefied fuel products to the Sahelian hinterland. This has potential to create jobs and reduce youth unemployment, currently 41.5%.

Headwinds include institutional capacity shortcomings and slow progress on fiscal consolidation. These could reduce private sector confidence and disbursements of pledged development assistance and undermine investment and growth. The large public debt burden and contingent liabilities, notably from state-owned enterprises, leave little room for private sector credit expansion. The authorities could explore restructuring part of the debt by seeking relief from bilateral and multilateral creditors.

Electricity demand is higher than capacity, with installed capacity at 99MW but only 55MW available. Electricity tariffs are high ($0.26/KWh compared with $0.16/KWh in Mali), and the cost of producing electricity remains vulnerable to oil price and foreign exchange shocks.

Global oil price increases would raise energy costs, undermine macroeconomic and price stability, and erode consumer purchasing power and welfare. An unusually short rainy season could cut rainfed agricultural production by 50% or more. A national review of skills and employability showed that few people receive skill training, mostly due to uneven distribution of technical and vocational education training institutions. Promoting skill training programs is thus critical to enhancing employability.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Ghana

Macroeconomic performance and outlook

Ghana's economy continued to expand in 2019, with real GDP growth estimated at 7.1%. High growth momentum since 2017 has consistently placed Ghana among Africa's 10 fastest-growing economies. Improvements in the macroeconomic environment were accompanied by expansion in domestic demand due to increased private consumption. The industrial sector, with average annual growth exceeding 10%, was a major driver of growth in the three years to 2019. Agriculture will continue to be the second fastest-growing sector in the economy, but a financial sector clean-up that started in 2017 placed a temporary drag on growth of services.

In 2019, Ghana maintained its moderate fiscal and current account deficits, single-digit inflation, and a relatively stable exchange rate. The fiscal deficit improved from 3.5% of GDP in 2018 to 3.4% in 2019. However, the current account deficit rose from 3.1% of GDP to 3.5% as net flows in the income account outweighed gains in the trade account. A steady decline in nonfood inflation and tight monetary policy helped keep inflation within a medium-term target of 8 ± 2%. The exchange rate between the Ghana cedi and US dollar remained stable with volatility reflecting seasonal import-driven demand.

Increased public debt and shortfalls in domestic revenues pose challenges to further macroeconomic improvements. By September 2019, the debt-to-GDP ratio rose 3.2 percentage points year-on-year, mainly due to a $3 billion eurobond issue and to domestic borrowing, including a $2 billion financial sector bailout. Despite the low domestic resource mobilization and high cost of financial and energy sector reforms, the government remains committed to a deficit ceiling of no more than 5% of GDP, as required by the new Fiscal Responsibility Act.

Tailwinds and headwinds

Growth prospects remain positive, with increased output and stable global prices for Ghana's main export commodities. Domestic initiatives aim to increase productivity and boost output in key primary sectors and value chains. The 10-Point Industrialization Agenda seeks to expand output through coordinated public and private investment. Programs targeting higher agricultural productivity include Planting for Food and Jobs, Rearing for Food and Jobs, and Planting for Export and Rural Development.

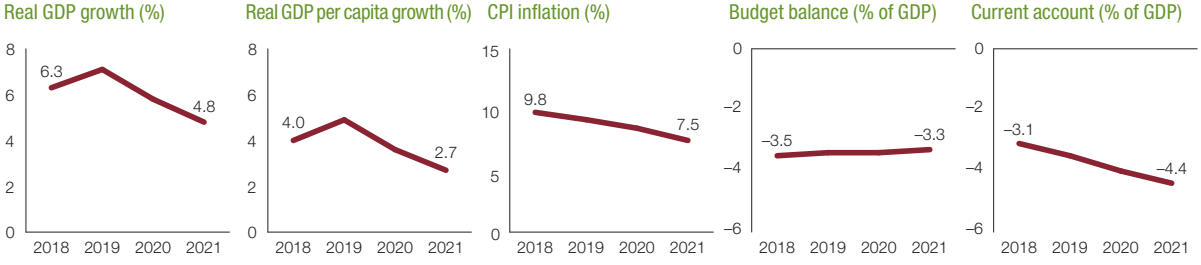
The nascent manufacturing sector will broaden the basis for growth, focusing on agriculture-led industrialization. Exports are largely unprocessed, and more than 18% of imports are food items—both opportunities for local value addition. Foreign direct investment (FDI) and portfolio investments provide low-cost capital for emerging value chains. As West Africa's top FDI recipient, Ghana received more than a third of the region's inflows in 2018, reflecting the country's emerging skill base.

The government's new Business Regulatory Reform program is expected to improve the business environment and mobilize domestic revenue. Digital investments, especially in the financial sector, will increase efficiency. With the African Continental Free Trade Agreement, Ghana's industry will absorb increasing raw materials from the region, scale up manufacturing, and trade in processed and light manufactured products.

Despite the Fiscal Responsibility Act, the runup to elections might put pressures on the government to overspend and undertax which could derail progress toward fiscal consolidation.

Mounting energy sector liabilities, due to excess installed capacity from take-or-pay contracts with independent power producers, and the ongoing financial sector clean-up are likely to lift the debt-to-GDP ratio above the current 60.6%.

Increased foreign participation in Ghana's debt exposes the country to global market swings and foreign exchange risks, with nonresident participation in domestic debt at more than one-third.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Guinea

Macroeconomic performance and outlook

Guinea's economic growth has remained steady thanks to reforms improving the business environment. Real GDP growth is estimated at 6.2% for 2019 (6.0% in 2018). The tertiary sector's contribution to growth—improved traffic at the Conakry port, growth of the mobile phone sector, and the opening of new hotel complexes—was 3.6 points in 2018, while those of the primary and secondary sectors were 0.7 points and 1.7 points, respectively.

The tax burden, 13.7% of GDP in 2018, reached an estimated 14.7% in 2019. The budget deficit, 1.5% of GDP in 2018, reached an estimated 2.9% in 2019 and was projected at 2.8% in 2020. By end 2018, the current account deteriorated and registered a deficit of 2.3% of GDP after having recorded a surplus of 4.3% at the end of 2017. Public debt represented 36.7% of GDP at the end of 2018 and should remain below 45% until 2021.

The annual rate of inflation, 9.8% in 2018, reached an estimated 9.7% in 2019. The exchange rate for the Guinean franc, which continues to depreciate, rose from 1,797 to the dollar in 2000 to 9,011 in 2018, due to the low repatriation of export earnings for mining products.

According to the results of a 2014 survey, the 5.2% unemployment rate was coupled with a 12.8% underemployment rate. Poverty (at the national poverty line) rose from 41.9% in 2002 to 55.2% in 2012 (last year studied).

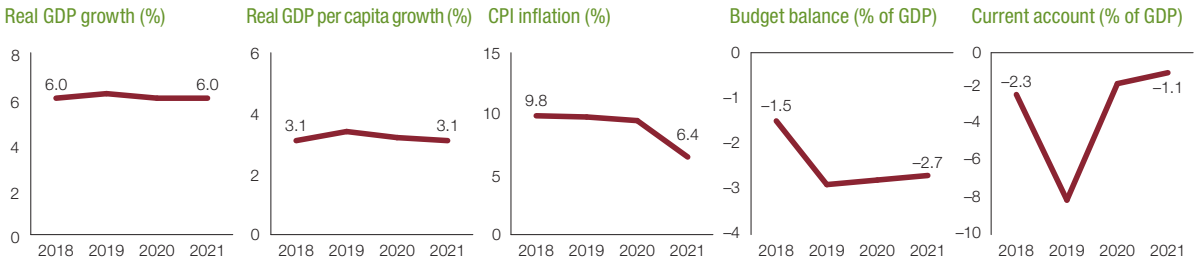
Tailwinds and headwinds

Guinea's economic outlook should allow for an average annual GDP growth of 6% in 2020–21. In addition to its mineral resources, the country could leverage its significant water resources. It has an estimated 6.2 million hectares of potential farmland, 75% unused, and 64,000 hectares of irrigable land, of which less than 10% is developed. The country's hydroelectric potential, less than 6% tapped, is estimated at 6,000MW with guaranteed energy of 19,300GWh a year.

Imports of food processed, most of which can be produced locally, rose to nearly $558 million in 2018. The government plans to reduce its food trade deficit by 50% by 2025 and to create agribusiness processing zones to carry out its development pilot in the Boké and Kankan administrative regions. This pilot will create a body of knowledge to replicate in all 10 of the country's agropoles.

Despite efforts by the central bank, inflation has continued to increase in the past five years and hovered between 8% and 10% since 2016, mainly due to the increase in food product prices, which represent 37.6% of the food basket. The increase is due to deteriorating roads and bridges, which increase travel times for perishable farm products from production to consumption areas. During the rains of August 2019, it could take a week and cost approximately $70 per ton to ship farm products from Nzerekoré to Conakry (864 kilometers), roughly equivalent to the cost of shipping a ton of rice from Bangkok by ship.

High inflation means Guinea faces structural difficulties in adhering to ECOWAS convergence criteria. This inflationary trend will not be reversible if road conditions continues to worsen, making local agricultural products more expensive than products imported from Europe and Latin America.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Guinea-Bissau

Macroeconomic performance and outlook

GDP grew by an estimated 5% in 2019, driven mainly by private consumption and exports. Economic performance remains highly correlated with the volumes and prices of cashew nuts. Considered the "green oil" of Guinea-Bissau, the nuts account for almost 70% of employment and more than 90% of exports.

Inflation is estimated to remain below 3%, despite increase in oil prices. Underperforming cashew exports in 2018 translated into lower revenue as agriculture is the main source of domestic revenues. The effect of the lower cashew price is expected to constrain the 2019 and 2020 budget. With lower revenues and higher spending, the budget deficit rose to 5.1% of GDP in 2018, but then declined to an estimated 2.8% in 2019. To finance the deficit, public debt securities totaling 10 billion CFA francs were issued in September 2019, leaving public debt in 2019 at an estimated 27%.

The current account deficit worsened from 1.6% of GDP in 2018 to 3.4% in 2019, reflecting the lower cashew nut export prices. The country depends heavily on imports, dominated by machinery and construction materials (19%), fuel and refined products (18%), services (16%), and food and agricultural products (12%). India remains the main trading partner, receiving more than 80% of unprocessed cashew exports.

About 67% of the population lives in poverty and 33% in extreme poverty. Inequality is high. Unemployment is 11.6%, and informal workers are a structural problem.

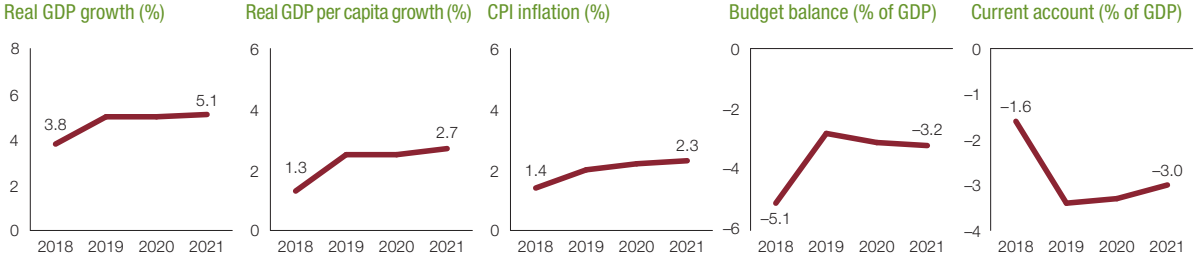
Tailwinds and headwinds

GDP is projected to grow at 5% in 2020, driven by greater cashew production volume and stable prices. Institutional reforms are laying the foundation for more private participation. Efforts to attract private investments include creating an Investment and Export Promotion Agency and signing the Lusophone Country-specific Compact. The Central Bank of the West African States has launched a mechanism to finance domestic small and medium enterprises. Domestic initiatives will increase electricity and water availability, improve cashew marketing, and address weaknesses in the banking sector. That should boost private sector confidence and contribute to growth and macroeconomic stability

To improve employment opportunities and the macroeconomic climate, new investments include operationalizing a new cement factory in Bissau, completing the Buba-Catió road, and creating a line transmitting energy from the Kaleta and Sambangalou subregional hydropower plants as part of the Gambia River Basin Development Organization energy connectivity project. Regional integration commitments under the Africa Continental Free Trade Agreement should lift trade and growth limitations imposed by the small economy.

Agriculture needs large-scale investment and a business environment that promises returns to value chain investors. But the lack of an updated budget undermines development planning and implementation. Adverse terms of trade could undermine growth and weaken domestic resource mobilization. Repeated cashew price shocks could discourage many small-scale producers and reduce national output and exports. Lower cashew prices could worsen key debt-sustainability indicators, such as the debt-to-export and the debt-to-revenue ratios. Higher-than-expected oil prices could reduce domestic production and undercut revenues.

The vulnerability of agriculture and fishing to climate change challenges the livelihoods of more than 70% of the population. Irregular precipitation and frequent flooding in coastal and island regions threaten the economy and the population, especially the large proportion of poor and vulnerable households with limited alternative livelihoods.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Kenya

Macroeconomic performance and outlook

Real GDP grew by an estimated 5.9% in 2019, driven by household consumption and investment on the demand side and services on the supply side (such as public administration, information technology, finance and insurance, and transport and storage). GDP was down from 6.5% in 2018, caused mainly by unfavorable weather and reduced government investment.

At 5.2%, inflation remains within the central bank's 5 ± 2.5% target band. The exchange rate remained stable due to the narrowing current account deficit, from 5.0% of GDP in 2018 to 4.9% in 2019 thanks to increased transfers. Foreign exchange reserves rose from $9 billion in 2018 to $9.4 billion at the end of August 2019, equivalent to 6 months of imports, or more than the East African Community convergence criterion of 4.5 months.

The fiscal deficit is estimated at 7.5% of GDP in 2019, down from 8.8% in 2017, thanks to ongoing fiscal consolidation and greater domestic resources mobilization. Public debt rose to 58% of GDP in 2019, up from 41% in 2013, and became more nonconcessional (67%) than concessional (33%). More of it is held externally (16% of GDP) than domestically (9% of GDP), but the domestic share is increasing. The debt creates risks for refinancing, cost escalation, and foreign exchange. Because of expected liquidity challenges, the IMF elevated Kenya's debt stress rating from low to moderate in 2018.

Kenya's economic growth has not been inclusive enough: poverty fell to 36% in 2015/16 from 46% in 2005/6. Unemployment fell marginally from 9.5% in 2014 to 9.3% in 2018. The bottom income quintile receives only 4% of income.

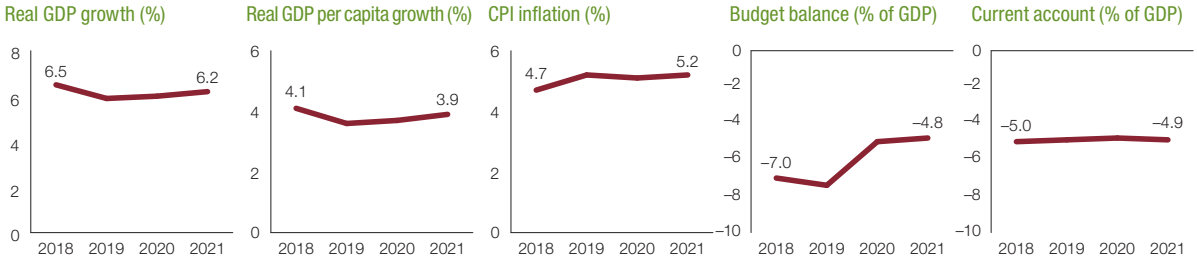
Tailwinds and headwinds

Real GDP is projected to grow 6% in 2020 and 6.2% in 2021. Macroeconomic stability is expected to continue. Inflation, around 5% in 2020 and 2021, is expected to remain within the target range, and the fiscal deficit will narrow in 2020 and 2021. The positive outlook mainly reflects favorable weather, increased crude oil production and exports, continuing foreign direct investment, the benefits of the African Continental Free Trade Agreement, and the government's commitment to the Big Four Agenda aimed at industrialization in health, housing, agriculture, and manufacturing.

The Agenda plans to enhance food security and transform agriculture from subsistence oriented and rain dependent to market oriented, using special economic zones as a manufacturing base to expand exports and boost import substitution. The envisioned structural change depends on quickly transitioning to growth led by the private sector, not the public sector. Reforms to make the investment climate conducive to domestic and foreign investment should extend to the credit market, particularly to enhance access for small and medium enterprises.

Kenya's economic transformation faces challenges in manufacturing, agriculture, the labor market, and macroeconomic stability. Manufacturing's share in GDP has remained at 9% for more than a decade, and manufacturing value added is only 5% of GDP. Agriculture accounted for 52% of GDP, 56% of employment, and 65% of foreign exchange earnings in 2018. The 2018/19 drought slowed economic growth and reduced food security.

Informality and unemployment remain high. Four-fifths of workers are in the informal economy, and 9.3% of the workforce are unemployed. Investment has been low in sectors with greater capacity to absorb labor. Given the youth bulge, the supply of labor is large, but skills and entrepreneurial activity are limited.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team. Data on the budget balance correspond to Kenya's fiscal year, which runs from July 1 to June 30.

Lesotho

Macroeconomic performance and outlook

Lesotho's economy grew at an estimated 2.6% in 2019, up from 1.2% in 2018 owing to strong mining performance and a textiles recovery in an improved global economy.

Growth is projected at 1.8% for 2020 and 1.7% for 2021. Services predominated in GDP (60.1%), followed by industry (34.6%), and agriculture (5.3%). Yet 80% of the population depends on subsistence farming, so productivity is low.

Lesotho imports about 80% of its goods from South Africa, and since inflation in South Africa is low and within the target range of 3%–6%, any currency depreciation is minimal. Lesotho's inflation, estimated at 5.6% for 2019, is projected at 5.3% for 2020 and 5.4% for 2021.

The fiscal deficit worsened from 3.4% in 2017 to 5.1% in 2018, reflecting a sharp decline in Southern African Customs Union (SACU) receipts, which are below their historical average of 30% of GDP. But the deficit improved to an estimated 4% in 2019 and is projected to be 3.9% in 2020 and 3.6% in 2021. The deficit will be financed by a drawdown of central bank deposits, which might have implications for the currency peg to the South African rand.

The risk of external debt distress was revised from low in 2017 to moderate in 2018, but at 34% of GDP in 2018 and an estimated 37% in 2019 the debt was sustainable, according to the IMF/World Bank debt sustainability analysis.

The current account deficit, at 0.2% of GDP in 2018, deteriorated to an estimated 3.7% of GDP in 2019 due to increased imports. It is financed by a drawdown of foreign exchange reserves, reducing Lesotho's ability to absorb external shocks.

Low productivity in agriculture, coupled with fiscal and liquidity difficulties, continued to undermine efforts to reduce poverty (57%), unemployment (32.8%), and inequality.

Tailwinds and headwinds

With construction beginning in 2020, the Lesotho Highlands Water Project, costing $2.3 billion, will bring royalties from South Africa, improve water resources, and boost private sector growth. And Southern African Development Community efforts, combined with the national governance dialogue launched in June 2018, augur well for political stability and policy continuity.

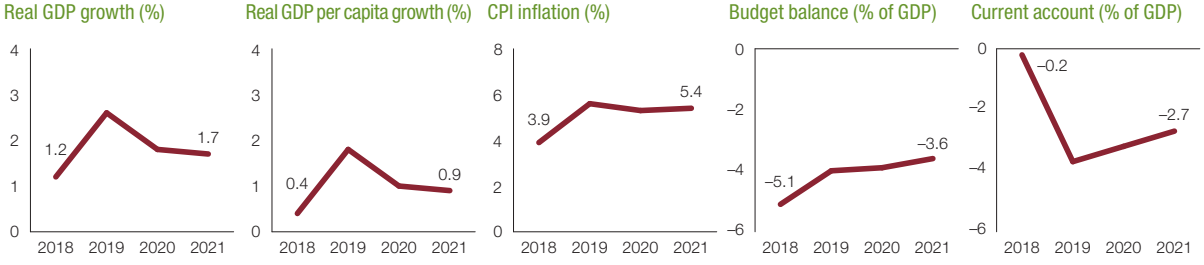
With the recent improvement in Lesotho's business environment, the Continental Free Trade Area will provide a wider market, create new industrial jobs, and boost Lesotho's GDP. And the country's picturesque landscape and snow-covered mountain slopes, ideal for skiing, will foster tourism.

A possible South African economic slowdown could further reduce SACU revenues. Lesotho's huge public wage bill of 24% of GDP and accumulation of payment arrears, currently $76.4 million, may contribute to further deterioration in fiscal space.

Textiles declined from 21.7% of exports during 2003–07 to 11% in 2018, even with US African Growth and Opportunity Act trade preferences, due to competition from Asian producers. This threatens macroeconomic stability and underscores the need to invest in more efficient textile machinery.

Lesotho lacks skills and capacity, particularly in digital technology and statistics, partly due to the migration of qualified Basotho to South Africa. A 49% shortfall in reliable statistics hinders national planning and monitoring and evaluating donor-funded projects.

The European Union discontinued its budget support due to budgetary opacity. Official development assistance was already at an all-time low of $147 million in 2017, down from $256 million in 2010. And the fiscal situation is likely to deteriorate further with the ongoing trade tensions between the United States and China and between the United States and the European Union.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team. Data on the budget balance correspond to Lesotho's fiscal year, which runs from April 1 to March 31.

Liberia

Macroeconomic performance and outlook

The Liberian economy has faced uncertainty in the past two years due to declining mining exports and rising inflation and currency depreciation. Real GDP growth, after declining to 0.4% in 2019, is expected to recover to 1.6% in 2020, underpinned by mining, forestry, and agriculture. Commercial gold exports, commercial palm oil production, and cocoa and fisheries investment have expanded. Macroeconomic stability is expected to improve in 2020 with the implementation of an IMF-supported program improving fiscal and monetary policies and tackling structural rigidities to create a favorable environment for private investment.

Liberia is recovering from the Ebola crisis between 2014 and 2016, which plunged the economy into a recession, with real GDP contracting by 1.6% in 2016 due to capital flight and a fall in private investment. Real GDP growth recovered to 2.5% in 2017, largely driven by mining (gold and iron ore), forestry, and agriculture as economic activity resumed. But foreign exchange inflows shrank in 2018, triggering a depreciation of the Liberia dollar by about 26% and a sharp rise in inflation to 23.5% in 2018. Inflation remained high at 21.7% in 2019.

Tailwinds and headwinds

Liberia, traditionally, has relied on forestry (rubber and timber) and mining (gold, diamonds, and iron ore) as major sources of income. The mining sector alone employs more than 100,000 people and has the potential to generate income and help reduce unemployment, estimated at 25%.

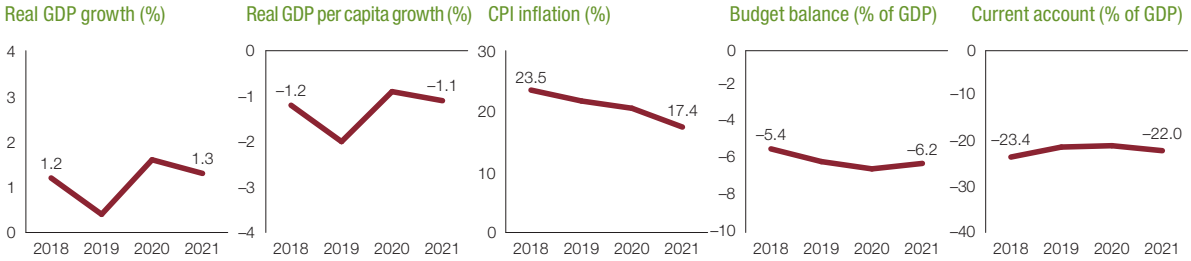
Agriculture employs an estimated 70% of the population, mainly youth and women. With considerable arable land, Liberia has the potential for crop diversification, improved market linkages, and private sector–led agriculture value chains. This could underpin job creation, create new income opportunities, and reduce food imports.

The government is addressing infrastructure deficits in transport and energy and trying to create a favorable business environment. A new development plan, the Pro-Poor Agenda for Prosperity and Development 2018–23, has prioritized infrastructure development and job creation. Liberia's medium-term agenda focuses on regional integration, private investment and trade in the Mano River Union countries (Côte D'Ivoire, Guinea, Liberia, and Sierra Leone). Liberia is modernizing agriculture to increase productivity and reduce imports of staple foods—mainly rice. A new act regulates the establishment, development, and operations of special economic zones.

The government has taken measures to restrict external borrowing to concessional loans from its traditional partners and has committed to stop domestic borrowing to avoid crowding out private investment.

Liberia's population is estimated at 4.8 million, 71.0% under age 35 and nearly half under age 15. But low education and technical skills keep Liberia from realizing a demographic dividend and increasing savings. The human and institutional capacity is inadequate to transform natural resources into wealth. Transport and energy deficits undermine private investment in mining, manufacturing, services, and agroprocessing. The overreliance on imports, including staple foods, is unsustainable, and diversifying into high-value exports is essential.

The economy's low private sector investment and narrow tax base limit fiscal revenues, increasing reliance on high-cost external loans—amid reduced aid and an accommodative monetary policy. Liberia's public debt is moderate at about 37.9% of GDP, with external debt at an estimated 33.5% of GDP.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team. Data on the budget balance correspond to Liberia's fiscal year, which runs from July 1 to June 30.

Libya

Macroeconomic performance and outlook

Real GDP growth slowed to an estimated 4% in 2019, due to lower oil prices. Inflation, after declining in 2018 and the first quarter of 2019, rebounded to an average above 10% in 2019 because of the intensified conflict in Tripoli. The fiscal deficit worsened to 10.9% of GDP in 2019 from 7.4% in 2018 (but still much improved from 43% in 2017). The fiscal stance was slightly worse in 2019 due to lower oil prices despite higher oil production, at 1.15 million barrels a day in the second quarter of 2019, up from 0.97 million in 2018.

Of the fiscal spending in 2019, 58.4% went to salaries, and 18.2% to subsidies for food, health, energy, and education. A reform of subsidies, planned for 2018, was postponed due to the political context. Capital spending increased to 5.3% of spending in 2019 from 4.7% in 2018, but was still much lower than the 43.5% in 2010 and left gaps in social and economic infrastructure. The current account balance slipped to an estimated deficit of 0.2% of GDP in 2019, down from a surplus of 2% in 2018, because of the reduced price of oil exports.

In 2020–21, oil prices are expected to fall while production should increase as Libya continues to receive an exemption until March 2020 from the quotas under an extended OPEC agreement to curb oil production.

Tailwinds and headwinds

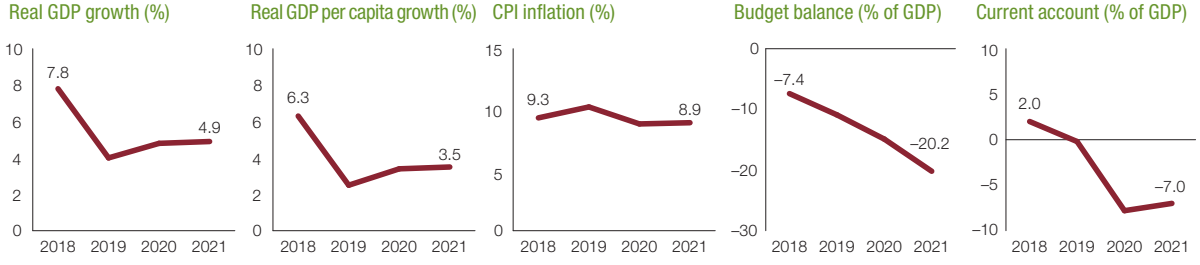
Libya is well endowed with hydrocarbon resources. Its proven crude oil reserves were 48 billion barrels at the end of 2018, the ninth largest globally and the largest in Africa, accounting for 38% of the continent's reserves. Only 25% of Libya's territory has been explored for hydrocarbons. These resources provide ample financial leverage, a positive long-term fiscal outlook, and very low debt. Unlike other post-conflict countries, Libya has the financial resources to rebound quickly. If well and efficiently managed, the resources could power economic and social recovery and reconstruction. Reconstruction, along with improved political stability and security, could diversify the Libyan economy from oil and offer better prospects for an inclusive society.

Economic diversification is a key priority. Over 2014–18, the oil, gas, and related extractive sectors accounted for more than 65% of GDP, more than 95% of export earnings, and 96% of the budget. So, the Libyan economy remains extremely vulnerable to oil production shocks and oil price fluctuations. Rapid diversification from hydrocarbon resources is essential for a stronger, resilient, and more inclusive economic growth.

Political stability, and structural reforms centered on a more conducive business environment for private investment are needed. The 2019 *Doing Business* report ranked Libya 186 of 190 countries. Libya currently ranks 187 in registering property, 187 in dealing with construction permits, and 186 in the ease of getting credit.

The private sector also faces challenges in recruiting skilled and qualified individuals. According to the 2018 *Human Development Report,* Libya's Education Index ranked the country 119 of 189 countries. This problem is likely to be exacerbated over the next decade, since conflicts interrupt schools and universities.

The economic and social infrastructure has been severely damaged. Since 2014, Libya has experienced serious power shortfalls. Health care services have deteriorated, with only 17.5% of hospitals functional in 2018. Because of the ongoing conflict, 43% of the population relies on trucked-in water for drinking—before 2011, most major towns and villages enjoyed water services, even though Libya is among the world's most water-scarce countries.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Madagascar

Macroeconomic performance and outlook

Real GDP growth in 2019 is estimated at 5.2%. The primary sector, with 22.4% in 2019, is driven by traditional agriculture, greatly exposed to the effects of climate change (droughts, cyclones). In a shifting environment, exporting companies (extractive industries in an export processing zone) drove the secondary sector's contribution up from 18.5% in 2015 to 21.3% in 2019. There was no significant change in the tertiary sector (growth of 0.8 point), the largest in the economy, with 58% of GDP in 2019, but driven by the least productive sectors, where informal activities are concentrated (trade, transport).

Public finances improved with increased tax collection to reach an estimated 12.2% of GDP in 2019, up from 10.5% in 2015. Although public investment spending rose steadily, from 3.5% of GDP in 2015 to 8.3% in 2019, it remains inadequate to meet infrastructure requirements.

The budget deficit, 1.5% of GDP in 2018, rose to 2.4% in 2019 and is expected to climb to 4.1% in 2020 and 4.9% in 2021. The current account, after a surplus of 0.8% of GDP in 2018, shifted to a deficit of 0.2% in 2019, and is expected to widen to 1.5% in 2020 and 2.4% in 2021. The risk of external debt overhang, moderate in 2015, moved to low in 2019, according to the IMF. Inflationary pressures remained strong between 2015 and 2019, reaching a high of 8.6% in 2018, and gradually falling to 6.2% in 2019.

Tailwinds and headwinds

Real GDP growth is projected at 5.3% in 2020 and 5.1% in 2021, driven by public and private investments in infrastructure (port, airport, roads, energy).

To support public investment, a high priority should be to mobilize more government revenue. Prudent monetary policy has consolidated the central bank's gross official reserves (4.3 months of imports in 2019 compared with 2.4 months in 2015). Inflation should also lessen, to 6.1% in 2020 and 5.8% in 2021.

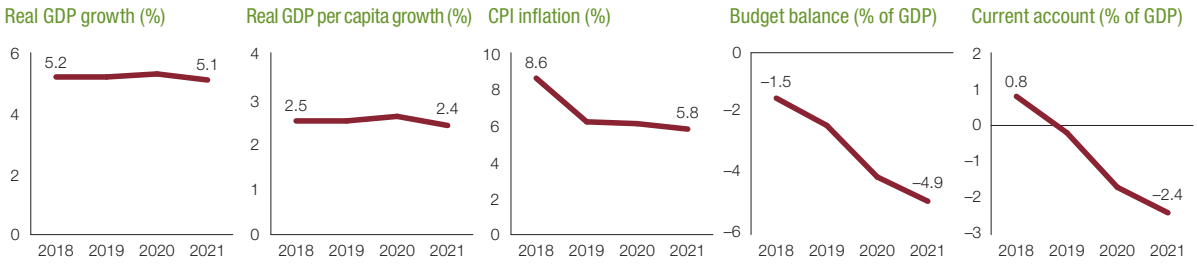
To support monetary policy and consolidate foreign trade, the authorities should focus on promoting import substitution industries for food products and intermediate goods. The most structured and productive subsectors in services (telecommunications, banks, and insurance) are still underdeveloped (4% of GDP in 2019) but have been increasingly dynamic. Greater support for them could promote greater growth and the creation of decent jobs over the next few years.

A more open African market through regional integration could become an outlet for food surpluses, as long as there is infrastructure to improve access and facilitate trade.

The country is vulnerable to external shocks, specifically a drop in nickel and vanilla prices and a rise in the prices of oil and imported goods. The economy remains heavily dependent on imported goods (food and intermediate products, oil products), which represent more than 71% of imports.

The strongest value-added export commodities (vanilla, cloves, cocoa beans) are grown on small farms, and the food industry remains underdeveloped (barely 2% of GDP), with almost no progress in recent years. Public policies have not eased the structural constraints on the sector (lack of roads, financing, energy), the insecurity in production areas, or the difficult access to land and financing.

Almost 80% of the population works in agriculture based on subsistence crops (rice, cassava, corn), and jobs in the sector are mainly low paying, with considerable underemployment. The poverty rate in agriculture was 86.4% in 2013.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Malawi

Macroeconomic performance and outlook

Real GDP grew an estimated 5.0% in 2019, up from 4.0% in 2018, despite the effects of cyclone Idai. Growth was supported by continued macroeconomic stability and improved agricultural performance (maize output increased 25.7% in 2018/19).

Annual inflation was estimated at 9.0% in 2019 and projected at 8.4% in 2020, down from 21.7% in 2017. The monetary policy rate eased from 20.6% in 2017 to 13.5% by November 2019. The exchange rate stabilized at 738 Malawian kwacha per dollar in September 2019, up from 732 kwacha per dollar in September 2018. Foreign reserves were equal to 3.7 months of imports in June 2019.

Post-cyclone Idai reconstruction created fiscal pressures. The government, facing subdued revenue of 19.9% of GDP and growing public debt, sought to reduce domestic debt from 30% of GDP in 2018 to 20% in 2019. The 2019 fiscal spending was reduced from 29.5% of GDP to 25.6%. The 2019 deficit was an estimated 5.9% of GDP, and the 2020 deficit is projected at 4.3%, to be financed from external and domestic resources.

The current account deficit was estimated at 16.9% of GDP in 2019, up from 16.2% of GDP in 2018, driven by a decline in tobacco prices. A current account deterioration is projected at 17.4% of GDP in 2020 and 17.8% of GDP in 2021, driven by post-cyclone Idai infrastructure imports. Unemployment is high at 18.5%, aggravated by a mismatch between the demand and supply for skills.

Tailwinds and headwinds

Malawi's growth was robust in the first half of 2019, supported by improved agricultural performance. GDP growth prospects for the next few years are positive, due to the rebound in agriculture and improved electricity supply from the Zambia–Malawi interconnector. Growth is projected to rise modestly to 5.2% in 2020 and 5.5% in 2021, up from 5.0% in 2019, supported by prudent policies, improved external financing, favorable terms of trade, and increased investments in connectivity infrastructure along major trade corridors.

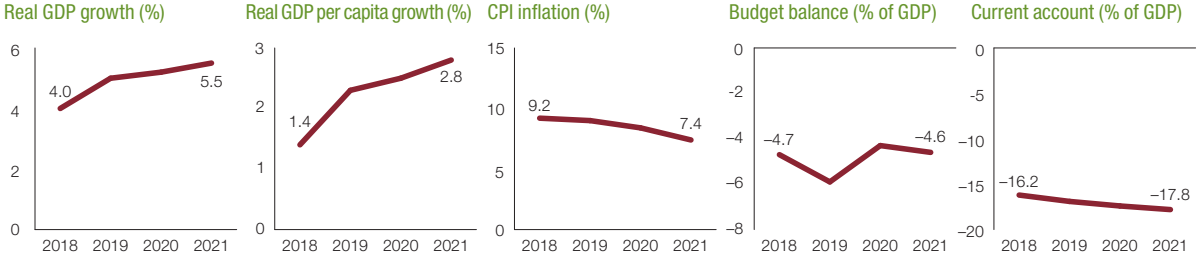
Growth will be reinforced by continuing macroeconomic stability. The cautious monetary easing in June 2019 signaled an attempt to stimulate demand. Maintaining that accommodative policy could propel capital flows, increase economic activity, and restore growth, since it supports credit to the private sector.

The government has proposed to strengthen value addition through the Special Economic Zone (SEZ) Bill to regulate exports through a national export strategy. The bill proposes multiproduct SEZs for oil seeds, sugar cane, beverage manufacturing, and agroprocessing. Malawi will also prioritize exports of tea, legumes, oil seeds, and minerals.

Climate shocks, fiscal policy slippages, and lower business confidence could, however, hurt the economy. Since 2016, fiscal slippages have exacerbated the fiscal deficit, and the debt-to-GDP ratio rose from 30% to 62% between 2013 and 2019.

With public debt rising above the sustainability threshold of 60% of GDP, fiscal space is tight. The plan to reduce the fiscal deficit to 2.5% appears ambitious, as the 2019 cyclone Idai flood recovery costs linger. Risk reduction measures to build resilience to shocks for the 87% of Malawians engaged in agriculture will bolster growth.

Landlocked Malawi's development relies heavily for external trade on foreign seaports such as Dar es Salaam in Tanzania and Nacala and Beira in Mozambique. Trade is unstable, characterized by laws banning exports, lack of infrastructure, and inadequate diversification and value addition. Tobacco accounts for 50% of exports, vulnerable to price volatility. And the lack of skilled workers makes the labor market dysfunctional, suggesting the need for vocational training and technical education to enhance employability and productivity.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team. Data on the budget balance correspond to Malawi's fiscal year, which runs from July 1 to June 30.

Mali

Macroeconomic performance and outlook

Despite the security crisis, Mali's economy has remained resilient. In 2019, the country recorded 5% real GDP growth (driven by good gold and cotton production), a budget deficit of 3.1% of GDP, and 0.4% inflation. Public debt was 35.5% of GDP at the end of 2018.

However, the economy remains underindustrialized, and the manufacturing industry struggles to develop. This leads to an enormous need for imports and to a current account in deficit (5.4% of GDP in 2019). On the demand side, investment is particularly low, at 9.5% of GDP for the private sector and 8.7% for the public sector.

Tax revenue is weak (14.3% of GDP), below the ECOWAS standard of 20%. Analysis of public debt sustainability in May 2018 indicated that the risk of Mali's debt overhang was moderate. Mali's debt policy, with the IMF's Extended Credit Facility, is prudent. But the maturity of domestic debt, with 59% of it falling due over 2019–21, is of great concern.

Tailwinds and headwinds

Improving the political and security situation should allow for real GDP growth of 4.9% in 2020 and 2021. In March 2019, Mali adopted a National Strategic Framework for Economic Revitalization and Sustainable Development 2019–23 and is working to implement the Plan for Public Finance Management Reform 2017–21.

The government passed the National Accord Law and launched the Inclusive National Dialogue, aimed at calming the social climate and finding solutions to the current crisis. For security, progress has been made thanks to implementing the peace accord through the accelerated disarmament, demobilization, and reintegration program and operationalizing the interim authorities in the north. The government has also established an integrated security plan for Central Mali and a political framework for managing the crisis.

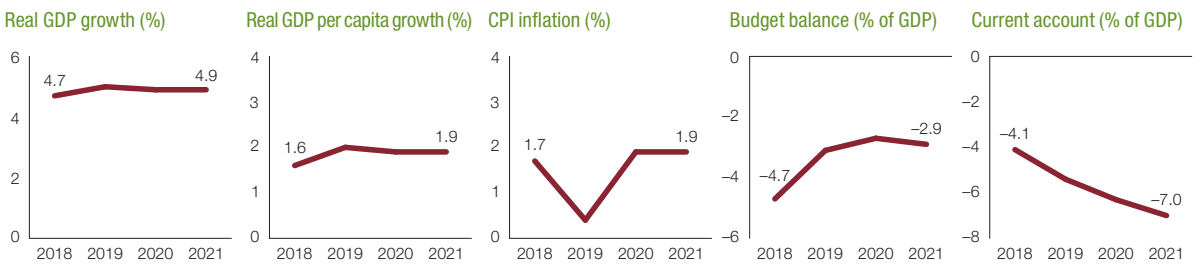
The creation of the African Free Trade Zone and the ECOWAS single currency (eco) zone should strengthen Mali's integration into the region. To promote the private sector, the government launched the 5.5 billion CFA franc Economic Infrastructure Program aiming to create 8,700 kilometers of roads and six bridges by 2023.

Mali has faced a security and humanitarian crisis since 2012, with armed groups occupying two-thirds of the national territory and with 5.2 million people short on food.

The economy depends heavily on gold and cotton (86% of exports), and value chains are poorly developed (3% of cotton is processed). With little diversification, the economy depends on the prices of raw materials on international markets. The accumulation of payment arrears for domestic debt presents a risk of stalling economic activity and the private sector.

A mainly young population (67%) is growing at 3.1% a year. The number of jobs created every year (44,520 jobs) cannot absorb labor supply (300,000). The workforce's poor qualifications are aggravated by discrepancy between the supply of training and the requirements of the labor market.

The country faces critical infrastructure deficits: only 3% of the classified road network is blacktopped and in good order; the electricity gap is 140MW, and 53% of the population lacks access to electricity. In addition, only 75% of children are in primary education, and 41% in secondary education while 75% of the population lacks access to health services.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Mauritania

Macroeconomic performance and outlook

Real GDP growth in 2019 is estimated at 6.7%, up from 3.6% in 2018, thanks to increased production in extractive industries (12.2% in the first quarter of 2019) and a rise in exports in the fishing sector (5% in the first quarter).

Despite a year-on-year rise of 0.5 percentage point driven by higher prices for food products, inflation remains within the price stability objective (4%) and is estimated at 3.0% for 2019. The budget deficit, after a surplus of 1.6% of GDP in 2018, is estimated at 0.1% of GDP in 2019. Debt fell from 102.3% of GDP in 2018 to 97.8% in 2019. The current account deficit improved from 18.6% of GDP in 2018 to 13% in 2019 as a result of rebounding exports of gold (up 26.6%) and copper (up 2%).

Mauritania continues its efforts toward sounder public finances and debt management. Progress has also been recorded in improving the business environment, boosting its *Doing Business* rank from 176 in 2015 to 150 in 2018 and 148 in 2019.

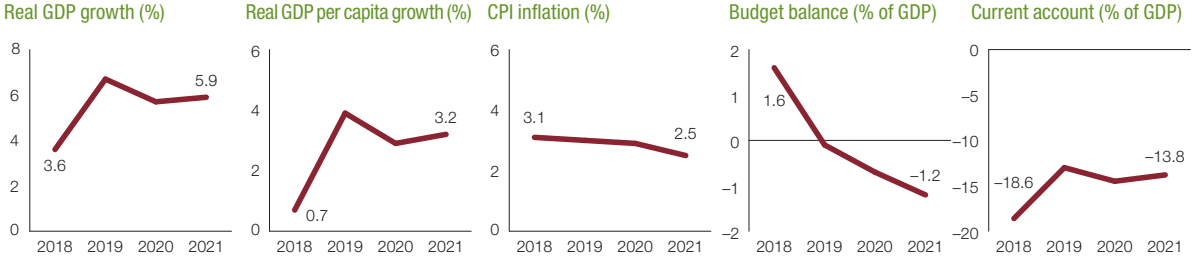
Tailwinds and headwinds

Growth is projected at 5.7% in 2020 and 5.9% in 2021. Following reforms initiated by the government since 2016, medium- and long-term growth prospects are positive, with public and private investments expected in the nonextractive sector. These reforms are part of the program supported by the IMF's Extended Credit Facility and the national strategy for accelerated growth and shared prosperity 2016–30. Over 2016–19, the government focused on improving the business climate.

But weaknesses persist, and the government recognizes that implementing the reform program should be accelerated to make the business climate even more attractive to investors. A high council for improving the business climate—created in February 2019, chaired by the Prime Minister, and including private sector representatives—is coordinating the implementation of reforms and putting forward an annual action plan. For 2019, the action plan took into account the weaknesses highlighted in the latest *Doing Business* report, specifically those for access to electricity and the courts.

Economic growth is volatile and dependent on mineral prices (iron, gold, and copper represented 50% of total exports in 2017). Foreign direct investment is mainly in the extractive industry.

According to the 2019 *Human Development Report,* Mauritania remains in the category of countries with low human development, ranking 161 of 188 countries. And according to the latest World Bank Enterprise Survey, 46.5% of companies in the industrial sector identify a poorly educated workforce as a major constraint.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Mauritius

Macroeconomic performance and outlook

Real GDP growth was moderate yet steady, averaging 3.8% during 2015–19. Growth was mainly driven by financial services, retail and wholesale trade, and information and communications technology. GDP per capita trended upward, reaching an estimated $10,200 in 2019—the third highest in Africa after Equatorial Guinea and Seychelles. The economy is largely service-based (76% of GDP in 2019), followed by industry (21%) and agriculture (3%). Aggregate demand has been underpinned by strong growth in household consumption, while investment stood at 19% of GDP in 2019.

The accommodative monetary policy of the Bank of Mauritius has been widely considered appropriate in view of recent low inflation. Fiscal policy was expansionary over 2015–19: government spending is dominated by recurrent spending, but the public wage bill is increasing, and a more generous universal pension scheme has been introduced. Spending has been offset by a rise in revenues, driven by strong tax collection. The budget deficit, 3.2% of GDP in 2019, is funded predominantly from domestic debt issues and ongoing disbursement of a $500 million grant from India in 2016. Fiscal consolidation is required through increasing domestic resource mobilization and the sale of government assets.

The current account deficit, estimated at 6.3% of GDP in 2019, is projected to narrow to 5.6% of GDP in 2020 and 5.2% in 2021, due largely to improved export and tourism earnings. The current account deficit will continue to be covered by investment income from offshore companies and foreign direct investment.

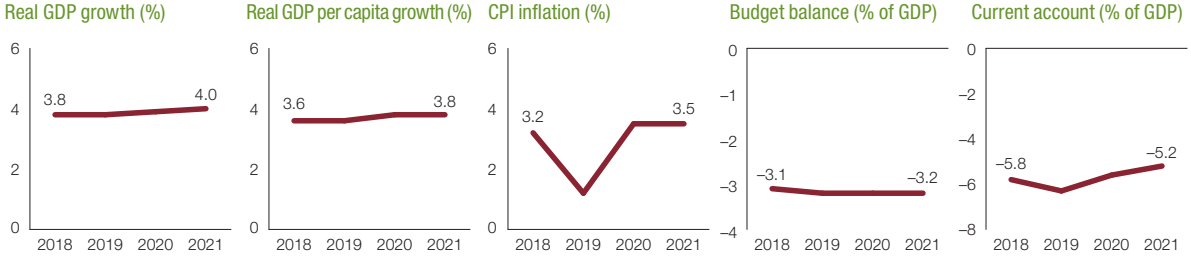
Youth unemployment is 22.5%, and national unemployment is 6.9%. The rapid shift from labor-intensive sectors to emerging high value-added sectors requires higher skills. Inequality has recently been on the rise.

Tailwinds and headwinds

Key sectoral drivers of growth are expected to continue performing well. Real GDP growth is projected to be 3.9% in 2020 and 4.0% in 2021, due to increased tourism, steady investment growth, and external demand from regional and global growth. Tourist arrivals are projected to exceed 1.2 million a year, with more coming from nontraditional markets in Asia and Africa. The economy is expected to diversify further into higher value-added sectors such as agroprocessing, medical tourism, higher education services, and development of the ocean economy. Ocean economy activities such as leisure, energy, aquaculture, and port logistics could add 1.5–2 percentage points to GDP.

The effort to increase efficiency and productivity in public services could include digitizing the economy, as in fintech and artificial intelligence. A favorable business environment and business-friendly regulations such as the revised Business Facilitation Act are expected to boost foreign direct investment inflows, and improved global economic demand should increase the export of goods and services. Government efforts to reorient Mauritius as a gateway between Asia and Africa for trade and investment and to further diversify export markets will consolidate the country's position as a logistics and services hub for Africa and boost the wider economy.

Global energy and food price increases are expected to diminish the island economy's current account balance and add to inflation, projected at 3.5% in 2020 and 2021. Public debt remains high at 63% of GDP, and a statutory target of 60% of GDP by 2021 will limit the fiscal space for investing in infrastructure and human capital. Although the financial sector is among the most robust and best regulated in Africa, it caters mostly to large corporations. Small and medium enterprises continue to find access to finance a challenge. Other risks to growth potential include skill constraints, environmental degradation, a rapidly aging population, and widening income inequality. Efforts to speed much-needed public investments and improve public service delivery could falter due to institutional and regulatory constraints. Private investment in strategic infrastructure subsectors such as water, transport, and energy is expected to remain low given the lack of significant regulatory reforms.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Morocco

Macroeconomic performance and outlook

At 2.9%, real GDP growth in 2019 continued to decelerate. Water stress limited the performance of the agricultural sector, which involves about 46% of the active population. And growth was slow in the eurozone (76% of Morocco's trade). But since 2013, there has been greater impetus in diversifying exports in global value chains—automobiles (up 13%), agrifood (8.2%), aviation (10.1%), and electronics (6%).

Since 2013, the secondary sector's share of GDP has remained fairly constant (26.1% on average). The share of agriculture in GDP stagnated at 12.4% on average, despite the Moroccan Green Plan, with its goal of promoting agriculture and linking it more closely to industry. The unchanging GDP composition reflects the low productivity of agriculture and industry.

Efforts to improve macroeconomic conditions in 2019 will continue into 2020 and 2021. Budget policy will aim to accommodate a fall in grants from the Gulf Cooperation Council (GCC), rising social spending for more inclusive development, and more rigorous and prudent debt management. The fiscal deficit, financed by the domestic market, dropped to 3.6% of GDP in 2019 and should fall to 3.3% in 2021 with better fiscal performance and spending controls. The debt of state-owned enterprises was estimated at 16% of GDP in 2018.

The restructuring of the debt portfolio with the GCC, which represented 4% of the treasury's outstanding debt in 2018, is being expedited to limit the effects on currency volatility.

As a result of stronger real GDP growth, treasury debt, estimated at 65.3% of GDP in 2018, should fall to 65.1% in 2019, and to 63.1% in 2021. The current account deficit, 5.5% of GDP in 2018 due to the oil bill and capital goods imports, should fall gradually from 4.6% in 2019 to 3.9% in 2020 and 3.7% in 2021. Inflation is projected at about 1.0% for 2020–21.

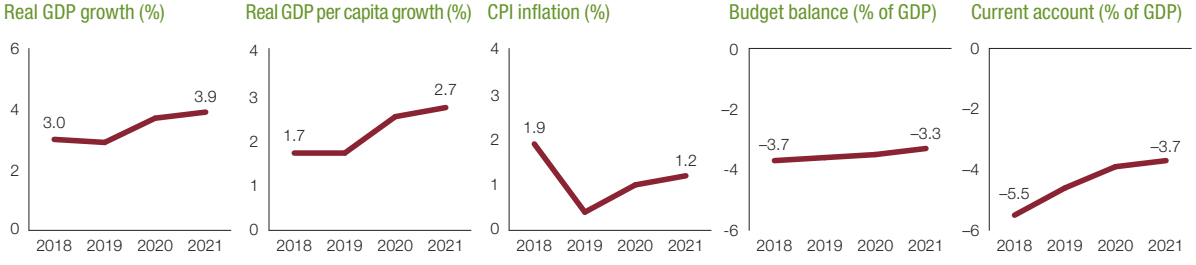
Tailwinds and headwinds

The medium-term outlook remains positive, and real GDP growth should rebound to 3.7% in 2020 and reach 3.9% in 2021.

The country's location can serve as a strategic hub for foreign companies looking to operate or set up business in Africa. The amended law on public–private partnerships and the advanced regionalization policy offer new investment opportunities. But the agricultural sector's strong dependence on the climate could be a drag on growth.

The country faces three major structural challenges. First is developing human capital through education and training that correspond to the needs of the private sector. Second is rationalizing and optimizing the social protection system, which costs 3% of GDP, compared with 2% in other middle-income countries. And third is removing rigidities in the labor market to reduce youth unemployment.

Opening trade and services still controlled by state-owned enterprises to the private sector would promote competitiveness and reinvigorate the productivity of labor and capital inputs. And strengthening governance would increase the effectiveness of public activities and reduce spatial inequalities.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Mozambique

Macroeconomic performance and outlook

Mozambique faced an economic slowdown in 2019, mainly due to the negative impact of cyclones Idai and Kenneth, with GDP estimated to grow by 1.9%. Economic activity slowed in 2016–18, to an average of 3.7%, compared with 6.7% for 2015. This reduction resulted mostly from a decline in public and foreign direct investment.

Inflation dropped to 3.9% in 2018 and 3.4% in 2019, reversing the high level reached in 2016 and 2017. Limited currency fluctuations since June 2017, stable food prices, and monetary tightening have supported the low inflation. The Bank of Mozambique has cautiously relaxed its monetary policy, bringing the basic interest rate down by more than 1,000 basis points since it reached its 23.25% year-on-year peak in 2016. The fiscal deficit remained fairly high, at 6.4% in 2019, given the high interest rate's impact on debt repayments.

The current account deficit widened to 54.2% of GDP in 2019, against 29.5% in 2018. Higher imports, mainly pushed by the large investment projects needs for capital goods and services, drove this deficit. FDI and external loans partly financed the deficit, while international reserves fell to a still-comfortable $3.2 billion by August 2019.

Poverty, although reduced from 52.8% in 2003 to 46.1% in 2015, is still high, with nearly 80% of the poor living in rural areas distant from basic public services. Mozambique registered 20.7% unemployment in 2015, with youth unemployment at 30%.

Tailwinds and headwinds

GDP is expected to grow by 5.8% in 2020 and 4.0% in 2021. With offshore gas discoveries estimated at 180 trillion cubic feet, the country has the opportunity to diversify the economy while enhancing its resilience and competitiveness. The gas sector could upgrade subsistence agriculture into agribusiness, support Mozambique's electrification through different energy solutions, and foster other industries such as fertilizers, fuels, and metal-mechanic. It could also enhance macroeconomic stability, with higher revenues contributing to fiscal surpluses and a sovereign wealth fund buffering external shocks.

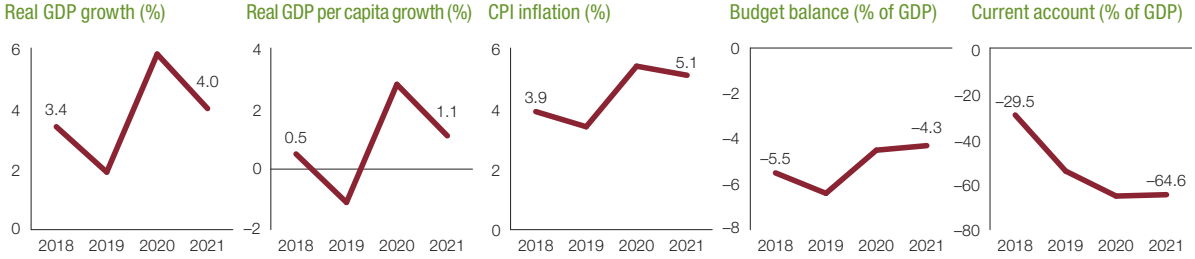
Infrastructure needs for natural resource-related projects could also trigger a cycle of private and public–private investments. Some state-owned enterprises, particularly those for infrastructure, are well suited to partner with local and international investors on delivering such projects. Amplifying this potential, the government signed the third and "final" peace agreement with the opposition, paving the way for the demobilization and social reintegration of armed troops.

Mozambique's budgetary deficit, expected to be 4.5% of GDP in 2020 and 4.3% in 2021, raises debt sustainability concerns. Major donors suspended budget support to Mozambique in May 2016 after the disclosure of "hidden debt," and the country has been in official default since February 2017. The country is reducing its debt-to-GDP ratio, improving tax collection, and reaching debt restructuring agreements.

Mozambique is expected to run current account deficits averaging 65% of GDP in 2020–21. Gas exploration projects can add further vulnerability in the current account, as they increase the volume of imports substantially to operate the new fields. It adds further challenges on financing deficit pressures and managing international reserves.

Cyclones in 2019 caused supply shocks, destroyed infrastructure, and took the lives of hundreds of people. The economy remains highly susceptible to climate-related shocks due to its geography and high-dependence on rainfed subsistence agriculture.

Low skill levels hinder employment and productivity, while the fast-growing population pushes unemployment rates higher, particularly for youth. This gap reduces local companies' ability to enjoy technology spillovers and connections to global value chains. With 30% of the population connected, low electrification further limits economic growth.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Namibia

Macroeconomic performance and outlook

Real GDP, which peaked at 6.1% in 2015, contracted by an estimated 1.0% in 2019, following a 0.5% contraction in 2018. Aggregate demand fell sharply in 2016 and 2017 as the government began fiscal consolidation to correct growing imbalances from high public spending and falling revenues from the Southern African Customs Union (SACU).

The fiscal deficit narrowed from a peak of 9% of GDP in 2016 to 5.4% in 2018 and is projected to average around 5% over the medium term. It was financed through domestic and foreign borrowings that pushed public debt from 39% of GDP in 2015 to 46% in 2018. The pressure on the domestic debt market constrained liquidity, crowded out private sector credit, and dragged down domestic demand.

Monetary policy was accommodative to support growth under favorable inflation conditions. Estimated at 4.5% in 2019, inflation is projected to remain within the 3%–6% target in the medium term.

The current account deficit, estimated at 3% of GDP in 2019, started improving in 2017 as exports rebounded and import growth weakened due to subdued economic activity. At the same time, mining construction projects ended and government capital spending was cut, sharply contracting construction and, through spillover effects on the rest of the economy, shedding jobs and reducing disposable incomes.

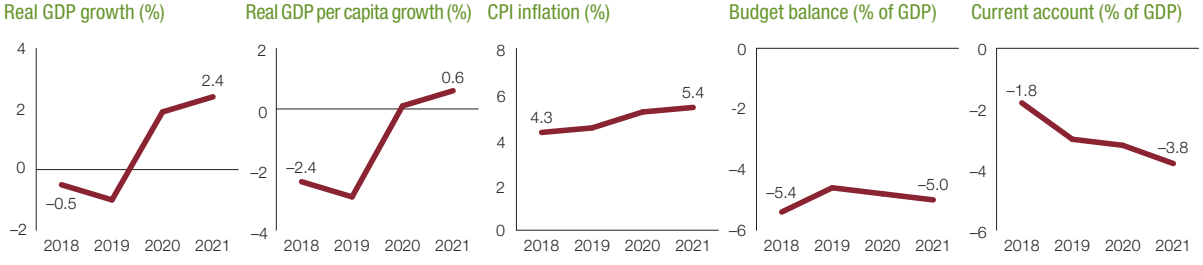
Tailwinds and headwinds

Real GDP growth is projected to recover to 1.9% in 2020 and 2.4% in 2021, on the back of construction and manufacturing. The government is pursuing reforms to improve the business environment, attract investment, and spur industrialization. Key reforms support protection of intellectual property, an industrial development agency, and public–private partnerships. An online business registration and licensing platform should boost domestic investment and foreign direct investment. Also approved is a policy to remove regulatory impediments to small and medium enterprises and improve their access to finance. And to address a skill mismatch and boost human capital, the government is expanding higher education and technical and vocational education training facilities.

The inauguration of the Walvis Bay Container Terminal in August 2019 improved the port's efficiency and more than doubled its container handling capacity.

Namibia has political stability, well-developed transport infrastructure, and abundant and diverse natural resources. Its potential as a regional transport and logistics hub and a participant in regional and global value chains benefits from a growing and dynamic regional market with well-developed transport corridors. Namibia's huge pool of institutional savings could finance high-return investments to contribute to rapid, inclusive, and sustainable growth.

Subdued economic conditions in South Africa could dampen, however, demand for exports and reduce SACU receipts. Weak growth in the Southern Africa region could also reduce transit cargo and the demand for transport services. Fiscal consolidation could be jeopardized if revenues underperform due to fragile economic recovery. Weak GDP growth, leading to further cuts in capital spending, could prompt another credit and economic outlook downgrade by rating agencies. Mining growth could be constrained by weak global diamond demand if trade tensions shrink global growth. Erratic rainfall, following a severe drought, could constrain agriculture production. The fiscal space to stimulate the economy is limited by uncertain SACU revenues. With subdued wage growth and weak labor markets, private consumption is unlikely to strengthen soon. Stagnating productivity, skill mismatches, and a weak business regulatory environment keep the economy from reaching its potential.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team. Data on the budget balance correspond to Namibia's fiscal year, which runs from April 1 to March 31.

Niger

Macroeconomic performance and outlook

Real GDP growth, averaging 5.6% over 2016–18, was estimated at 6.4% in 2019 due to strong performance by the primary and tertiary sectors. This growth is due to investments in infrastructure, extractives, and services, as well as to structural reforms, especially actions aimed at developing the private sector and strengthening the resilience of agriculture. Inflationary pressures remained contained, with an estimated rate of 1.5% for 2019.

The budget deficit, estimated at 3.2% of GDP in 2019, was a bit higher than the WAEMU target of 3%. The current account deficit, estimated at 14.6% of GDP in 2019, was due to investment-linked imports, persistently low world prices of raw materials (particularly uranium), and the narrow export base. Donors and foreign direct investment have financed most of this deficit. In June 2019, the risk of debt distress was assessed as moderate, with a public debt-to-GDP ratio estimated at 54% of GDP.

Despite progress in education and health, and a reduction in poverty (from 48% in 2011 to 40% in 2016), key human development indicators remain low. The unemployment rate, more pronounced among young people, rose from 13% in 2011 to 17% in 2017.

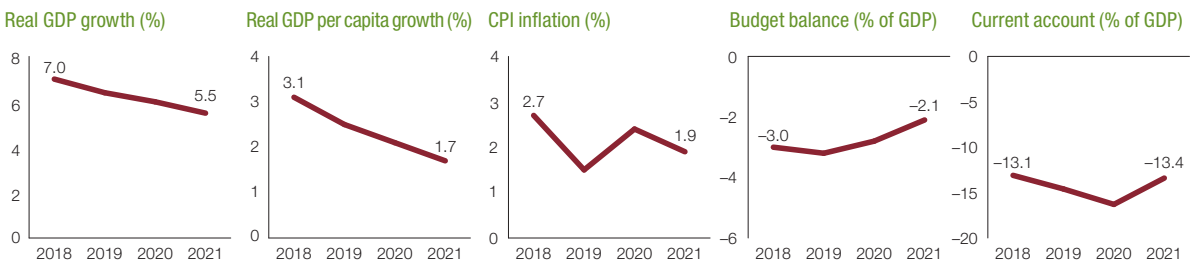
Tailwinds and headwinds

Growth is projected at 6% in 2020 and 5.5% in 2021. The strengthening of democratic institutions and the government's strong commitment to attaining its development goals will help the country stay on a high growth track over the next few years. This favorable outlook is tied largely to support from donors and to accelerated foreign direct investment, particularly in such strategic sectors as oil.

Several measures—increasing connectivity, establishing program budgeting, and adopting performance plans for managing taxes and customs—have boosted tax revenues and led to more efficient and effective public spending.

Progress in major infrastructure projects, such as the Kandadji Dam and beginning construction of the pipeline for exporting oil, should support investment and the eventual expansion of oil production and exports.

Growth remains exposed to several risks. The persistence of regional insecurity puts substantial pressure on public finances, resulting in reduced allocations to priority sectors such as education and health. The agricultural sector, which represents more than 40% of GDP and almost 80% of the labor force, remains vulnerable to climate change. High dependence on external finance and low capacity in implementing large projects could lead to macroeconomic slippage. Export revenues are highly vulnerable to volatility in the prices of raw materials. And recent measures by Nigeria—abolishing re-exports from Niger and Benin and depreciating the naira—could become more significant.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Nigeria

Macroeconomic performance and outlook

Real GDP growth was estimated at 2.3% in 2019, marginally higher than 1.9% in 2018. Growth was mainly in transport, an improved oil sector, and information and communications technology. Agriculture was hurt by sporadic flooding and by conflicts between herdsmen and local farmers. Manufacturing continues to suffer from a lack of financing. Final household consumption was the key driver of growth in 2019, reinforcing its 1.1% contribution to real GDP growth in 2018.

The effort to lower inflation to the 6%–9% range faced structural and macroeconomic constraints, including rising food prices and arrears payments, resulting in a rate estimated at 11.3% for 2019.

With fiscal revenues below 7% of GDP, increased public spending widened the deficit, financed mainly by borrowing. At the end of June 2019, total public debt was $83.9 billion—14.6% higher than the year before. That debt represented 20.1% of GDP, up from 17.5% in 2018. Domestic public debt amounted to $56.7 billion, and external public debt $27.2 billion. The share of bilateral debt in total debt was estimated at 12.1%, and that of eurobonds at 40.8%. High debt service payments, estimated at more than half of federally collected revenues, created fiscal risks.

The current account surplus sharply declined due to increased imports, lower oil revenues, and a smaller than expected improvement in capital flows.

Poverty remains widespread. The poverty rate in over half Nigeria's 36 states is above the national average of 69%. High poverty reflects rising unemployment, estimated at 23.1% in 2018, up from 14.2% in 2016. Low skills limit opportunities for employment in the formal economy. Government social programs—N-Power and other youth empowerment schemes—are meant to address unemployment.

Tailwinds and headwinds

Real GDP growth is projected to rise to 2.9% in 2020 and 3.3% in 2021. It depends on implementing the Economic Recovery and Growth Plan (2017–20), which emphasizes economic diversification. The central bank of Nigeria's recent decree that banks hold loan–deposit ratios of 60% bodes well for increasing lending to the real sector. Simultaneously, the retrenchment of government borrowing and easing of the risks of lending to small business could lower interest rates and unlock bank lending to the private sector.

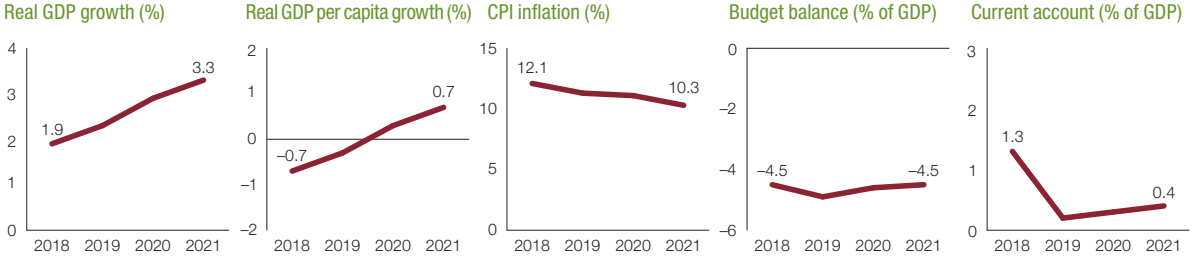
An increase in the value-added tax from 5% to 7.5% to shore up domestic nonoil revenues is welcome, though organized labor and businesses have raised concerns of a potential rise in costs. The government also plans to revisit investment tax breaks.

Oil exports have improved, driving up foreign exchange reserves and creating an impetus for the central bank to intervene in the foreign exchange market. The current account is projected to remain in surplus in 2020, benefiting from improved oil revenues.

Nigeria has many opportunities to transform its economy, particularly in agroprocessing. Special agroprocessing zones could promote agroindustrial development and employment.

But insecurity could deter foreign investors, shrivel the domestic economy, and ultimately dampen prospects for economic growth. High unemployment could create social tensions. Rising public debt and associated funding costs could pose fiscal risks if proposed adjustments are not implemented.

Nigeria's oil exports could be affected by developments in the Middle East. Trade tensions between the United States and China could weaken global growth and lower demand for Nigeria's products, including oil. Protracted delays in concluding the Brexit deal could accentuate investors' aversion to emerging markets, including Nigeria, reversing the current upward trend in foreign portfolio flows. Prolonged closure of borders by Nigeria to curb smuggling may affect trade with other countries in West Africa and raise the prices of imported products, especially rice. These risks underscore the need to accelerate structural reforms to promote economic diversification and industrialization to minimize vulnerability to external shocks.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Rwanda

Macroeconomic performance and outlook

Real GDP was estimated to grow at 8.7% in 2019, higher than the regional average. Growth was mainly in services (7.6%) and industry (18.1%), particularly construction (30%). Investment drove growth, led by public investment in basic services and infrastructure. Real GDP per capita increased 6.1% in 2019.

Inflation moved up slightly to 1.6% in 2019, driven by increased domestic demand. Since inflation was below the 5% target, the National Bank of Rwanda reduced the monetary policy rate by 50 basis points to 5% in May 2019, stimulating bank lending to the private sector. Domestic credit to the private sector increased by 0.9 percentage point to 21.1% of GDP in 2019.

Despite strong tax revenue growth of 11.5%, similar public investment growth led to a 1.9 percentage point increase in the fiscal deficit to 6.2% of GDP in 2019. Government securities largely financed the deficit. Public and publicly guaranteed debt increased to 50.3% of GDP in 2019, though Rwanda is assessed at low risk of debt distress.

Imports grew faster than exports as traditional exports slowed. The trade deficit widened by 3.5 percentage points to 11.3% of GDP in 2019, increasing the current account deficit by 1.5 percentage point to 9.2% of GDP. External reserves increased by 8% to $1.4 billion in 2019, equal to 4.7 months of imports. The exchange rate depreciated against the dollar by 5.0% in 2019 due to the growing trade deficit.

Tailwinds and headwinds

Rwanda's growth is projected at 8.0% in 2020 and 8.2% in 2021, supported by continuing large-scale investments such as the Bugesera airport, Hakan Peat plant, and electricity infrastructure. Inflation is projected to remain around the 5% target. As fiscal policy trades off between supporting demand and ensuring public debt sustainability, the fiscal deficit is projected to increase to 6.8% of GDP in 2020 and 6.6% in 2021. The current account balance is projected to narrow to 9.1% of GDP in 2020 and 8.0% in 2021 due to a pickup in traditional exports.

Rwanda's rapid growth, coupled with a focus on the business environment, can stimulate growth in private investment, currently low at 13% of GDP compared with the East African average of 16%. Foreign direct investment averages 3% of GDP, compared with the low-income country average of 3.3%. The 2020 World Bank *Doing Business* report ranks Rwanda second in Africa.

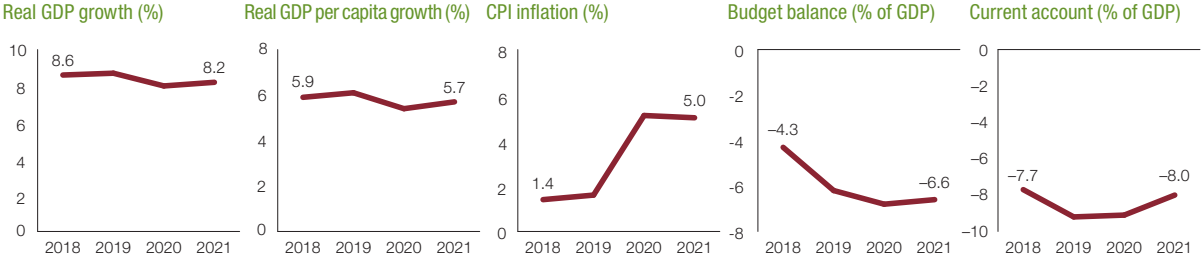
In January 2019, the National Bank of Rwanda adopted an interest-based monetary policy framework. By June, money market interest rates (5.45%) started converging around the bank's 5.0% rate, followed by a drop in the lending rate. This can foster private lending for investment, creating new jobs and spurring growth.

Rwanda's fiscal space to finance development narrowed recently with a steep decline in aid from 10% of GDP in 2010 to 4.9% in 2018. Despite the country's vision and bold strategy for economic transformation, the huge amounts needed for future growth will require blended financing to de-risk and crowd in private capital.

The high costs of transport and energy, due to Rwanda's landlocked position and poor logistics system, constrain its ability to attract investments and keep its private sector from expanding in job-intensive industries. Energy was estimated to cost 22.2% more than the regional average in 2016.

Despite high GDP growth, Rwanda's transformation has been slow. GDP per person employed was $3,863 in 2011 purchasing power parity dollars in 2018, compared with $13,387 in Africa. Rwanda's low labor productivity results from only 4% of the labor force working in manufacturing, while two-thirds is still in low-productivity agriculture.

Up to 18.2% of youth ages 16–30 were unemployed in May 2019 due to a lack of jobs or appropriate skills. Rwanda has made some progress in closing the skill gap and developing its human capital.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team. Data on the budget balance correspond to Rwanda's fiscal year, which runs from July 1 to June 30.

São Tomé and Príncipe

Macroeconomic performance and outlook

Real GDP grew by an estimated 4.0% in 2019 on the back of improvements in agriculture, construction, and services. The service sector explained about 70% of the growth in 2016–18, with strong performance in wholesale and retail trade and in restaurants and hotels, which benefited from growing tourism following reforms such as the e-Visa in 2018.

Growth was also boosted by higher public investment as new externally financed projects began. Public investment averaged €43.7 million (about 12% of GDP) in 2017–18. Until recently, São Tomé and Príncipe relied heavily on external support, mainly concessional funding exceeding 10% of GDP. But external grants have been declining, a trend projected to continue in the medium term.

The fiscal deficit narrowed slightly from 2.1% of GDP in 2018 to an estimated 1.9% in 2019. The government could reconsider its expansionary fiscal policy by, for instance, widening its tax revenue base and finding cheaper financing. Public debt increased from 64.2% of GDP in 2017 to 67.9% in 2018, adding pressure on public finances and increasing the country's debt vulnerability.

Annual inflation increased from 5.7% in 2017 to 7.9% in 2018 and 2019, mainly due to higher fossil fuel prices. Even so, the peg of the national currency, the dobra, to the euro helped keep inflation fairly low. Since inflation that is too low could discourage domestic production in favor of imports, continuing structural reforms are key to maintaining competitiveness and boosting domestic production. The current account deficit has been narrowing since 2017 (a deficit of 9.3% of GDP in 2019), a trend projected to continue.

Tailwinds and headwinds

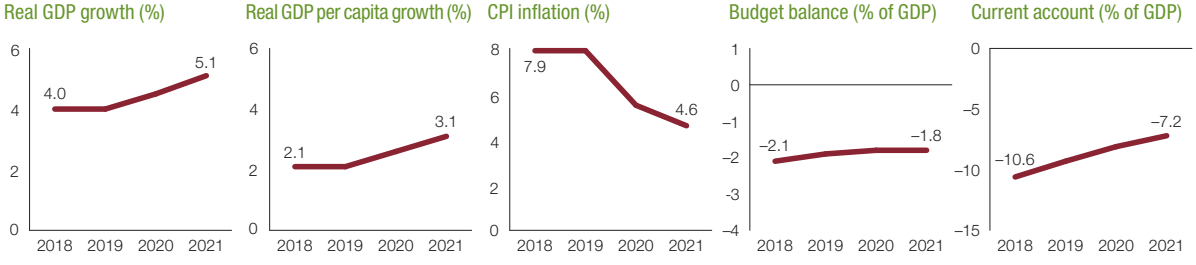
Real GDP growth is projected to accelerate to 4.5% in 2020 and 5.1% in 2021. To unlock the full potential of tourism, agriculture, and services, the country needs to improve the business environment. Its comparative advantages—lush forests, spectacular waterfalls, aesthetic coastline, and long sandy beaches—are attracting more visitors through niche tourism products. Tourism, which contributes 32.9% to GDP, is currently one of the main sources of foreign exchange receipts. (Cocoa exports are another, representing 66.6% of exports in 2018.) Tourism is expected to benefit from the Tourism Development Strategy launched in January 2018 and the new e-Visa system. Tourist arrivals should increase, particularly from countries in the region, such as Angola, Equatorial Guinea, Gabon, Ghana, and Nigeria.

Agricultural output is expected to increase following current measures, which include building greenhouses and improving farming and husbandry. A National Education Program should improve human resources.

The financial sector is less developed for tourism and needs to provide easy access to automatic teller machines and electronic points of sale. The government is developing a new payment system.

The energy sector also needs restructuring. Currently, it largely depends on thermal generation, which reduces energy security and increases production cost. Electricity reaches only 70% of the population. The state utility has accumulated arrears of $77 million (about 18% of GDP). Recent heavy investments increased generation capacity and expanded the grid on both islands, but increased demand for fossil fuels for generation pushed oil imports to 65.5% of imports in 2018. In the long term, the country needs to increase renewable energy, such as mini-hydro plants, solar solutions, and wind power.

São Tomé and Príncipe's geographical remoteness and small domestic market are major obstacles to attracting foreign direct investment. Continuing legal and regulatory reforms are needed to remove market barriers. And the dobra's peg to the euro could lead to an overvalued local currency, dampening exports and making imports more attractive, harming local competition.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Senegal

Macroeconomic performance and outlook

Real GDP growth has been above 6% on average since 2015, propelled by the Plan for an Emerging Senegal (2014–18). Growth slipped to 6.0% in 2019 from 6.7% in 2018. Public investment in infrastructure, agriculture, and energy kept the fiscal deficit at 3.6% of GDP in 2018 and 2019, above the WAEMU convergence threshold of 3%. Given the low fiscal pressure (15% of GDP) and domestic savings, this deficit was partially financed by external borrowing, which raised the public debt to 54.7% of GDP in 2018 from 47.7% in 2017. Inflation in 2019 remained low at 0.2%.

Worsening terms of trade due to rising oil prices and equipment imports increased the current account deficit in 2019 to 8.8%, projected to rise to 9.7% in 2020 and 9.8% in 2021. The mobilization of external resources (direct foreign investment and eurobonds) as well as healthy migrant remittances made it possible to meet current account financing needs.

The poverty rate fell from 57.3% in 2001 to 46.7% in 2011. Unemployment is rising (14.6% in 2018), driven by the weak labor force participation of women (21%) and the entry of young people (18%) to the labor force.

Tailwinds and headwinds

Real GDP growth should reach 6.3% in 2020 and 6.8% in 2021. The second Plan for an Emerging Senegal (2019–23) calls for implementing reforms to stabilize the macroeconomic environment, stimulate private investment, and accelerate the economy's structural transformation. The country faces a low risk of debt distress, according to the IMF.

To improve the productivity and competitiveness of businesses and to lower production costs, the government created industrial clusters and established a broad program to shift its energy mix toward renewables (from biomass and fossil fuels). A cluster development strategy has been adopted for the creation of agricultural processing zones in the northern, central, and southern regions.

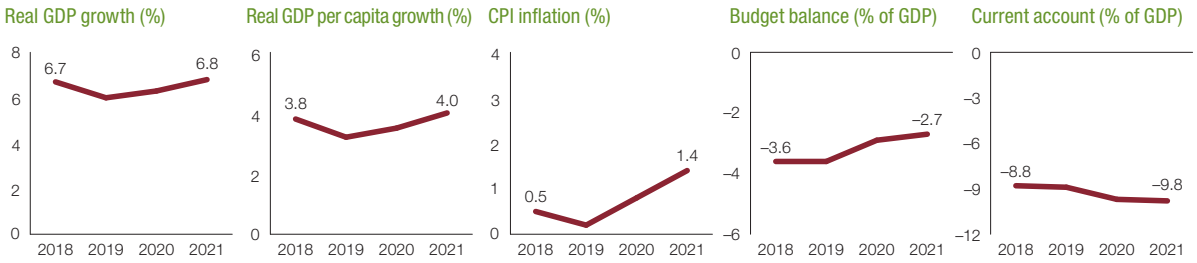
The government also created a program for youth entrepreneurship and a program to professionalize occupations.

A new bridge over the Gambia River opened in January 2019 and the Rosso bridge connecting Senegal to Mauritania is scheduled for completion soon. Both will foster interregional trade. The adoption in 2020 of a single currency, the eco, by ECOWAS members will also strengthen regional integration and reduce transaction costs.

The economy faces constraints related to energy distribution, water control, basic infrastructure development (particularly in agriculture), and access to land—limiting productivity and reducing competitiveness.

The private sector, particularly small and medium business, struggles with high borrowing costs, complicated administrative procedures, and a relatively unattractive legal, fiscal, and regulatory framework. A shortage of skilled workers (roughly 70% of the labor force is unskilled) remains a major challenge in revitalizing the public sector.

Budget constraints over the past two years linked to the increase in energy subsidies led to a build-up of domestic arrears to the energy and fuel sectors and to private businesses.



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Seychelles

Macroeconomic performance and outlook

Real GDP growth was estimated at 3.5% in 2019, down slightly from 4.1% in 2018, driven by tourism, fisheries, and financial services. The decline was due to emerging uncertainty over economic performance in the eurozone, where most tourists originate. Inflation remained low at 2.6% in 2019, with lower import prices than anticipated and a tight monetary policy.

The service sector (mainly tourism) contributes more than 80% of GDP and employment, while industry contributes a meager 16% (5% from manufacturing). The exchange rate remained stable over the past three years, averaging 13.3 Seychelles rupees per dollar in 2017 and 13.5 in 2018–19, due mainly to a robust tourist presence and prudent macroeconomic management.

The fiscal balance declined to a slight deficit in 2019 (0.1%) due to increased capital outlays. The current account remained in deficit, hovering around 17% of GDP, substantially financed by foreign direct investment (FDI). Current debt is 58% of GDP, down from 130% during the 2008 financial crisis.

GDP per capita growth, 3.4% in 2018, declined to an estimated 2.8% in 2019, due to lower GDP growth. Inequality is high. Although the unemployment rate was low in 2018 (3.5%), youth unemployment was four times as high (14.5%).

Tailwinds and headwinds

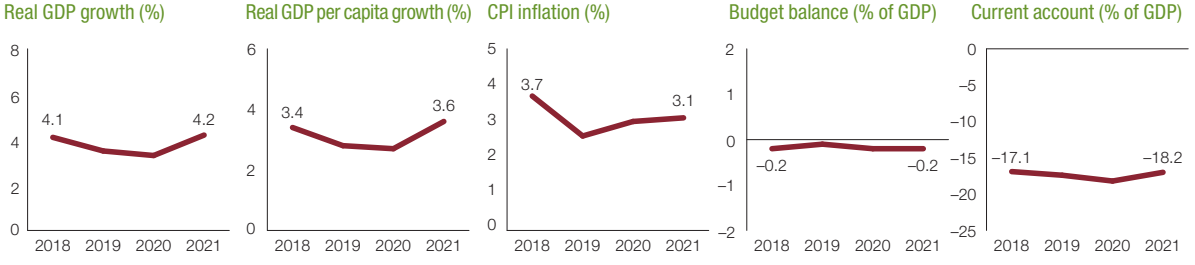
GDP growth is projected at 3.3% in 2020 before rebounding to 4.2% in 2021. Tourism and fisheries will continue to drive growth, along with robust private investment in hospitality. The government's announcement of plans to address key electricity bottlenecks and to expand Seychelles' role in the marine economy value chain are also potential economic boosts. A continuing prudent monetary stance will keep inflation to around 3% in 2020 and 2021. The government targets reducing its debt to 50% of GDP by 2021 through fiscal discipline and debt management. As GDP rebounds, per capita GDP growth is projected to rise to 3.6% in 2021.

Private sector development, infrastructure development (particularly water and sanitation) should improve living standards, and technical assistance to micro, small, and medium enterprises in entrepreneurship, human development, and financial market development should enhance industrial competitiveness.

Key opportunities include high-value tourism; greater value addition in fisheries through nontraditional shrimp production, seaweed cultivation, and processing for regional and global markets, all supporting a sustainable blue economy; and efficient financial services and information and communication technology. Strong FDI inflows, especially in hospitality, also boost the economy.

Seychelles has a small domestic market, insufficient economic diversification, and vulnerability to external shocks. Medium-term risks largely arise from uncertainty and potential recession in the eurozone due to Brexit and US–China trade tensions. The government's persistent efforts at fiscal consolidation could compete with its ambitious plans for opening infrastructure bottlenecks and expanding the marine economy value chain, creating a budgetary challenge.

Insufficient economic diversification remains problematic. Since 2015, economic activity has concentrated even further in the dominant service sector. Such concentration lowers the country's resilience, as in the 2008 global financial crisis when Seychelles defaulted on its debt payments. The public sector, including state-owned enterprises, predominates in production and employment. To bridge income inequality and eliminate pockets of poverty, removing constraints on private sector will create jobs, notably for youth. The youth NEET (not in employment, education, or training) rate is 22.5% (25.4% for men and 19.3% for women).



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Sierra Leone

Macroeconomic performance and outlook

Real GDP growth was weak in 2018 at 3.5% but improved slightly to an estimated 5.0% in 2019, driven by agriculture and services, and in the first half of 2019 by extractives. Growth in demand is driven by consumption and investment. Average inflation was 16.9% in 2018 and an estimated 15.6% in 2019. The exchange rate depreciated by 47% between 2016 and 2019. Rapid depreciation in 2019 reflected expectations about economic fundamentals and foreign exchange fueled by suspending the licenses of the two major mining companies in mid-2019.

The 2019 budget included the elimination of fuel subsidies. The overall fiscal deficit is estimated to have improved to 3.5% of GDP in 2019 from 5.8% of GDP in 2018, a healthy sign.

The current account deficit, 13.8% of GDP in 2018, improved to an estimated 11.7% in 2019 and is projected to decline steadily to 10.3% of GDP in 2020 and 9.7% in 2021. This reflects a more restrictive trade regime that started in 2017 with selective tariffs on imports and the launch of the Made in Sierra Leone initiative.

Tailwinds and headwinds

Fairly weak GDP growth was in conjunction with falling inflation, which is projected to subside from 12.3% in 2020 to 11.4% in 2021, reflecting the tight monetary policy of the Bank of Sierra Leone. In February 2019, the government launched the National Development Plan (2019–23) to guide development over the next five years, supported by sectoral plans. For instance, the National Agricultural Transformation program 2019–23 seeks to double agricultural production by attracting and retaining large investments and helping smallholders transition from subsistence farming.

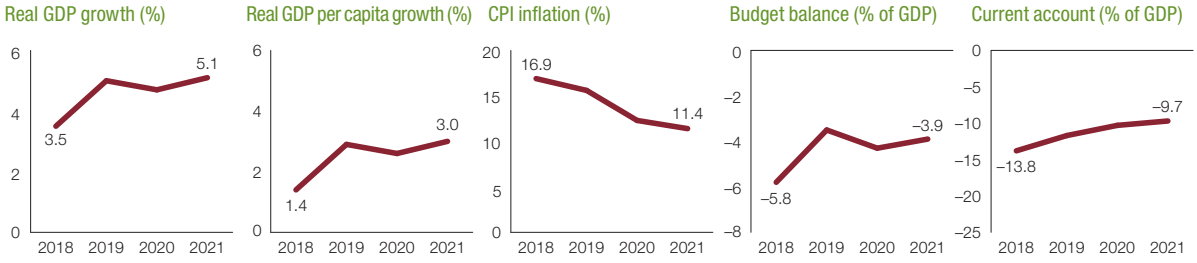
Introduction of the planned ECOWAS common currency—the eco—will promote economic integration and reduce transaction costs. In 2018, in a similar vein, Sierra Leone ratified the African Continental Free Trade Agreement, which will create the world's largest free trade area since the World Trade Organization was formed. Sierra Leone can leverage the new currency and use the agreement to trade more as it embarks on diversification.

Agriculture, with an average contribution exceeding half of GDP in recent years, remains the main driver of growth, along with demand driven by consumption and investment.

The limited fiscal space constrains investment in physical and human capital. Underspending of the budget reduces development spending. The fiscal deficit is financed partly by accumulating arrears, which currently stand at 10% of GDP. If arrears persist, they could impede economic growth by squeezing liquidity and increasing the already-high cost of capital.

Debt has been increasing in recent years. Sierra Leone was classified at risk of high debt distress in the last debt sustainability analysis in 2018. Public debt rose from 42.1% of GDP in 2015 to an estimated 72.6% in 2019 and is projected at 75.1% in 2020, reflecting increases in both domestic and external debt. Youth unemployment at 60%, poverty at 56.8% in 2018, and increasing inequality are pressing problems.

If the suspension of the licenses of the two major mining companies is protracted, the economy will suffer. Sierra Leone's dependence on primary commodity exports makes it vulnerable to external shocks. The international iron ore price is projected to drop from $77.70 per dry metric ton in 2019 to $72.40 in 2022, further clouding the prospects for growth generated by the mining sector. Nonmining activities remain constrained by inadequate infrastructure, such as power and roads. Underdeveloped human capital, coupled with a skill mismatch, will continue to deter investment, including foreign investment.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Somalia

Macroeconomic performance and outlook

The economy grew by an estimated 2.9% in 2019, up from 2.8% in 2018. The rebound is mainly due to recovery in agriculture and strong consumer demand. Inflation peaked at 5.1% in 2018 and declined to an estimated 4.4% in 2019 as food prices adjusted downward. The government budget remained in balance—given the restrictions on new public borrowing under staff monitored programs (SMPs) since 2016 and the need to keep inflation under control.

The current account deficit improved from 9% of GDP in 2018 to 8.3% in 2019 because livestock exports recovered and import growth slowed. In Somalia's current account, aid and remittances have generally countered the deficits, while foreign direct investment has remained subdued. Limited control over the money supply due to counterfeiting and dollarization of the economy, coupled with low fiscal balances, leaves the monetary and fiscal authorities few instruments to prop up growth in the short run. Despite widespread dollarization, the Somali shilling has remained fairly stable, depreciating by only 5.7% since 2017 to 24,490.85 shillings per dollar in September 2019.

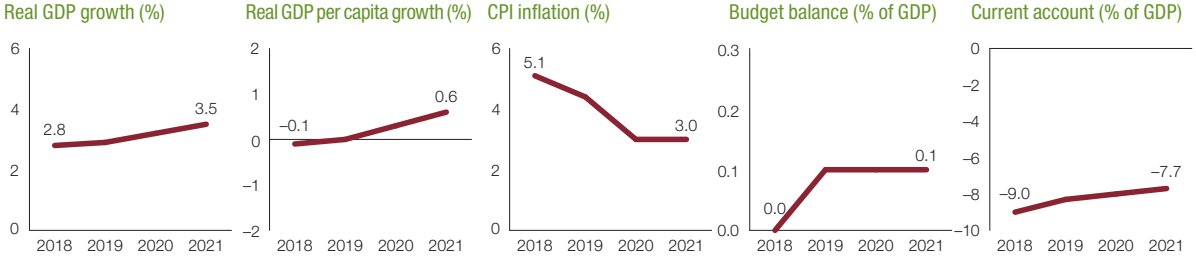
The Somali High Frequency Survey, wave 2, of 2017, indicates that Somalis are among the poorest people in Africa, with a poverty incidence of 69.4% and per capita income of about $400. Poverty among male-headed households was about 72%, compared with 66% for female-headed households. A better understanding is needed of the country's poverty dynamics along gender lines. Youth constitute about 70% of the population, with about 67% of them unemployed. Only 30% of children are enrolled in schools—18% in rural areas.

Tailwinds and headwinds

GDP growth is projected at 3.2% in 2020 and 3.5% in 2021. An improving security situation, normalization of relations with international financial institutions, and prospects of debt relief under the Heavily Indebted Poor Countries Initiative (HIPC) in 2020 present opportunities to address economic and social challenges. Somalia has satisfactorily implemented three SMPs since 2016, enhancing state legitimacy and improving macroeconomic management and performance. These programs addressed some structural rigidities and institutional weaknesses.

Together with development partners, Somalia is using targeted interventions to help meet its HIPC debt relief obligations. The support enhances building institutional capacity and providing opportunities for skill development as a catalyst for better public services, including infrastructure. Investments in hard infrastructure such as roads and ports and soft infrastructure such as enhanced skill development, along with increasing formalization of the economy, will boost medium-term growth.

Data are scarce on human development. Low investment, low economic diversification, and low productivity in the informal economy have hamstrung economic dynamism. At the center is the need to formalize economic activity to provide a base on which the government can mobilize tax revenue, strengthen its public service capacity, and invest in infrastructure. In 2018, the ratio of revenue to GDP was 3.8%, rising marginally in 2019 to an estimated 3.9%. Current revenue does not provide fiscal space to spend on productive investments. Given the global economic slowdown, Somalia's dependence on aid and remittances (about $1.4 billion annually) presents significant risks to growth. These factors, coupled with low skills, low savings, high poverty, insecurity, institutional weaknesses, vulnerability to climate-related shocks, debt distress, and restrictions on borrowing compound the risks.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

South Africa

Macroeconomic performance and outlook

Real GDP grew at an estimated 0.7% in 2019, down from 0.8% in 2018, and is projected to rise to 1.1% in 2020 and 1.8% in 2021 amid domestic and global downside risks. Contraction in agriculture and mining drove slow growth in 2019. Agriculture contracted 4.8% and mining 1.7% in 2018. Besides erratic weather, a protracted debate about land reform weighed on agriculture. Electricity shortages and prolonged strikes contributed to the mining decline. The finance, real estate, and business services sector grew 1.8% in 2018 to contribute 0.4 percentage point to growth. Transport grew 1.6% in 2018 while manufacturing grew 1% in 2018. Manufacturing production was depressed by frequent electricity shortages, higher input prices, and weak demand amid ongoing international trade tensions.

Household and government consumption remained a key driver of growth, contributing 1.5 percentage points in 2018. Inflation was 4.7% in 2018 and 4.4% in 2019, due to lower fuel costs. From November 2017 to November 2018, the real exchange rate increased 8.1%, eroding the competitiveness of South African exports. The rand traded at 13.23 per dollar in 2018. Due to inflation targeting, the exchange rate pass-through to inflation has been limited.

The fiscal deficit remained high at an estimated 4.3% in 2019, up from 4.2% in 2018, as the country continued to face revenue shortfalls due to slow economic growth. The tax revenue-to-GDP ratio declined marginally to 25.7% in 2019 from 25.9% in 2018. The fiscal deficit is financed through domestic capital markets. National government debt was estimated at 55.6% of GDP in 2019, up from 52.7% in 2018. Foreign debt accounted for only 6.3% of GDP, ensuring sustainable debt financing. The current account deficit widened to 3.5% in 2018, as the terms of trade deteriorated, with rand prices of imports increasing more than those of exports. The current account deficit was financed primarily through foreign direct investment inflows, which grew 163% in 2018 compared with 2017.

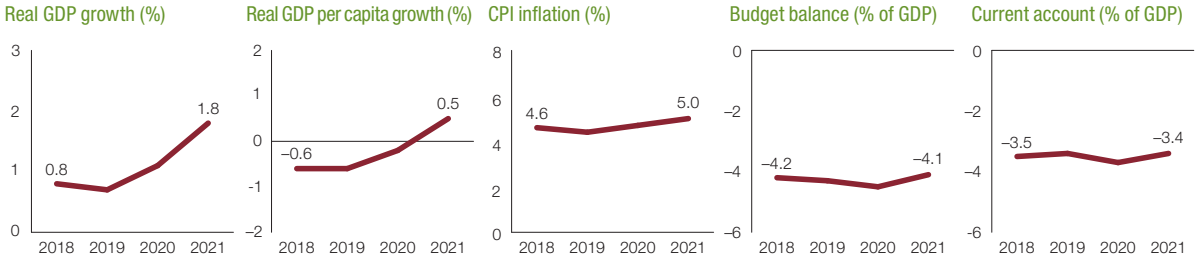
Unemployment increased to 27.1% at end 2018 from 26.5% at end 2016. Youth unemployment increased to 54.7% at end 2018 from 51% at end 2016. Among the causes of high unemployment are low skills. South Africa's poverty rate was 55.5%, and its inequality is among the world's highest.

Tailwinds and headwinds

Reforms are tackling structural constraints to economic growth and job creation. One is restructuring the utility company Eskom to reduce the major risk its debt places on the treasury. Other reforms include allocating the telecommunications spectrum, removing barriers to mining investment, and reviewing visa requirements to boost tourism. The government is taking steps to improve investment, revitalizing townships and industrial parks.

South Africa's global competitiveness ranking declined sharply—to 67 of 140 countries in 2018 from 47 in 2016. The fall was mainly due to skill shortages, health sector challenges, weak domestic product competition, and limited information and communication technology adoption. Value chain linkages between mining and manufacturing are weak since South Africa exports the bulk of its mineral resources raw. This in turn exposes the country to recurrent global commodity price shocks.

Weak global growth, global trade tensions, and commodity price volatility also pose risks to the South African economy. A high public sector wage bill, poor performance of state-owned enterprises, and social programs, including national health insurance, exert pressure on the budget. South Africa would benefit by manufacturing more for African markets.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team. Data on the budget balance correspond to South Africa's fiscal year, which runs from April 1 to March 31.

South Sudan

Macroeconomic performance and outlook

Real GDP growth was an estimated 5.8% in 2019, a large increase from 0.5% in 2018. The 2019 rebound was driven mainly by reopening some oil fields, including those in Upper Nile state, and resuming production, and by the peace agreement signed in September 2018. The oil sector remains the key driver of the economy, followed by services and agriculture.

Inflation fell to 24.5% in 2019 from 83.5% in 2018 due to reduced financing of the fiscal deficit. The central bank commitment to reduce monetization of the fiscal deficit is expected to continue, with resulting inflation declining further to 16.9% in 2020 and 9.7% in 2021.

The 2019 state budget was estimated at $1.3 billion, a 155% increase from 2018. Nonoil revenue increased by an estimated 19% in 2019. The top two spending priorities are infrastructure (54%) and organized forces, including the military, police, prison, and fire-fighting services (14%). The fiscal deficit was estimated at 2.5% of GDP in 2019, down from 6.1% in 2018. Reforms will help move the fiscal deficit, projected at 1.3% of GDP in 2020, to a surplus of 0.5% in 2021.

The country is in debt distress, due to high and extrabudgetary spending. Financing the fiscal deficit, primarily through loans, has reduced debt sustainability with total debt at 41.7% of GDP in March 2019. The current account deficit widened to 6.4% of GDP in 2019 from 4.5% in 2018. Oil exports—crude oil accounts for more than 95% of exports—are expected to fund the current account deficit and boost foreign reserves. Private investment in the nonoil sector reached an estimated $22 million in 2019.

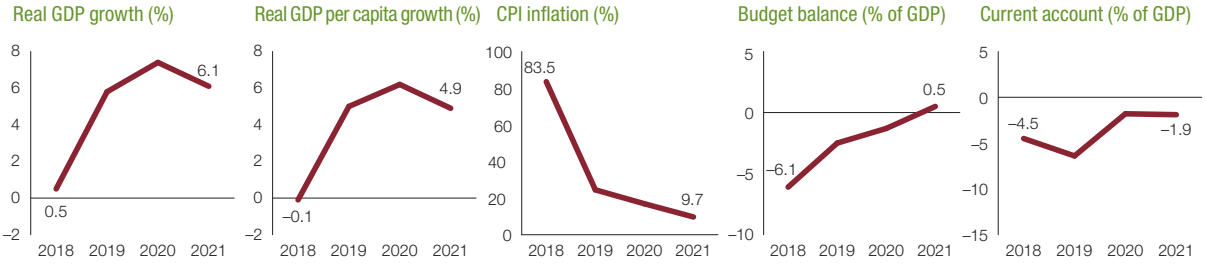
Tailwinds and headwinds

The outlook is positive, with real GDP growth projected at 7.4% in 2020 and 6.1% in 2021. Oil exports are expected to reach 180,000 barrels a day, which will boost foreign reserves, currently standing at 0.2 month of imports. Meanwhile, manufacturing will benefit from increased electricity supply. Education, mobile money, and water infrastructure are expected to improve. If peace holds, these improvements could give confidence to private investors. Foreign investment is expected to reach $30 million in 2020.

The government expects to increase nonoil revenue collection through the single treasury block account it has created for the National Revenue Authority. The account has improved transparency, established a baseline for forecasting revenue, and over the first six months collected about $36 million. The government plans several further reforms to increase revenue collection. A proposed increase in personal income tax by 5% and a business profits tax with an average new rate of 22% will also support revenue collection.

Structural challenges to economic transformation and sustainable development in South Sudan include the lack of economic diversification, high public debt, weak institutions, and political uncertainty. Fluctuations in global oil prices are a major risk to South Sudan. Commitment to the peace agreement will remain key for the stability of oil production, private investment, foreign exchange flows, and public investment in the critical sectors of health, education, and agriculture.

Education is expected to receive only 6% of the budget, and health 1%. Social and humanitarian affairs will receive only 2%. This de-emphasis of social spending is likely to erode social indicators and amplify the challenges of achieving the Sustainable Development Goals. The 6.4% average economic growth projected for 2019–21 is unlikely to be inclusive since it will be driven by oil rather than agriculture, where most people work. Youth unemployment (estimated at 19.5% in 2017) is a threat to peace and social stability.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team. Data on the budget balance correspond to South Sudan's fiscal year, which runs from July 1 to June 30.

Sudan

Macroeconomic performance and outlook

Real GDP contracted in 2019 by an estimated 2.4% driven by a contraction in the services sector and investment in real estate and business services. Agriculture, accounting for 32% of GDP, also contracted in 2019, due to shortages of inputs—especially fuel. And a weak business environment, where political uncertainty discouraged private investment, dampened confidence and productivity in manufacturing and construction. GDP is projected to contract further by 1.6% in 2020 and 0.8% in 2021 due to the political situation, tepid domestic demand, and weak private sector investment.

Inflation reached 50.6% in 2019, fueled by high production input costs due to currency depreciation. Inflation, projected at 61.5% for 2020 and 65.7% for 2021, is mainly driven by the monetization of the fiscal deficit, which narrowed from 7.7% of GDP in 2018 to 5.7% in 2019 but is projected at 9.9% in 2020 and 10.9% in 2021.

The exchange rate averaged 47.1 Sudanese pounds per dollar in September 2019, compared with 45.1 in 2018. The current account deficit improved to 7.8% of GDP in 2019 from 13.6% in 2018. As the world's largest producer of gum arabic, Sudan will continue to depend on agriculture (32% of GDP in 2019) to boost its exports, generate foreign exchange, and reduce the current account deficit.

Sudan is in debt distress, reducing its capacity to mobilize domestic resources or to borrow from international markets. By September 2019, outstanding public and publicly guaranteed external debt was estimated at about $60 billion, up from $53.6 billion in 2016 and $56 billion in 2018.

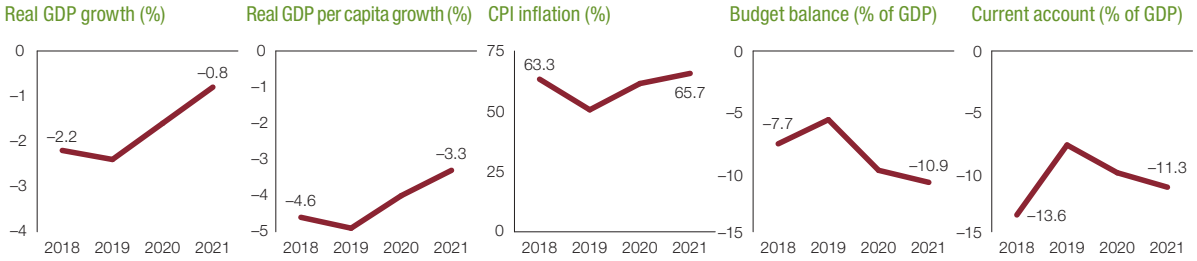
Extreme poverty fell from 29.6% of the population in 2010 to 25.2% in 2015, as inequality declined more in rural areas than in urban ones.

Tailwinds and headwinds

With its new government coalition, Sudan presents underexploited opportunities that can reinvigorate economic growth. About 63% of Sudan's land is agricultural, and only 15–20% of it is under cultivation, offering huge private investment opportunities. Large-scale irrigated agriculture has the potential to create employment and increase national income and foreign exchange earnings. Nonfood agroindustry can accelerate growth by developing value chains that diversify the economy to compensate for loss of oil revenues. The government should undertake structural reforms to facilitate the movement of labor from subsistence agriculture to industry and services to accelerate labor-absorbing growth and reduce unemployment.

Institutional weaknesses, unemployment that has remained at 14–15% for more than two decades (with 25% youth unemployment), external debt, climate change, and low labor and capital productivity are among the key domestic challenges. Political instability has also affected growth, with hardening economic conditions, such as the rising cost of bread and fuel and the shortages of cash.

Headwinds also include low productivity growth in manufacturing and agriculture due to inadequate infrastructure, power shortages, and an unfavorable macroeconomic environment. The private sector is constrained by limited access to finance, a low-skilled labor force, and an inadequate legal and regulatory framework. The October 2017 lifting of US trade and economic sanctions was seen as advancing the dialogue on political sanctions and debt relief.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

eSwatini

Macroeconomic performance and outlook

Real GDP growth was estimated at 1.4% in 2019, an appreciable decline from 2.4% in 2018. Economic activity was supported by growth in manufacturing and agriculture, which stabilized following a regional drought in 2015–16. Unabated fiscal challenges impeded domestic demand and generated large domestic arrears that constrained private sector activity linked to government, thus inhibiting economic growth. Construction has contracted since 2017, while services weakened due to poor performance by the wholesale, retail, and public administration subsectors.

The fiscal situation remained weak, with the budget deficit estimated at 7.8% of GDP in 2019, up from 6.5% in 2018, with low revenues outpaced by elevated expenditures, particularly transfers, the wage bill, and capital outlays. Deficits are financed by central bank advances, drawdowns of reserves, and external and domestic borrowing. Public debt escalated to nearly 30% of GDP by mid-2019, raising sustainability concerns.

The current account surplus increased slightly to an estimated 2.4% of GDP in 2019 as exports recovered. Official reserves remained below the recommended three months of import cover, thereby threatening parity with the South African rand and weakening resistance to shocks. Inflation was estimated at 2.7% in 2019, down from 4.8% in 2018, as utility and food prices remained capped. Inflation is expected to remain tamed in the short term, dampened by a freeze on utility costs. Because of the falling prices, the central bank lowered the discount rate to 6.5% in July 2019 to support growth. The domestic currency remained under pressure because of low investor confidence and protracted global trade tensions that have affected emerging market external positions.

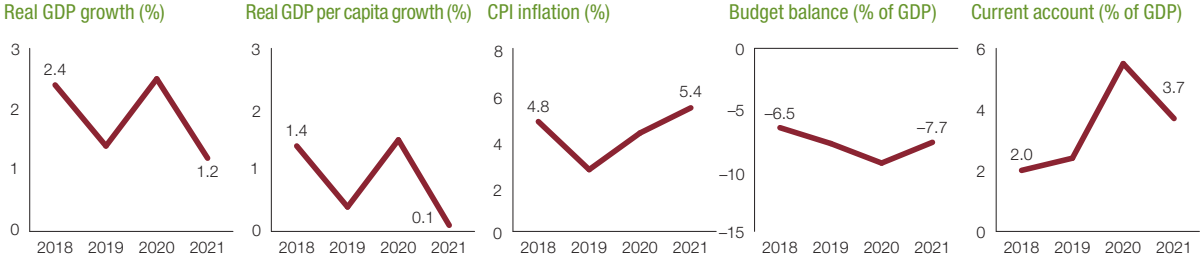
Tailwinds and headwinds

Real GDP growth is projected at 2.5% in 2020, spurred by industrial growth and agricultural expansion, but is expected to slow to 1.2% in 2021. Accommodative monetary policy should boost domestic demand with increased private sector borrowing. And growth in South Africa, if sustained, will provide export receipts and Southern African Customs Union (SACU) receipts to ease fiscal constraints.

Revival of the African Growth and Opportunity Act and European Free Trade Association trade preference markets improve the outlook for textiles and meat processing. And new trade agreements will present fresh markets for eSwatini and provide an impetus to growth.

Implementing structural reforms articulated in the Strategic Roadmap for Economic Recovery and the National Development Plan (2019–22) should ease the regulatory environment, reduce business costs, support fiscal consolidation, clear domestic arrears, and eliminate structural rigidities. Infrastructure investments will sustain growth and employment. The development of agribusiness, agroprocessing, and commodity value chains will help build processing capacity.

Poverty, inequality, high unemployment (youth unemployment at 47.4%), and HIV/AIDS prevalence at 27.2% among adults ages 15–49 remain key challenges. The weak fiscal situation, exacerbated by uncertain SACU inflows against a backdrop of high spending, will aggravate macroeconomic imbalances. The continuing domestic arrears buildup and escalating public debt heighten fiscal risks, raise debt sustainability concerns, and potentially undermine business confidence. The tight budget regime, particularly toward growth-enhancing capital projects, will constrain domestic demand, curtail industrial activity, and thus impede faster growth. Construction, mainly government-financed road projects, remains the major casualty of the constrained fiscal environment. Slower than anticipated public finance management reforms, in particular expenditure rationalization and wage bill containment, may impede fiscal stability.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team. Data on the budget balance correspond to eSwatini's fiscal year, which runs from April 1 to March 31.

Tanzania

Macroeconomic performance and outlook

Real GDP growth was estimated at 6.8% in 2019, down slightly from 7% in 2018. A markedly diversified economy, characterized by robust private consumption, substantial public spending, strong investment growth, and an upturn in exports underpinned the positive outlook. Tourism, mining, services, construction, agriculture, and manufacturing are notable sectors. Growth is projected to be broadly stable at 6.4% in 2020 and 6.6% in 2021, subject to favorable weather, prudent fiscal management, mitigation of financial sector vulnerabilities, and implementation of reforms to improve the business environment.

Inflation fell to an estimated 3.3% in 2019 from 3.6% in 2018 due to an improved food supply. The Tanzanian shilling was fairly stable in 2019, exchanging at an average of 2,290 to the dollar, compared with 2,263 in 2018. The fiscal deficit, financed mainly by concessional external debt, stood at 2.0% of GDP in 2019, up from 1.3% in 2018, and is projected to stabilize at 1.9% in 2020 and 2.2% in 2021. External public debt—63% of it concessional—constituted 70.4% of total public debt in 2019. The current account deficit slightly widened to 3.4% of GDP in 2019 from 3.3% in 2018.

Tailwinds and headwinds

Sustained political stability, strategic geographical location, diversified economy with abundant natural resources, and strong record of economic governance point to a positive medium-term outlook that will see progress toward long-term development goals. Public financial management scores have consistently remained above 4 (of 6) since 2013, according to the Country Policy and Institutional Assessment.

The current administration's ambitious development agenda focuses on creating a better business environment through improved infrastructure, access to financing, and education progress. It seeks to capitalize on previously underexploited strengths and opportunities. The government prioritizes efforts improving public administration, and managing public resources for improved social outcomes—all geared to restoring public confidence in the state as it implements the Tanzania National Vision 2025.

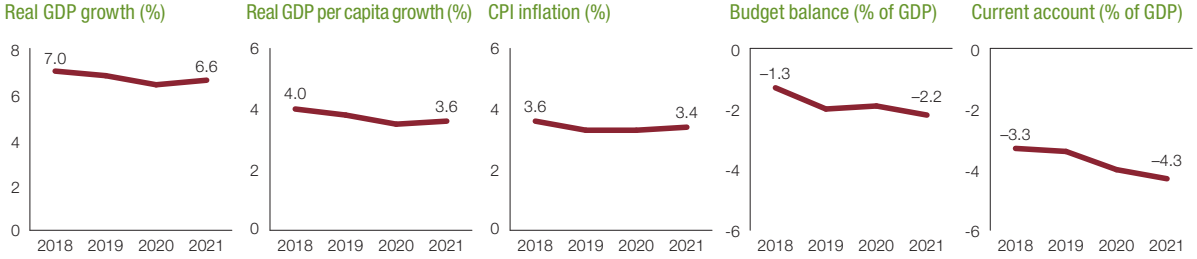
Early signs of slow but steady structural transformation in key sectors include the continued shift of labor from agriculture to services, and even to industry. Employment in agriculture declined from 71.4% of total employment in 2008 to 66.3% in 2018, while employment in industry increased to 7.1% from 5.7% and employment in services to 26.6% from 22.9%.

Key challenges in the medium and long term include low total factor productivity growth, a substantial infrastructure deficit, considerable poverty, and a skill mismatch in the labor market.

Factor productivity is generally low, particularly in agriculture, where its growth averaged only 0.4% between 2015 and 2017. Tanzania lacks access to the development finance required to bridge the enormous infrastructure gap that comes with its size.

Poverty, inequality, and youth unemployment persist despite recent robust growth. Poverty declined, but at a slower pace of 6.4% between 2012 and 2018 than the 18.0% between 2007 and 2012. Youth unemployment increased from 5.7% in 2012 to 7.3% in 2016. In addition, enrollment in secondary education for young people ages 15–24 declined from 30.0% to 24.7%, calling into question the availability of skills for the job market.

Government policy improving the business and investment climate remains a work in progress, particularly in tax policy and administration, access to affordable finance, and government processes. The 2019 *Global Competitiveness Report* pointed to some key improvements in ICT adoption, macroeconomic stability, financial system, and business dynamism.



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Togo

Macroeconomic performance and outlook

Thanks to investments in energy and transportation infrastructure, the investment rate rose from 12% of GDP to 26% over 2012–15 and drove economic growth, estimated at 5.1% in 2019. However, these public expenditures increased the risk of debt unsustainability since it boosted the debt ratio to more than 80% of GDP in 2016.

In accord with a macroeconomic program (2017–19) to lower debt to less than 70% of GDP in 2020, public capital spending was reduced by more than 40%. Even so, growth recovered to 4.9% in 2018 and 5.1% in 2019 thanks to reform initiatives to broaden fiscal space, improve the business climate, and support the energy, agroindustry, logistics, and digital sectors.

Fiscal discipline and reduced capital spending brought the fiscal deficit down from 8.3% of GDP in 2016 to 2.7% in 2019. The current account deficit improved from 9.9% of GDP in 2016 to 6% in 2019 following a more than 20% decline in imports, marking the end of major infrastructure works.

Unemployment was 3.4% in 2015, with underemployment at 24.9%. The poverty rate was 53%, and a Gini index of 0.38 reflecting significant inequalities. Consumer spending by the richest 25% was 2.5 times that by the poorest 25%.

Tailwinds and headwinds

Economic prospects are encouraging, with growth expected to reach 5.3% in 2020 and 5.5% in 2021, on the back of good performance in agriculture and sound monetary management. The debt ratio should be less than 70% of GDP in 2020, with an average budget deficit of 2.1% of GDP. The current account deficit is projected at 5.2% of GDP in 2020 and 5% in 2021.

Public investment contributed to improving basic infrastructure and road and energy connections. Under the auspices of ECOWAS, political dialogue led to the organization of legislative elections in 2018 and local elections in 2019, the first in more than 30 years.

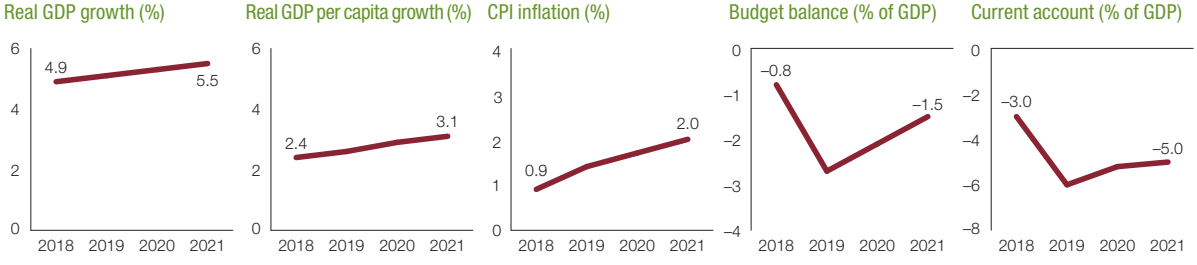
Public finance reforms and the improvement of the business environment helped Togo advance several positions in the 2019 and 2020 *Doing Business* report. After the country's successful implementation of its macroeconomic reform program, Standard & Poor's assigned Togo's debt a low-risk credit rating.

Togo is ranked 165 of 188 countries on the human development index. The disparity between available training and education programs and employment opportunities puts major pressure on the labor market, especially for higher education graduates.

The economy is undiversified, with a limited industrial structure and low manufacturing value added (16% of GDP on average in 2015–18). Credit to the agroindustrial sector remains below an average of 0.5% of domestic lending, even though agriculture employs the most people.

Institutional inaction and the sluggish structuring of projects are impeding change, and structural weaknesses reduce the efficiency of public investments.

Key challenges are to increase the fiscal space and bank financing for sectors driving growth. Tax revenues of 20% of GDP must rise to fill infrastructure gaps (energy, transport, telecommunications), to finance sectors with high growth potential, like agroindustry, and to allocate more to strengthening human capital. Increasing bank financing for sectors driving growth requires a systematic dialogue with public and private players.



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Tunisia

Macroeconomic performance and outlook

Real GDP growth slowed to 1.5% in 2019 following two years of rebounds. Growth in the agriculture and fishing sectors slumped to 1.7% in 2019 from 9.8% in 2018. Growth was spurred primarily by tourism and financial services and, on the demand side, by private consumption.

The fiscal deficit improved slightly to 3.9% in 2019, from 4.6% in 2018. The current account deficit was 10% of GDP in 2019 and is projected to stay fairly high at 9.9% in 2020 and 8.4% in 2021. Despite the central bank policy of raising interest rates since 2017, inflation remained at 7.1% in 2019—and is projected to moderate to 6.7% in 2020 and 6.1% in 2021.

Unemployment was 15.3% during the first quarter of 2019 but has dropped slightly as the decline in unemployment among graduates continued. Unemployment among people ages 15 to 24 is 34.3%.

The poverty rate, which dropped from 20.5% in 2010 to 15.2% in 2016, increased by 30% from 2014 to 2018 due to increased living costs, according to the Center for Economic and Social Research. The Nord-Ouest region has been particularly affected with a poverty rate of 28.4% against 5.3% for the Greater Tunis region.

Continuing inequalities are destabilizing the social climate and impeding investment and growth. Reducing them implies accelerating the structural reforms initiated since 2011 and introducing specific measures aimed at more inclusive growth. Public spending needs prioritizing and better targeting to spearhead the economy.

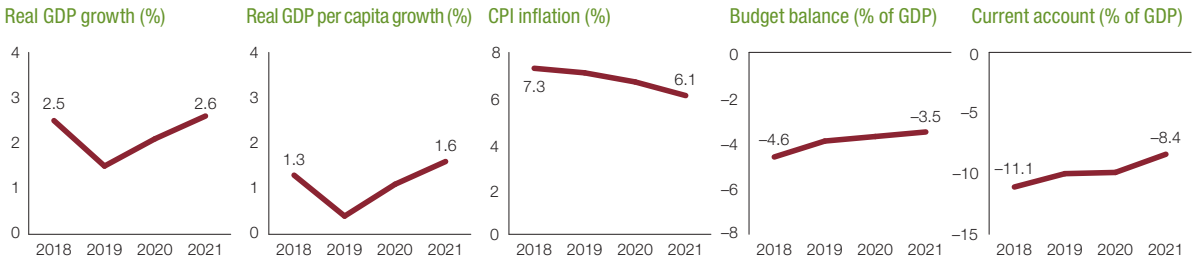
Tailwinds and headwinds

Real GDP growth should recover to 2.1% in 2020 and 2.6% in 2021, spurred on the supply side by agriculture, phosphates, and tourism sectors. The nominal appreciation of the dinar to the euro (9%) and the dollar (5.8%) in the first quarter of 2019 should reduce the cost of energy imports (38.6% of total import costs) and the current account deficit.

Tunisia has many strengths, including proximity to Europe, qualified labor, diverse industries (aeronautics, chemicals, textiles), high agricultural and fishery potential, and sizable deposits of phosphates, oil, and gas. The tourism industry (beach, business, mountain, oasis, eco-tourism, and seawater therapy) was until 2011 a significant source of growth and employment. In the medium term, it will benefit from the steady 5% growth in the global demand for tourism services.

The wide social and regional disparities brought to light in January 2011 have not narrowed. In 2019, unemployment remained high among college graduates, with large differences between coastal and interior regions. Women are more than twice as likely to be unemployed than men.

Public spending has increased significantly since 2011, prioritizing current expenditures over capital expenditures. This increase has been financed primarily by external borrowing. Public debt, the majority external (70%), increased by 95% between 2010 and 2019, placing Tunisia at risk of serious shocks and reducing liquidity available to the private sector.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Uganda

Macroeconomic performance and outlook

The Ugandan economy reported strong growth in 2019, estimated at 6.3%, largely driven by the expansion of services. Services growth averaged 7.6% in 2019, and industrial growth 6.2%, driven by construction and mining. Agriculture grew at just 3.8%. Retail, construction, and telecommunications were key economic drivers. Inflation is expected to remain below 5%, strengthening the domestic economy.

Government spending continues to increase, underpinned by public infrastructure and capital investments for the nascent oil and gas industry. Expenditures have increased faster than domestic revenues, widening the fiscal deficit in 2019. The deficit is largely financed through external borrowing, supplemented with domestic securities. Despite the rise in the deficit, Uganda is classified at low risk of debt distress. However, debt reached an estimated 43.6% of GDP in 2019, up from 25% in 2012, raising medium-term concerns. Lending remains within IMF limits, but risks have increased due to higher costs of debt servicing and infrastructure investments.

Exports, dependent on primary products, have not kept up with imports, widening the trade deficit to an estimated 9.4% of GDP in 2019 from 8.3% in 2018. The increasing current account deficit has been largely financed by foreign direct investment (2.6% of GDP) and externally financed projects. External reserves were at a comfortable 4.4 months of imports in 2019, while the exchange rate was stable, averaging 3,727 Ugandan shillings per dollar.

The poverty rate fell during the past two decades but rebounded in 2016/17, reaching 21.4%, meaning that 10 million people were living below the national poverty line. Inequality has changed little. More than two-thirds of the working-age population is in agriculture. Four-fifths of workers are own account workers or contributing family workers, with one-fifth in paid employment or themselves employers. Youth unemployment is a challenge.

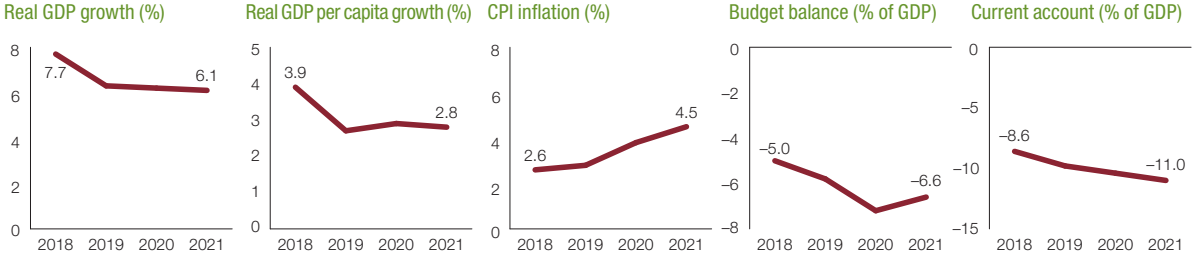
Tailwinds and headwinds

Retail, construction, and telecommunications drive the economy, with mining, transport, and hospitality expected to grow as oil and gas investments are made. Price stability will boost domestic business confidence while fiscal policy is likely to remain accommodating.

Urban development with rapid urbanization, rising population density, increasing market size and access, clustering of skills and technology, and proximity to financial institutions offers opportunities for business development, firm creation, and new jobs. Kampala was, until 2019, Uganda's only urban agglomeration classified as a city. The reclassification of nine municipalities as regional cities can promote new opportunities. The new cities will be phased in over three years, expanding infrastructure such as paved roads, power distribution, water and sanitation services, and waste management.

Poor global growth, affected by the US–China trade tensions and stagnant growth and subdued demand in Europe risks reducing Ugandan exports. Domestically, adverse weather can lower agriculture production, harming the trade balance and current account balance, given the importance to Uganda of exporting food to the East Africa region. Other domestic risks include weak revenue mobilization, weak private sector credit growth, and fiscal expansion in the run-up to the 2021 elections.

Uganda is transitioning to a service economy but faces low productivity and low job creation. The economy has become more productive, but productivity differences across industry, services, and agriculture are large. Industrial productivity is seven to eight times higher than in the other two sectors, but it cannot absorb the 600,000 youths entering the jobs market each year.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team. Data on the budget balance correspond to Uganda's fiscal year, which runs from July 1 to June 30.

Zambia

Macroeconomic performance and outlook

Real GDP growth slowed to an estimated 2% in 2019, down from 4.0% in 2018. Zambia's economy was hit by drought in the south and west that lowered 2018/19 agricultural production and hydropower electricity generation considerably. Severe electricity rationing followed, and long periods of electricity load shedding dampened activity in almost all economic sectors. Zambia also faces slower mining, with reduced output and lower copper prices. Economic activity is expected to remain weak, with growth rebounding moderately to 2.4% in 2020 and 2.9% in 2021.

Public investment has severely strained public finances. Overreliance on nonconcessional external borrowing since 2012—to finance large-scale infrastructure projects—has resulted in large fiscal deficits since 2014 (going from 6.5% of GDP in 2013 to 12.1% in 2015, 10.5% in 2018, and 7.7% in 2019). Large domestic payment arrears have also accumulated (9.7% in 2019). The rapidly increasing public debt (80% of GDP at the end of 2019, up from 35% at the end of 2014) places Zambia at a high risk of debt distress.

Inflation rose from 7.5% in 2018 to 9.2% in 2019 and is expected to remain at 9% in 2020–21, pushed by large exchange rate depreciations and food price increases. This prompted monetary policy tightening, with the Bank of Zambia raising the policy rate by 50 basis points to 10.25% in May 2019. The current account deficit is expected to widen to 2.8% of GDP in 2020–21 due to increased public investments and mining sector imports, and higher debt-service payments reduced foreign reserves to 1.6 month of imports at the end of 2019.

Tailwinds and headwinds

Growth is expected to get a boost from the government's medium-term strategy for inclusive growth, set out in the Seventh National Development Plan (7NDP) for 2017–22. The 7NDP identifies tourism, mining, energy, and agriculture as sectors that drive growth and create jobs and sites for economic diversification. It identifies infrastructure, access to markets, and information and communication technology as growth enablers.

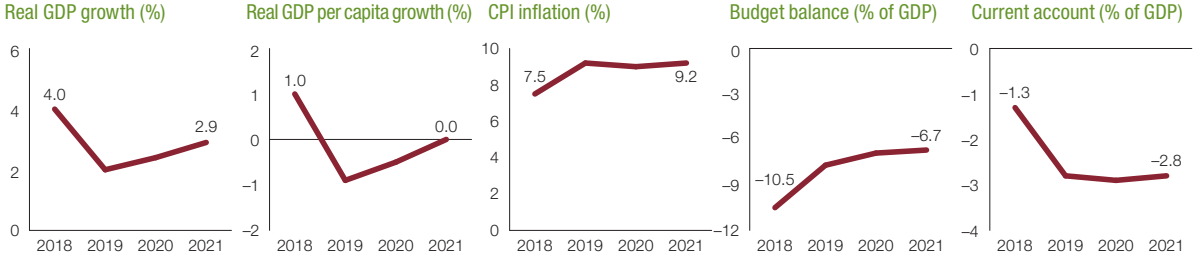
In agriculture, the 7NDP plans an integrated information system to support agribusinesses, farmer expansion, and extension services. It supports climate-smart agriculture to build resilience. It will improve delivery of the Farmer Input Support Program to raise farmer productivity and promote livestock and fishery development to diversify agriculture.

In mining, the 7NDP focuses on mining gemstones and industrial minerals to diversify beyond copper. In energy, it plans to boost capacity and diversify sources —with projects already developed, including solar energy. Infrastructure for transport is planned, with roads already being built. In tourism, the aim is to diversify and make it a job creator by rehabilitating infrastructure to and within tourist sites.

Risks from the drought call for public programs that enhance agricultural resilience and diversify the sources of energy production. Measures outlined in the 2020 budget to build agricultural resilience can mitigate this to some extent, but requires sustained implementation.

To reduce risks associated with debt requires a major and sustained fiscal adjustment—ranking public investment projects, postponing new nonconcessional debt, ceasing to accumulate domestic arrears, strategizing to reduce them, and mobilizing more revenue. The 2020 budget reflects these requirements.

External risks arise from weakening global demand and tightening global financial conditions. Escalated US–China trade tensions would lead to a drop in demand for copper and greater volatility in copper prices. These risks reflect longstanding reliance on a narrow economic and export base driven by copper mining. Reducing these risks requires Zambia to fast-track diversification and speedily transition the economy to a broader model led by the private sector.



Source: Data from domestic authorities; figures for 2019 are estimates; figures for 2020 and 2021 are projections by the African Economic Outlook team.

Zimbabwe

Macroeconomic performance and outlook

GDP contracted by 12.8% in 2019 due to poor performance in mining, tourism, and agriculture. Foreign currency and electricity shortages affected mining and tourism. Agriculture shrank about 15.8% due to cyclone Idai in March 2019, prolonged drought, livestock diseases, and currency shortages reducing the availability of inputs. Despite a global mineral price recovery, production in Zimbabwe dropped below 2018 levels. Austerity measures through the Transitional Stabilization Program 2018–20 and attendant monetary reforms constricted economic activity. Any 2020–21 recovery would depend on quick turnaround in the real sector. In the medium term, however, fiscal and monetary reforms are expected to stabilize the economy and begin to generate positive results.

Following the February 2019 unpegging of the exchange rate from the US dollar and the June 2019 introduction of the new currency—the Zimbabwe dollar—the exchange rate deteriorated from 2.5 Zimbabwe dollars per US dollar in February 2019 to 20 Zimbabwe dollars per US dollar in November 2019. Inflation spiked from single digits in 2018 to more than 200% in November 2019, occasioned largely by the exchange rate movements and by shortages of basic goods, including fuel, foodstuffs, and electricity. The current account deficit, at 2.2% of GDP in 2019, put pressure on urgently needed foreign exchange and made enhancing exports critical.

The budget deficit narrowed from 9.9% of GDP in 2017 to 5.6% in 2018 and 6.0% in 2019, mainly due to government measures, which include frozen public sector employment, reduced investment and consumption spending, better revenue mobilization, and restrictions on government borrowing and the issue of government securities.

Public debt remains above the statutory target of 70% of GDP. In June 2019, external debt constituted 87% of the debt, estimated at $8 billion, of which about $5.9 billion (73.75%) was accumulated arrears. Multilateral institutions are owed $2.6 billion (31.25% of external debt). Bilateral debt amounted to $5.1 billion, with Paris Club creditors owed $3.5 billion and others owed $1.6 billion.

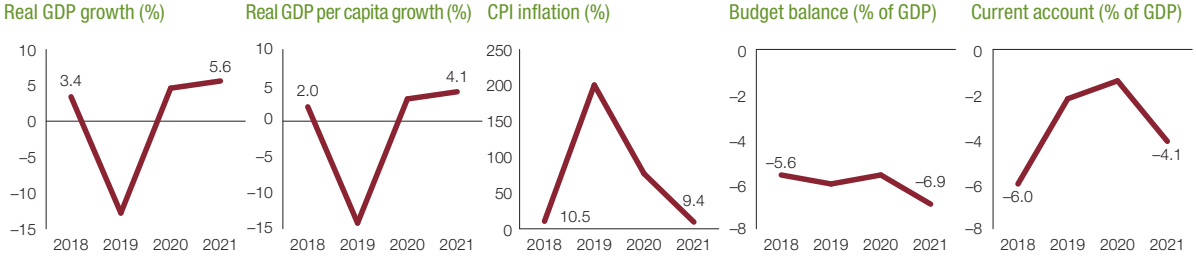
More than 60% of the population falls below the poverty line, while income inequality remains high. Employment opportunities continue to dwindle. About 2 million people in the rural areas were food insecure in April–June 2019—expected to rise to 5.5 million in January–March 2020—with 2.0 million more affected in urban areas.

Tailwinds and headwinds

The economy is expected to recover with GDP growth of 4.6% in 2020 and 5.6% in 2021 if corrective measures are taken, especially to restore macroeconomic stability. Recovery in the agriculture, mining, and tourism sectors will be backed by increased public and private investments. The regeneration of civil society and engagement with political actors in a positive social contract will accelerate reforms. Vast natural resources, fairly good public infrastructure, and a skilled labor force give Zimbabwe an opportunity to join supply chains in Africa and increase trade in the African Continental Free Trade Area.

High and unsustainable debt, high fiscal deficits, cash shortages, limited foreign exchange, and persistent shortages of essential goods are hampering meaningful economic recovery. Development spending and social service provision continue to be constrained. As the Zimbabwe dollar depreciates, local creditors lose the value of both their loans and payments on goods and services supplied to government, and external debt service becomes more expensive. The economy's downward spiral has fueled unemployment and poverty.

Heavy debt servicing raises sustainability concerns, with implications for macroeconomic stability and development. Lack of funding, high input costs, outdated machinery, inadequate infrastructure (particularly for energy), limited progress on land reform, and relaxing investment regulations are key challenges for private sector development. The country needs to invest $3.4 billion a year for 10 years for the modest recovery of its infrastructure.



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ABBREVIATIONS

4IR	Fourth Industrial Revolution
ACET	African Center for Economic Transformation
AEF	African Education Fund
AEO	African Economic Outlook
ARC	African Risk Capacity
BIA	Bridge International Academies
EIU	Economist Intelligence Unit
ETI	Employment Tax Incentive
FDI	Foreign direct investment
GDP	Gross domestic product
ICT	Information and communications technology
IFFEd	International Financing Facility for Education
IIEP	International Institute for Educational Planning
IMF	International Monetary Fund
MoETE	Ministry of Education and Technical Education (Egypt)
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
PASEC	Programme d'analyse des systèmes éducatifs (Burundi)
PISA	Programme for International Student Assessment
PPP	Purchasing power parity
RSATs	Regional Standardized Achievement Tests
RtE	Returns to education
SACMEQ	Southern and Eastern Africa Consortium for Monitoring Educational Quality
SFA	Stochastic frontier analysis
SSNs	Social safety nets
STEM	Science, technology, engineering, and mathematics
TFP	Total factor productivity
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific, and Cultural Organization
WEF	World Economic Forum
WEO	World Economic Outlook

Africa's economic growth has stabilized at 3.4 percent in 2019 and is expected to pick up to 3.9 percent in 2020 and 4.1 percent in 2021 but to remain below historical highs.

Growth's fundamentals are also improving, with a gradual shift from private consumption toward investment and exports. For the first time in a decade, investment accounted for more than half the continent's growth, with private consumption accounting for less than one third.

The 2020 Outlook highlights, however, that growth has been less than inclusive. Only about a third of African countries achieved inclusive growth, reducing both poverty and inequality.

The special theme this year is delivering education and skills for Africa's workforce of the future. Despite progress in recent decades, Africa still lags behind other developing regions in education and skill development. Policy actions should include measures to improve both the quantity and the quality of education and align education policy with labor market needs.

This requires expanding access to schools in remote areas, increasing incentives to invest in education, developing a demand-driven education system that caters to employers' needs, investing in nutrition to help poorer children, and building STEM and ICT capacity.

To address inequality in education, the Outlook appeals for progressive universalism in education spending—setting high priorities for the poor and disadvantaged and for basic education, where social returns are highest.

The Outlook shows that public expenditures on education and infrastructure are highly complementary, as investing in both has a much greater payoff than investing exclusively in just one. The efficiency of education spending is much lower in Africa than in developing and emerging Asia. The good news, though, is that by enhancing the efficiency of education spending—now at 58 percent for primary schooling—African countries could almost reach universal primary enrollment, without increasing spending at all. Key policies to improve spending efficiency and education quality include conducting education expenditure audits and reviews, improving teacher quality, and using performance-based financing.

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