OCTOBER 2017 | VOLUME 16

Africa's Pulse

AN ANALYSIS OF ISSUES SHAPING AFRICA'S ECONOMIC FUTURE

WORLD BANK GROUP

THIS REPORT WAS PRODUCED BY THE OFFICE OF THE CHIEF ECONOMIST FOR THE AFRICA REGION

ACKNOWLEDGMENTS

This report was prepared by a team led by Punam Chuhan-Pole and comprising Cesar Calderon, David K. Evans, Omar Arias, Gerard Kambou, Emmanuel K. K. Lartey, Vijdan Korman, Mapi M. Buitano, Luis-Diego Barrot, and Yirbehogre Modeste Some. Samba Ba, John Baffes, Ulrich Bartsch, William G. Battaile, Paolo Carlo Belli, Andrew Burns, Thanh Thi Thanh Bui, Jose R. Lopez Calix, Amina Coulibaly, Allen Dennis, Sebastien C. Dessus, Carolin Geginat, Chadi Bou Habib, Marek Hanusch, Johannes Herderschee, Irina Klytchnikova, Julio Ricardo Loayza, Wael Mansour, Anna Carlotta Allen Massingue, Gregory Smith, Yutaka Yoshino, and country teams provided valuable input and comments. The report was prepared under the general guidance of Albert G. Zeufack.

Contents

List of Boxes

List of Figures

List of Tables

Executive Summary

- Following a sharp slowdown over the past two years, a recovery is underway in Sub-Saharan Africa. Gross domestic product (GDP) growth in the region is expected to strengthen to 2.4 percent in 2017 from 1.3 percent in 2016, slightly below the pace previously projected. The rebound is being led by the region's largest economies. In the second quarter of 2017, Nigeria exited a five-quarter recession and South Africa emerged from two successive quarters of negative growth. Economic activity has also picked up in Angola. Elsewhere, an increase in mining output along with a pickup in the agriculture sector is boosting economic activity in metals exporters. GDP growth is stable in non-resource intensive countries, supported by domestic demand. But the recovery is weak in several important dimensions. Regional per capita output growth is forecast to be negative for the second consecutive year, while investment growth remains low, and productivity growth is falling.
- External conditions are more favorable, with a stronger trend in global growth, robust growth in global goods trade, rising energy and metals prices, and supportive global financing conditions. Higher commodity prices are helping to narrow current account deficits in the region, especially of oil exporters. International bond and equity inflows in the region are rising, helping to finance the current account deficits and cushion foreign reserves. Sovereign bond issuance has rebounded in 2017, with Nigeria, Senegal, and Côte d'Ivoire selling bonds on international capital markets, indicating improving global sentiment toward emerging and frontier markets.
- Headline inflation slowed across the region amid stable exchange rates and lower food price inflation due to higher food production. Reduced inflationary pressures have prompted some central banks to ease monetary policy. Lower inflation and a more accommodative monetary policy is providing an impetus to domestic demand. Fiscal deficits are projected to narrow slightly in the region in 2017, but will continue to be high, as fiscal adjustment measures remain partial at best. Across the region, additional efforts are needed to address revenue shortfalls and contain spending. Government debt remains elevated, reflecting the limited progress made in reducing the fiscal deficit.
- Fiscal space has narrowed significantly for most countries in the region in recent years amid rising debt burdens. The (median) increase in general government debt to GDP in 2015–16 compared with 2010–13 was about 15 percentage points. Over the same period, fiscal conditions tightened for 36 (of 44) countries in the region. In these countries, the (median) number of tax years needed to repay the debt fully has increased by 1.1 years; in the Central African Republic, The Gambia, Mozambique, and the Republic of Congo, the increase in this indicator exceeded 2.5 years.
- Analysis of fiscal sustainability gaps shows that the pattern of debt sustainability in Sub-Saharan Africa is comparable to that of other commodity-exporting regions. Fiscal balances in the region fluctuate with the commodity price cycle. Prior to the global financial crisis, the region recorded primary surpluses, thanks to rising commodity prices. Although debt levels remain below those in the late 1990s—when several international debt relief initiatives were implemented—they have been rising more rapidly than in other regions since 2009. The primary sustainability gap, on average, has been negative in the post-crisis period, reflecting the current debt sustainability challenges facing the region.

- Looking ahead, Sub-Saharan Africa is projected to see a moderate pickup in activity, with growth rising to 3.2 percent in 2018 and 3.5 percent in 2019. These forecasts are unchanged from April, and assume that commodity prices will firm and domestic demand will gradually gain ground, helped by slowing inflation and easing monetary policy. The uptick in the region's growth forecast reflects gradually improving conditions in the large economies as they implement measures to address economic imbalances. The ongoing recovery in metals exporters is likely to continue with steadily rising metals prices expected to spur further investment in the mining sector. By contrast, growth prospects will remain weak in Central African Economic and Monetary Community countries, as most of them continue to struggle to adjust to low oil prices.
- The economic expansion in West African Economic and Monetary Union (WAEMU) countries is expected to proceed at a solid pace on the back of robust public investment, led by Côte d'Ivoire and Senegal. Elsewhere, growth is projected to recover in Kenya, as inflation eases, and firm in Tanzania on a rebound in investment growth. Ethiopia is likely to remain the fastest-growing economy in the region, although public investment is expected to slow down.
- The outlook for the region remains challenging, however, with economic growth remaining well below the pre-crisis average, and also below the average growth recorded in 2010-14. The moderate pace of growth will translate into only slow gains in per capita income and will be far from sufficient to promote broad-based prosperity and accelerate poverty reduction.
- Moreover, although risks to the outlook appear to be broadly balanced in the near term, they remain skewed to the downside in the medium term. On the upside, stronger-than-expected activity in some large economies could strengthen further the anticipated pickup in exports, mining and infrastructure investment, and growth in the region. On the downside, the main risks include, externally, lower commodity prices and a faster-than-expected normalization of monetary policy in the United States, and, domestically, delays in implementing appropriate policies to improve macroeconomic stability, heightened policy and political uncertainty, rising security tensions, and inadequate rainfall.
- The challenge for the region remains to achieve high and inclusive growth. In the near term, measures are needed to strengthen the ongoing recovery. Fiscal space remains tight in most countries, and should be enlarged through appropriate fiscal policies that support growth. In the medium term, structural measures will be needed to boost productivity and investment and promote economic diversification. Analysis of the region's growth dynamics shows that in economically less resilient countries, rising capital accumulation has been accompanied by falling efficiency of investment spending, but not in resilient ones. This suggests that the inefficiency of investment—which reflects insufficient skills and other capabilities for the adoption of new technologies, distortive policies, and resource misallocation, among other things—will need to be reduced if countries are to capture fully the benefits of higher investment.

- As African countries seek new drivers of sustained, inclusive growth, attention to skills building is growing. The region's growing working-age population represents a major opportunity to reduce poverty and increase shared prosperity. But the region's workforce is the least skilled in the world, constraining economic prospects. Building the skills—cognitive, socio-emotional, and technical—of today's workers and future generations will be vital for realizing the development potential of the region.
- Countries in Sub-Saharan Africa have invested heavily in skills building, and public expenditure on education absorbs about 15 percent of total public spending and nearly 5 percent of GDP, the largest spending ratios among developing regions. Although more children are in school today than ever before, almost one in every three children fails to complete primary school. In most countries, far less than 50 percent of all children complete lower secondary education (the equivalent of middle school in some countries), and under 10 percent make it to higher education.
- In most countries, skills-building efforts must strive to make spending smarter to ensure greater efficiency and better outcomes. But smart investing in skills is more difficult than it looks. Sub- Saharan African countries face two hard choices in balancing their skills portfolios: striking the right balance between overall productivity growth and inclusion, on the one hand, and investing in the skills of today's workforce and tomorrow's workforce, on the other hand.
- Investing in the foundational skills of children, youth, and adults is the most effective strategy to enhance productivity growth, inclusion, and adaptability simultaneously. Thus, all countries should prioritize building universal foundational skills for the workers of today and tomorrow. This is more pressing in countries with low basic educational attainment and poor learning outcomes among children and youth.
- In skills training, countries must be selective and ruthlessly demand-driven. For productivity growth, support should target demand-driven technical and vocational education and training, higher education, entrepreneurship, and business training programs tied to catalytic sectors. Such support should incentivize more on-the-job training, especially in smaller firms. Special attention should be paid to science, technology, engineering, and mathematics fields, focusing on the transfer and adoption of technology in economies with an enabling policy environment for these skills investments to pay off. Economic inclusion requires investing in labor market training programs focused on disadvantaged youth and improving the skills of workers in low-productivity activities.

Section 1: Recent Developments and Trends

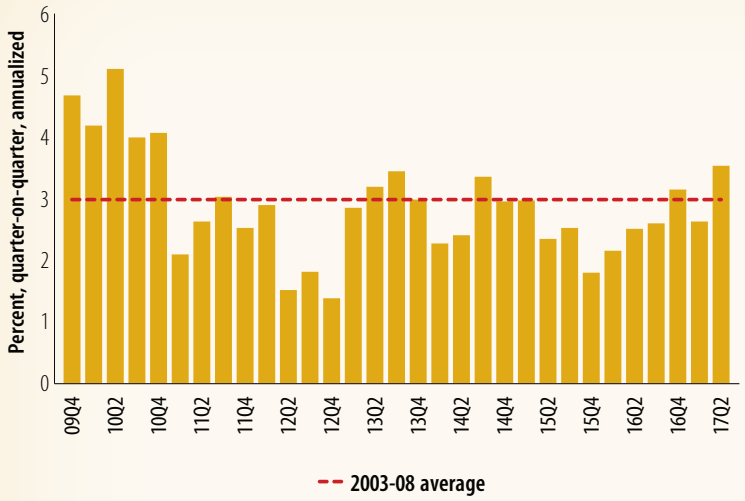
GLOBAL TRENDS

The global economy continued to strengthen in 2017. Manufacturing activity has picked up, goods trade is rebounding, financing conditions remain favorable, and commodity prices have strengthened. The pickup in global activity reflects the recovery in advanced economies and improving conditions in commodity-exporting emerging markets and developing economies (EMDEs) (figure 1.1). Among advanced economies, gross domestic product (GDP) growth rebounded in the United States as consumer spending recovered amid a tightening labor market. Growth in the euro area has strengthened more than expected, supported by a broad-based improvement in activity across countries, with increases in household spending and gross fixed capital formation. In Japan, a pickup in private consumption and robust private investment helped boost growth. Among EMDEs, in Brazil and the Russian Federation, growth has rebounded following deep recessions, while growth has remained stable in China.

Global goods trade growth, which began to recover in mid-2016 after two years of pronounced weakness, has remained robust in 2017. The recovery in global trade was broad-based, with export growth trending upward in advanced economies and remaining firm in EMDEs (figure 1.2). Across EMDE regions, robust export growth is visible in Asia and Eastern Europe, but has remained soft in Africa and the Middle East.

FIGURE 1.1: Global GDP Growth

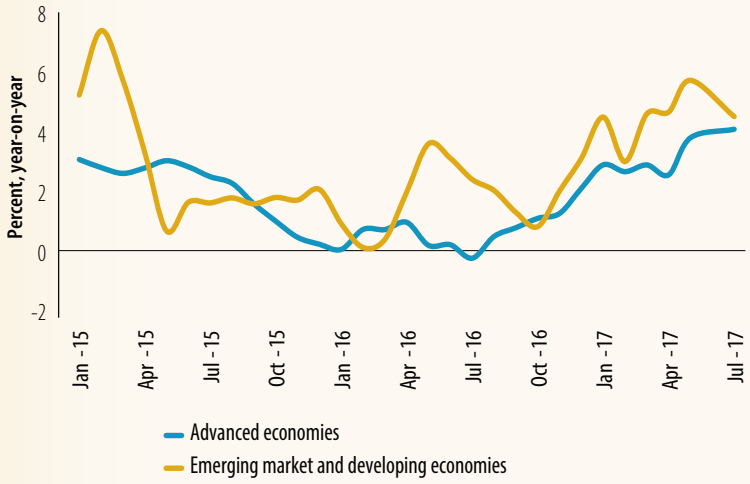
The global economy continued to strengthen in 2017.



Source: World Bank.
Note: Last observation is 2017Q2.

FIGURE 1.2: Global Trade-Merchandise Export Growth

Global trade remained robust in 2017, expanding in advanced economies and remaining firm in emerging markets and developing economies.



Source: World Bank.
Note: Emerging market and developing economies includes all those that are not classified as advanced economies. Advanced economies include Australia; Austria; Belgium; Canada; Cyprus; the Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hong Kong SAR, China; Iceland; Ireland; Israel; Italy; Japan; the Republic of Korea; Latvia; Lithuania; Luxembourg; Malta; Netherlands; New Zealand; Norway; Portugal; Singapore; the Slovak Republic; Slovenia; Spain; Sweden; Switzerland; the United Kingdom; and the United States.

Bond spreads narrowed to levels last seen in June 2014, before the collapse of oil prices.

FIGURE 1.3: EMDE Bond Spreads

Source: JPMorgan and World Bank staff.
Note: Excluding Venezuela, RB. Last observation is September 2017.

Global financing conditions have generally been supportive. Equity and bond market volatility fell. The U S 10-year Treasury yield has hovered around 2.1 percent, close to the level prevailing before the start of the tightening cycle in December 2015, despite a 100 basis-point increase in policy interest rates over the same period. Low long-term yields reflect subdued inflation expectations and prospects of persistently low equilibrium rates. Financial conditions in EMDEs have benefited from expectations of a brighter global growth outlook amid resilient capital flows. Bond spreads narrowed to levels last seen in June 2014, before the collapse of oil prices, with borrowing conditions improving most for investment-grade borrowers (figure 1.3).

Energy and metals prices recovered in 2017 while agricultural prices remained broadly stable, in line with expectations. Oil prices are expected to average $52-$53 per barrel (bbl) in 2017, up 24 percent from 2016, but have been under downward pressure throughout the year. Metals prices surged in 2017, on tightening supplies. This was partly driven by reforms in China aimed at reducing overcapacity and combatting pollution. Agricultural prices fell amid ample global supplies.

Overall, global growth is expected to pick up to 2.9 percent in 2017, above the April forecast of 2.7 percent. In advanced economies, growth in 2017 is expected to rebound to 2.1 percent, as investment recovers. Growth in EMDEs is projected to accelerate to 4.1 percent in 2017. Commodity exporters continue to recover, as several large economies return to growth and adjustment to low commodity prices continue. Looking ahead, global growth is projected to remain stable at 2.9 percent in 2018. Growth in advanced economies is projected to moderate slightly toward potential rates. Weak underlying productivity growth continues to cloud the medium-term outlook for these economies. In EMDEs, growth is expected to pick up further, reaching 4.5 percent in 2018—broadly in line with its potential rate—and 4.6 percent in 2019, as cyclical headwinds in commodity exporters dissipate.

The balance of risks to the global growth outlook remains tilted to the downside. On the upside, stronger-than-expected growth in the largest advanced economies and the EMDEs—reflecting, for instance, fiscal stimulus in the United States, a more prolonged rebound in the euro area, or a sharper recovery in large commodity exporters—could have substantial positive international spillovers in the short term. Key downside risks include an increase in trade protectionism, a disorderly tightening of global financial conditions, which could affect vulnerable emerging markets, in particular, possible disruptions associated with China's reform and liberalization process, and the potential for volatility derived from political and geopolitical uncertainties.

SUB-SAHARAN AFRICA

Recent Developments

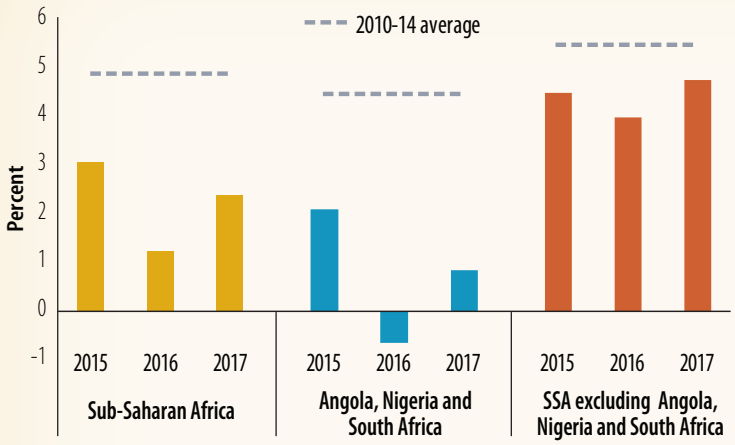
Economic Growth

After a marked slowdown in 2016, growth in Sub-Saharan Africa strengthened in 2017, as global activity and trade gained momentum, commodity prices recovered, and global financing conditions remained favorable. Growth in the region is expected to pick up from a two-decade low of 1.3 percent in 2016 to 2.4 percent in 2017, slightly below the April forecast of 2.6 percent (figure 1.4). Crude oil prices rebounded toward the end of 2017 on strengthening demand and falling stocks, and are projected to be 24 percent higher than in 2016 (figure 1.5 and box 1.1). Metals prices are expected to record a 22 percent increase over 2016, on strong demand in China. Cocoa prices fell sharply, but prices of coffee (Robusta) and tea increased substantially. The region's access to international capital markets improved, with a notable increase in sovereign bond issuance. Reinforcing these favorable external developments, improved weather conditions have triggered a rebound in food production across the region. In turn, easing food price inflation has helped boost household demand in some countries.

However, the recovery has been weak in several important dimensions. Most notably, regional per capita growth is expected to remain negative for a second consecutive year in 2017, while investment growth remains low and productivity growth is falling. Annex 1A examines the evolution of capital accumulation and efficiency of investment.

FIGURE 1.4: GDP Growth in Sub-Saharan Africa

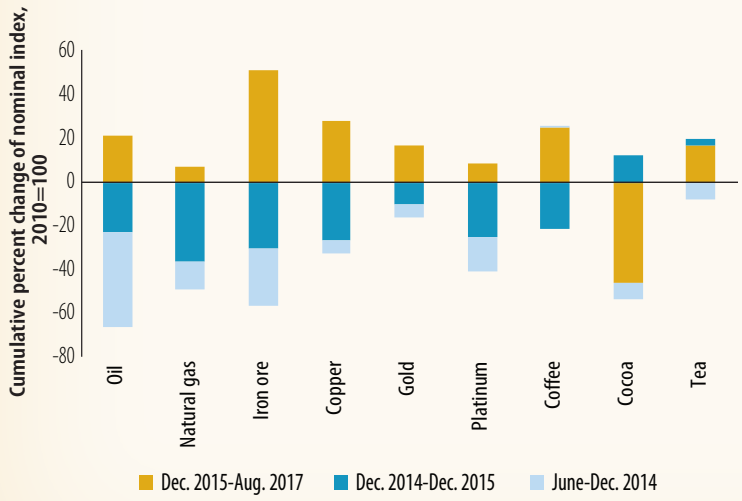
Growth in Sub-Saharan Africa is expected to pick up to 2.4% in 2017, from 1.3% in 2016.



Source: World Bank.

FIGURE 1.5: Commodity Prices

An increase in commodity prices supported the economic recovery.



Source: World Bank; Haver Analytics; International Energy Agency; World Economic Outlook.

BOX 1.1: Commodity Prices: Recent Developments and Prospects

Crude oil prices recovered. After dropping to $46 per barrel (bbl) in mid-year amid a rebound in U.S. crude oil production, crude oil prices have recovered. Crude oil prices rose in the third quarter owing to strong demand and improved compliance by Organization of Petroleum Exporting Countries (OPEC) and non-OPEC producers with production agreements. The recent strength in oil prices is likely to push the 2017 average to $52-$53/bbl, 24 percent above the average for 2016. For the next year (and afterward), the oil price path will reflect the pace of demand, the degree of decline of stocks, and production restraint among OPEC and non-OPEC producers. However, the global market is unlikely to tighten significantly because of large projected increases in U.S. shale production.

Metals prices surged. Metals prices surged 10 percent (year-over-year (y/y)) in the third quarter. For the first nine months, metals prices were 28 percent higher than the corresponding period in 2016. All metals prices rose in the third quarter, with the prices of four metals posting double-digit gains. Prices of zinc and nickel rose 14 percent, while prices of iron ore and copper rose by 13 and 12 percent, respectively. The price increases reflected strong global demand and various supply constraints. Based on recent data, metals prices are likely to rise by 22 percent in 2017.

Agricultural commodity prices were mixed. The World Bank's Beverage Price Index was almost 13 percent lower than a year ago in the third quarter. Average cocoa prices were about 35 percent (y/y) lower in the third quarter. The weakness reflected surplus conditions in the global cocoa market following a record output in Côte d'Ivoire, the world's largest cocoa supplier. With the global cocoa market well supplied based on year-to-date data, cocoa prices may decline by as much as 30 percent in 2017. Global tea prices strengthened marginally in the third quarter and were 15 percent higher than a year ago.

Several factors have prevented a stronger recovery in the region in 2017. Nigeria and South Africa exited recession in the second quarter of 2017 as expected. A recovery in the oil sector, partly due to a decline in militants' attacks on oil pipelines, helped Nigeria pull out of five consecutive quarters of negative growth but the rebound was softer than expected (figure 1.6). Growth in Nigeria in 2017 is now expected to come in at 1.0 percent, 0.2 percentage point below the forecast in the April 2017 issue of Africa's Pulse. The increase in oil production was below projections, due to maintenance work, and growth in the non-oil sector has remained subdued. In South Africa, economic activity expanded at a faster-than-expected rate in the second quarter, following two successive quarters of contraction. The recovery mainly reflected strong growth in the agriculture sector (figure 1.7), after an historical drought in 2015/16. Growth in the mining sector has remained modest, despite a pickup in metals prices, and activity in the manufacturing sector has been subdued due to weak demand, amid policy uncertainty, which continues to weigh on business and consumer confidence. Slowing food inflation provided a boost to household demand, but high unemployment continues to hamper growth in the consumer sectors. For the year, growth in South Africa is projected to be 0.6 percent, the same as forecast earlier. In Angola, higher oil prices offset slightly lower oil production, and the completion of two hydropower plants is supporting activity with an increase in electricity supply. Growth in Angola in 2017 is expected to be 1.2 percent, as projected.

The weak recovery in the region's large economies was associated with rising unemployment. In South Africa, the unemployment rate reached 27.7 percent in the first half of 2017, up from 26.7 percent in 2016. The prolonged low growth and high unemployment weighed on social progress. Statistics South Africa (2017) reports that the poverty headcount increased across all national poverty lines between 2011 and

2015, with the percentage of the population below the upper-bound poverty line rising from 53.2 to 55.5 percent.[1] In Nigeria, the poverty rate (international poverty line, US$1.9 PPP) is estimated to have risen by about 2 percentage points in 2016, and is expected to rise in 2017.

In the rest of the region, activity has remained weak in oil producers in the Central African Economic and Monetary Community (CEMAC), as they continue to deal with the effects of the oil price shock and a heavy external debt burden. Activity has slowed significantly in several CEMAC countries (for example, Cameroon and Gabon), as they implement measures to contain government expenditures. In some countries (for example, Equatorial Guinea and the Republic of Congo), activity has continued to contract. Chad is expected to exit a deep recession, but the recovery is likely to remain weak, as sharp cuts in public spending are expected to adversely affect non-oil growth. Outside CEMAC, activity has strengthened in Ghana, helped by an increase in oil and gas production, as new fields came on stream.

FIGURE 1.6: Oil Production

A recovery in the oil sector helped Nigeria emerge from recession.

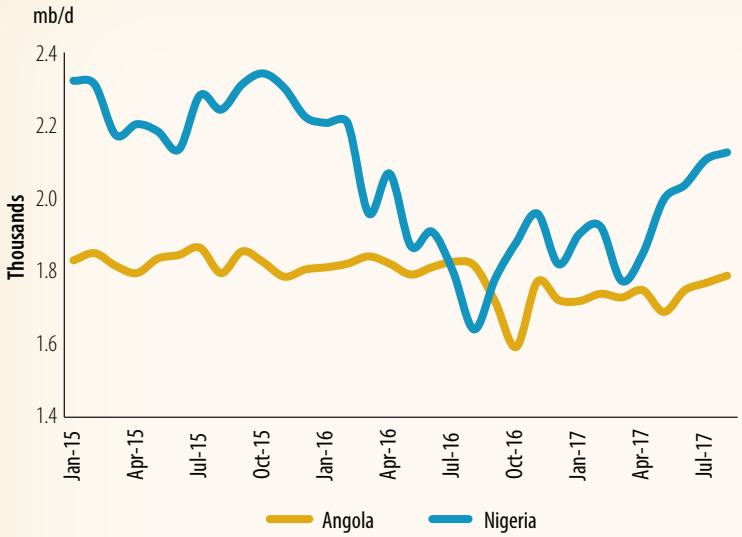
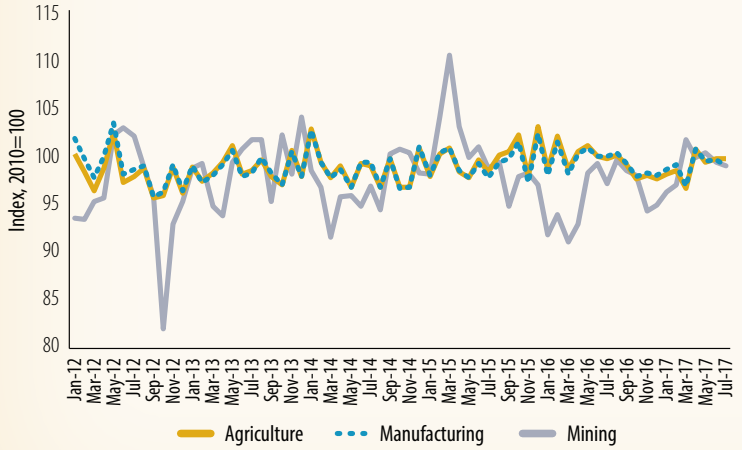


FIGURE 1.7: Sectoral Growth in South Africa

South Africa's economic activity expanded at a faster rate in the second quarter, following two quarters of contraction.



Source: World Bank; Haver Analytics; International Energy Agency; World Economic Outlook.
Note: mb/d = million barrels per day.

An increase in output and investment in the mining sector as metals prices rose, along with the recovery in the agriculture sector, is supporting a rebound in activity in metals exporters. However, growth is expected to remain below its long-term average, due to weaknesses in the non-metals sector. In some countries, political instability (Democratic Republic of Congo) and floods and landslides (Sierra Leone) have hampered the recovery. In Mozambique, the government's ongoing default on its foreign debt has deterred investment. In Zambia, a recovery in agriculture and copper production, along with strengthening activity in services, has supported the rebound in growth.

1 Upper-bound poverty line is R1,138 per person per month.

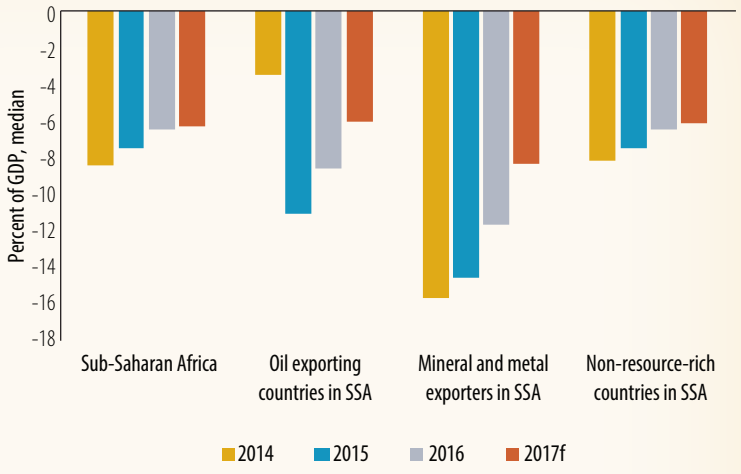
Growth in non-resource intensive countries—which consist mostly of agricultural exporters—has remained broadly stable. Countries in the West African Economic and Monetary Union (WAEMU) and in east Africa have continued to expand at a solid pace, with infrastructure investment continuing to stimulate growth. Increased crop production is supporting economic activity on the supply side. In Senegal, growth is expected to firm, supported by broad-based economic reforms. While remaining robust, growth is expected to soften in Côte d'Ivoire—reflecting the effects of lower cocoa prices—and in Tanzania—partly due to the under-execution of fiscal plans. Drought has taken a toll on economic activity in Kenya, and in Rwanda, growth has slowed as the country adjusts to economic imbalances.

Current Account Deficits and Financing

Current account deficits are narrowing, but at a moderate pace. The median current account deficit, as a share of GDP, is expected to decline from 6.6 percent in 2016 to 6.4 percent in 2017, reflecting the increase in commodity prices (figure 1.8). The deficit is expected to narrow the most among metals exporters and oil exporters, helped by subdued imports and an uptick in the terms of trade (figure 1.9).

Current account deficits narrowing moderately in 2017, reflecting the increase in commodity prices.

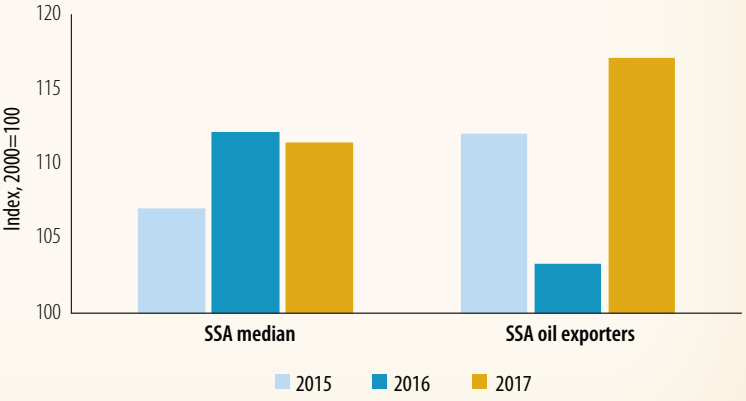
FIGURE 1.8: Current Account Balance



Source: World Bank staff estimates.

Terms of trade are improving for oil exporters.

FIGURE 1.9: Terms of Trade



Source: World Bank; International Monetary Fund Regional Economic Outlook.

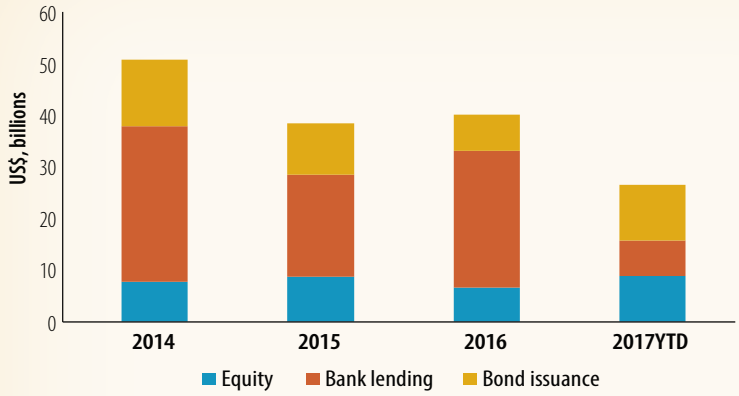
Nigeria's current account surplus is expected to widen. The current account deficit in South Africa is expected to narrow, with the surplus on the trade balance offsetting a shortfall in services, income, and the current transfer accounts. Non-resource intensive countries would see a smaller improvement in the current account deficit. In these countries, demand for investment-related capital goods imports has remained high, particularly among WAEMU and east African countries.

International bond and equity flows in the region have increased, and are helping to finance the current account deficits and cushion foreign reserves (figure 1.10). Sovereign bond issuance has picked up after a pullback in

2016, with Nigeria, Senegal, and Côte d'Ivoire selling bonds on international capital markets (box 1.2). Reflecting improving global sentiment toward emerging and frontier markets, sovereign bond spreads in the region have declined (figure 1.11). Nigeria saw a pickup in equity and portfolio inflows, as the central bank implemented measures to improve access to foreign exchange. In South Africa, the current account deficit has been financed mainly through net portfolio investment inflows, as nonresident investors continued to acquire South African debt securities in a global search for yields. The increase in commodity prices has encouraged foreign investments in the hydrocarbon and mining sectors, but the region continues to attract a limited amount of foreign direct investment flows.

FIGURE 1.10: Capital Flows

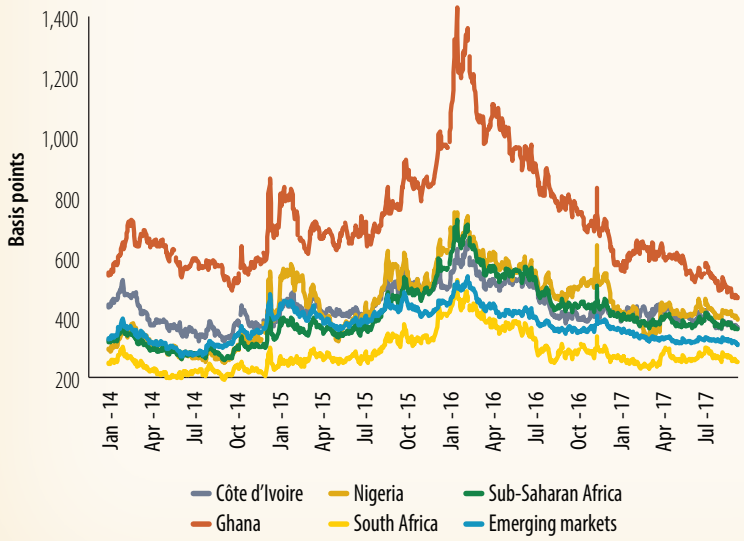
Bond and equity flows to the region are rising.



Source: World Bank; Haver Analytics; International Monetary Fund Regional Economic Outlook; Bloomberg; JP Morgan.

FIGURE 1.11: Sovereign Spreads

Sovereign bond spreads fell, reflecting improving global sentiment toward emerging and frontier markets.



Source: World Bank; Haver Analytics; Bloomberg; JP Morgan.

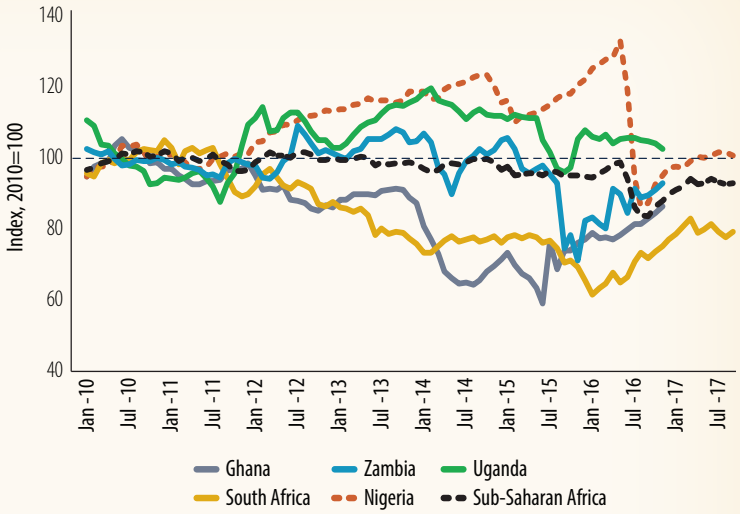
Exchange Rates and Inflation

Currencies in the region have stabilized in real effective terms (figure 1.12). In oil exporters, pressures on the exchange rate have eased due to higher oil prices, increased oil production, and a weaker dollar. However, the spread between the parallel and official rates has persisted in Nigeria and Angola, reflecting continued foreign exchange restrictions. In April 2017, the Central Bank of Nigeria introduced a new investor and exporter window, which has helped improve businesses' access to foreign exchange. In Angola, exchange rate controls introduced in the wake of the collapse of oil prices in 2014 have remained in place. In South Africa, the rand has continued to receive support from the global search for yield by international investors (SARB 2017). Elsewhere, the uptick in metals production and increase in metals prices provided a boost to the supply of foreign exchange in metals exporters. In Mozambique, the currency has strengthened following a sharp depreciation against the U S dollar in the wake of the hidden-debt scandal.

The recent increase in export receipts has helped stabilize the level of reserves in the region, although reserves remain low. The median level of reserves in the region is expected to account for 3 months of

Currencies in the region stabilized in real effective terms.

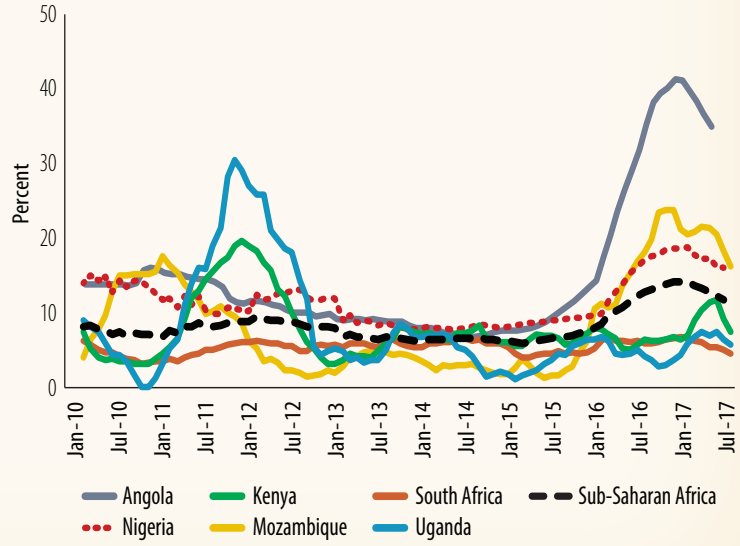
FIGURE 1.12: Real Effective Exchange Rate



Source: Haver Analytics; World Bank.
Note: The last observation is September 2017.

Inflation eased across the region in 2017.

FIGURE 1.13: Inflation



Source: Haver Analytics; World Bank.
Note: The last observation is September 2017.

imports in 2017, the same as in 2016, but below the peak of 4 months of imports in 2014. In several countries, the level of reserves provided less than one month of imports coverage. The prospects of stabilizing commodity prices, together with financial inflows, should enable commodity exporters to accumulate international reserves, but the low import coverage will weigh on the ability of central banks to continue managing their currencies.

Headline inflation has eased across the region in 2017, due to the confluence of stable exchange rates and slowing food price inflation, but remains elevated in several countries. In Angola, consumer price inflation moderated from a peak of 41.2 percent (year-over-year) in November 2016, to 25.2 percent in August 2017 (figure 1.13). The slowdown in inflation was more gradual in Nigeria. Over the same period, consumer price inflation in Nigeria fell from 18.6 to 16 percent, remaining unchanged at that level for several months. A spike in food price inflation, due to a poor harvest in some parts of the country, offset the declining inflationary effect of the currency weakness. South Africa's headline consumer price inflation moderated from a peak of 6.8 percent in December 2016, to 4.6 percent in July 2017, close to the midpoint of the inflation target range. Similarly, after rising in the early parts of 2017 due to drought, inflation in non-resource intensive countries in East Africa has slowed.

Declining price pressures are creating space for central banks in several countries to cut interest rates. For example, a slowing trend in inflation prompted Mozambique's central bank to reduce its policy rate by 25 basis points in August; the mandatory reserves ratio for local and foreign currency liabilities

was also lowered by 50 basis points, to 15 percent. A sustained slowdown in inflation in Malawi, amid lower growth in the price of food items, prompted the central bank to cut its key interest rate by 400 basis points, to 18 percent, in July. Although inflation has ticked up in Uganda, the central bank cut the benchmark rate in May (the eighth cut since March 2016), to the lowest level since 2011, to stimulate economic activity, which is growing at the weakest pace in four years. Elsewhere, the Central Bank of Nigeria has kept its key policy rate at 14 percent, where it has been since July 2016. Overall, as food price inflation continues to slow, the disinflationary impact from stabilizing domestic currencies is expected to push headline inflation down further, which should encourage more central banks to adopt a supportive monetary policy stance.

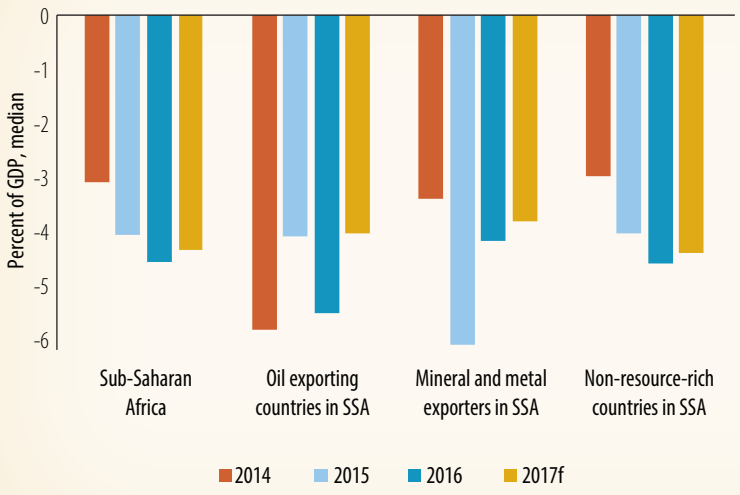
Fiscal Balance and Government Debt

At the regional level, fiscal deficits are beginning to narrow, albeit slowly, suggesting limited progress in increasing fiscal space. The median fiscal deficit is expected to contract by 0.2 percentage point, to 4.4 percent of GDP, still high compared with previous years, reflecting partial efforts to mobilize revenue and rationalize expenditure (figure 1.14). Going beyond the regional aggregates, there is considerable variation in fiscal performance. Large spending cuts have sharply narrowed the fiscal deficit in several CEMAC countries. However, in some oil exporters (for example, Angola and Nigeria), fiscal policy has been loosened in response to higher oil revenues. In metals exporters, the improvement in the fiscal deficit is expected to be small, as these countries continue to struggle to improve domestic revenue. In South Africa, the government is facing challenges in its efforts to maintain the fiscal consolidation path of the 2017/18 budget. National government revenue is increasing at a slower pace than expenditure, as real economic activity remains weak. With tax revenue collection shortfalls making it difficult to attain the target set out in the budget, the country's deficit is expected to narrow only marginally in 2017. The fiscal deficit has edged down but remains elevated in many non-resource intensive countries, as infrastructure investment spending has continued. Across the region, additional efforts are needed to address revenue shortfalls and contain spending to improve fiscal balances.

Government debt in Sub-Saharan Africa remains elevated, reflecting the modest progress made in reducing fiscal deficits. Median government debt is expected to be around 50 percent of GDP in 2017, more than 15 percentage points above the level in 2013. There are wide variations across countries in the size and growth of government debt relative to GDP. By country groups, the largest

FIGURE 1.14: Fiscal Deficit

Fiscal deficits are beginning to narrow.



Source: World Bank staff estimates.

increase in debt burdens since 2013 has been observed in oil exporters, with Angola, Chad, the Republic of Congo, and Gabon all seeing a 20-percentage point or higher increase in debt-to-GDP levels. In Angola and Gabon, debt is over 60 percent of GDP; in the Republic of Congo this indicator has risen above 100 percent, reflecting previously unreported debt. Government debt in 2017 is projected to rise but remain low in Nigeria, and stabilize in Chad after the government sharply curtailed public spending. Nevertheless, both Nigeria and Chad continue to face high debt servicing costs.

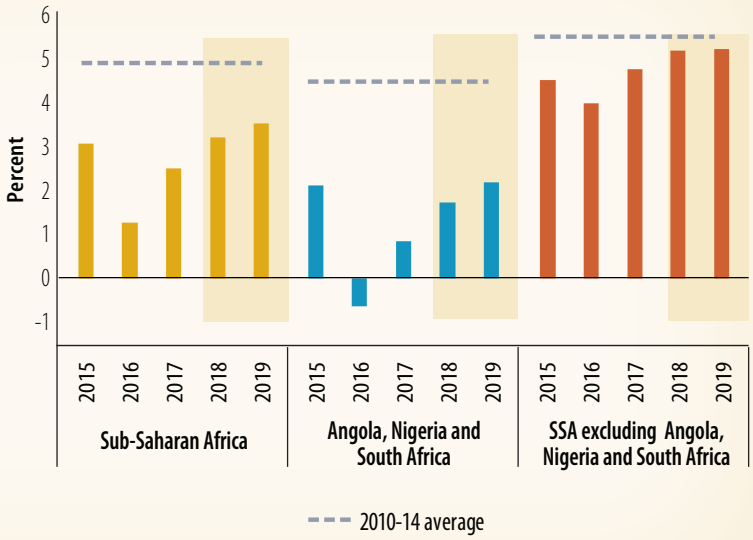
Among metals exporters, government debt continued to rise in Niger, and is to exceed 50 percent of GDP in 2017. Mozambique defaulted on its debt in January 2017. Although the country's public debt-to-GDP ratio appears to have declined, the debt burden remains unsustainable. In South Africa, government debt in 2017 is expected to rise 2 percentage points to about 53 percent of GDP. Among non-resource intensive countries, government debt in Ethiopia and Senegal is rising as these countries continue to borrow to finance ambitious infrastructure investment programs. In 2017, several countries, including Senegal, have tapped the international bond market to cover their financing needs. With many other countries planning to return to the market, the higher cost of financing fiscal deficits on international credit markets at a time when U.S. policy interest rates are normalizing could increase sovereign risk across the region.

OUTLOOK

Regional growth is projected to rise to 3.2 percent in 2018 and 3.5 percent, in 2019 (figure 1.15), slightly above population growth. These forecasts are unchanged from April, and are predicated on moderate improvements in commodity prices and reforms to tackle macroeconomic imbalances. The modest uptick in growth reflects gradually improving conditions in oil and metals exporters. The projected growth rates are below pre-crisis averages, reflecting a moderate expansion in the region's large economies. Per capita growth will turn positive but remain insufficient to reduce poverty (figure 1.16).

Growth in SSA is projected to rise to 3.2% in 2018 and 3.5% in 2019.

FIGURE 1.15: Growth Forecast, GDP

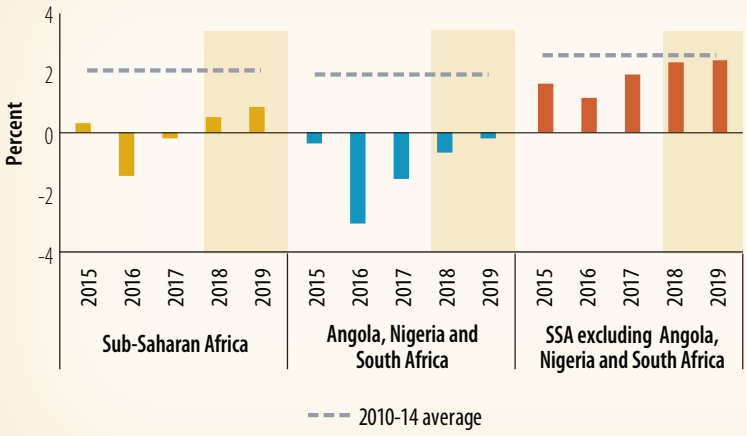


Source: World Bank.

- Growth in Nigeria is projected to pick up, from 1.0 percent in 2017 to 2.5 percent in 2018 and 2.8 percent in 2019 The forecast for 2019 was revised up by 0.3 percentage point, reflecting the expectations that oil production will remain robust and reforms in the foreign exchange market will help boost growth in the non- oil sector.
- Growth in South Africa is projected to rise, from 0.6 percent in 2017 to 1.1 percent in 2018 and 1.7 percent in 2019.

The forecast for 2019 was revised down by 0.3 percentage point. The outlook remains challenging, with policy uncertainty and low business confidence expected to continue to weigh on investment.

FIGURE 1.16: Growth Forecast, GDP Per Capita



The projected growth rates are below pre-crisis averages, reflecting a moderate expansion in the region's large economies.

Source: World Bank, IMF Regional Economic Outlook.

- Growth in Angola is projected to slow, from 1.2 percent in 2017 to 0.9 percent in 2018, as the government embarks on fiscal consolidation to stabilize the public debt. Growth is projected to rebound to 1.5 percent in 2019, supported by a pickup in activity in the non-oil sector, as domestic demand strengthens.
- Among oil exporters, growth is forecast to strengthen in Ghana, as increased oil and gas production boosts exports. Growth in the CEMAC is expected to remain low, but improve gradually, as most countries continue to adjust to low prices.
- The ongoing recovery in metals exporters is expected to continue. Steadily rising metals prices are expected to encourage further investment in the mining sector. In some metals exporters, including Zambia, a combination of steady (single digit) inflation and monetary policy easing is expected to help boost household demand. However, debt issues will continue to weigh on investment in Mozambique. In the Democratic Republic of Congo, the ongoing political crisis will undermine economic activity.
- Non-resource intensive countries are expected to continue to expand at a robust pace, on the back of robust public investment growth. Economic activity is expected to remain solid in the WAEMU countries, led by Côte d'Ivoire and Senegal. Elsewhere, growth is projected to recover in Kenya, as inflation eases, and firm in Tanzania on a rebound in investment growth. Ethiopia is likely to remain the fastest-growing economy in the region, although public investment is expected to slow down.

RISKS

Short-term risks to the regional outlook are broadly balanced, but medium-term risks remain tilted to the downside. On the upside, stronger-than-expected activity in advanced economies (e.g., United States, Euro Area) could boost growth in the region through higher demand for exports, investment, and remittances. On the downside:

- An abrupt slowdown in China could generate adverse spillovers to the region through the commodity price channel. Lower-than-projected commodity prices would exacerbate economic imbalances and complicate adjustment needs in many commodity exporters. The CEMAC countries and metals exporters are particularly vulnerable to this risk.

- A quicker and sharper-than-expected normalization in interest rates in the United States could tighten global financial conditions and trigger a reversal in capital flows to the region's emerging markets. South Africa would be particularly vulnerable to adverse swings in investor sentiment. With the increase in sovereign bond issuance in recent years, a sharp increase in global interest rates could also complicate debt dynamics in the region.

On the domestic front, growth may underperform if governments fail to take appropriate measures to address economic imbalances and support private investment. Reforms are particularly needed in the region's large commodity exporters to improve fiscal balances, which is critical for stabilizing government debt and fostering the confidence of the private sector. Other downside risks include:

- A protracted period of heightened political uncertainty, which could further harm confidence, deter investment, and weaken growth in many countries.
- Higher-than-anticipated security tensions could lead to an escalation in military operations, which could divert budgetary resources away from development expenditures, slowing progress toward social development goals.

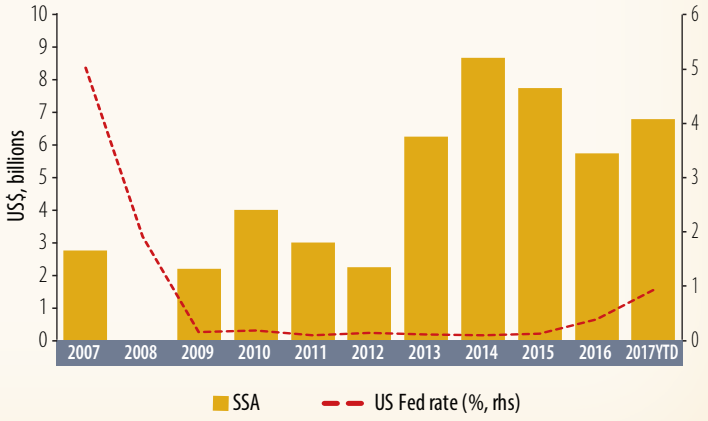
BOX 1.2: Debt Issuance, Maturity, and Sovereign Risk in Sub-Saharan Africa

Amid the 2008–09 global financial crisis, African countries implemented countercyclical policies, thanks to having adequate fiscal space and access to global capital markets (see section 2). Unconventional monetary policies in advanced countries led a fair share of yield-searching global investors to shift their portfolios toward assets in emerging markets and less developed countries.

In the post-crisis period, African countries have had measured success in tapping global capital markets—especially international bond markets. Sovereign debt issuance increased from an average of US$3.5 billion in 2010–13 to US$6.2 billion in 2014-17. Issuance has been on fairly favorable terms: the weighted average coupon is 6.5 percent, and the average maturity is 20 years (figure B1.1.1). Seven countries account for over three-fourths of the total bond debt issued: South Africa, Côte d'Ivoire, Ghana, Nigeria, Angola, Zambia, and Kenya.

After enjoying a period of favorable external conditions for several years, countries in the region could well confront a tightening in financial conditions due to the move to normalization of monetary policy in advanced countries, a decrease in other sources of funding, and rising sovereign risks in the region. International bond market conditions are still bullish; however, it is questionable whether these conditions will hold in the future.

FIGURE B1.1.1: Eurobond Issuance by Sovereigns in Sub-Saharan Africa, 2010-17



Source: WB staff estimations using Datastream.

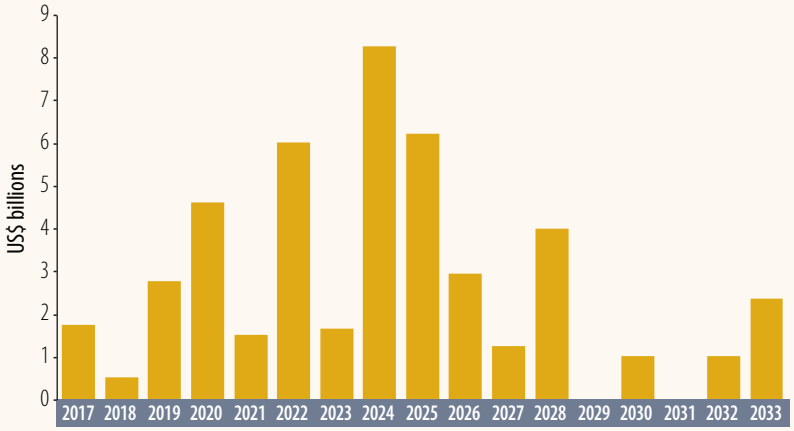
The region's economic activity remains fragile after being affected by the slump in oil and commodity prices during 2014–16.

There is concern about high debt levels and credit risk. Standard & Poor's has downgraded four Sub-Saharan African countries since the start of 2017, namely, Gabon, Namibia, the Republic of Congo, and South Africa. Additionally, the debt of several countries in the region remained on negative outlook. A few countries are facing repayment problems; for example, Mozambique and the Republic of Congo.

Figure B1.1.2 shows the estimated forward amortization of outstanding bonds by country. About US$3.7 billion in debt per year is set to mature in Sub-Saharan Africa during 2019-20. The amount of maturing debt reaches over US$ 8 billion in 2024. Countries with bond debt maturing in the coming years could face greater refinancing risks if international financial market conditions tighten and global investors lose interest in rolling over existing debt or purchasing new debt issuances.

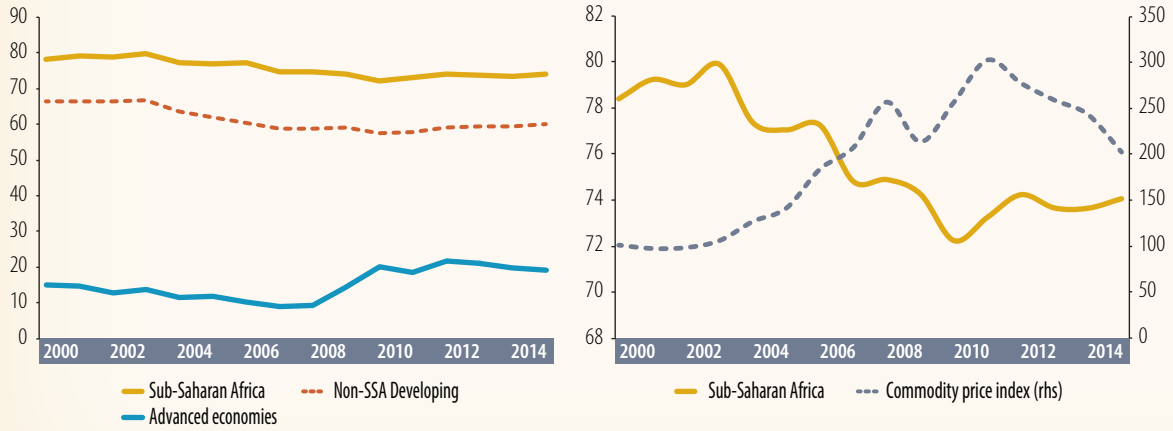
Finally, sovereign risk in the region—as measured by the Institutional Investors Credit Rating—is still high compared with other regions (figure B1.1.3). A negative correlation between commodity prices and sovereign risk suggests that the region will need to improve fundamentals greatly to drive down this risk.

FIGURE B1.1.2: Debt Maturities of Eurobonds (Estimates)



Source: World Bank staff estimations using Datastream.

FIGURE B1.1.3: Sovereign Risk in Sub-Saharan Africa and Other Regions



Source: World Bank staff estimations using Bloomberg and Institutional Investor Ratings.

Note: Institutional Investors Credit Ratings are based on information provided by senior economists and sovereign-risk analysts at leading global banks and money management and securities firms. The weighted measure goes from 0 to 100, with 100 representing the highest risk of default.

ANNEX 1A: GROWTH RESILIENCE IN THE REGION: WHAT ARE THE DRIVERS?

External headwinds in the global economy and rising macroeconomic vulnerabilities in the region have taken a toll on the resilience of growth paths for Sub-Saharan African countries over the past three years. The October 2016 issue of *Africa's Pulse* categorized 45 countries in the region into five groups based on the comparison of their average annual gross domestic product (GDP) growth rates during 1995–2008 and 2014–16. Countries with a strong GDP growth rate—above the top tercile of the Sub-Saharan African distribution (5.4 percent) in 1995 and 2008—in recent years and over a longer period are classified as "established." "Improved" countries are those with a growth rate below the top tercile in 1995–2008, but with a recent rate of growth higher than that of the top tercile. Countries with average annual growth below the bottom tercile in both periods are classified as "falling behind"; those where more recent growth performance is below the bottom tercile but growth in earlier periods was above the bottom tercile are denoted as "slipping"; and countries with recent average annual growth between the top and bottom terciles are classified as "stuck in the middle." Established and improved performers are viewed as exhibiting resilience, others are not.

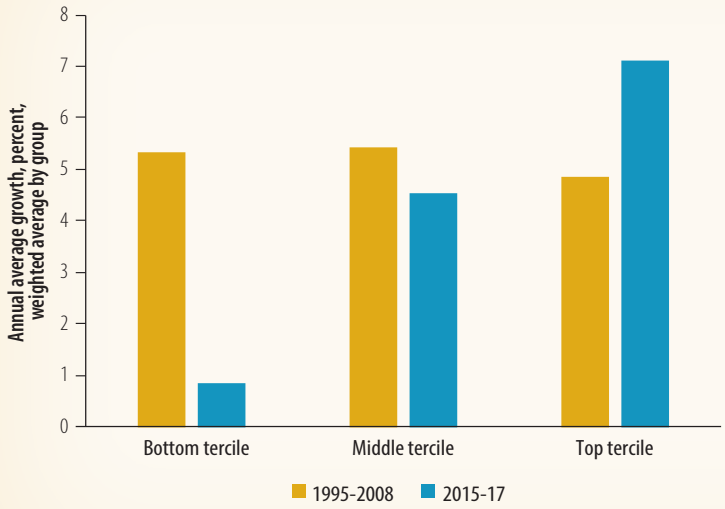
These groupings were subsequently revisited by using growth rates for 2015–17. The inclusion of the more recent period captures better the resilience of economic activity to the plunge in the prices of oil and other commodities, including metals and minerals; unfavorable external and domestic economic conditions; and the adequacy of the economic policy response. The thresholds used to classify these countries remain invariant. A more accurate calculation of central measures (say, medians and/or averages) across the different groups requires more aggregate grouping.[1] Hence, we define the *resilient* countries as those Sub-Saharan African nations that have an average GDP growth rate in 2015–17 that exceeds the top tercile of the distribution of GDP growth in 1995–2008. The group of resilient countries includes improved and established countries. The *less resilient* countries are those Sub-Saharan African nations with an average GDP growth rate in 2015–17 that is below the top tercile of the GDP growth distribution in 1995–2008. Within this group, countries with 2015–17 average annual GDP growth that is above the 33rd percentile and below the 67th percentile figures in 1995–2008 are denoted as the middle tercile, and those with annual average 2015–17 GDP growth that is below the 33rd percentile of the growth distribution in 1995–2008 are denoted as the middle tercile. The middle tercile is equivalent to the stuck-in-the-middle countries (as described in the spring 2017 *Africa's Pulse*). The bottom tercile combines the slipping and falling behind countries.

The group of resilient countries comprises seven countries with a 16 percent share of the regional GDP. Within the group of less resilient countries, the middle tercile includes 16 countries and accounts for 20 percent of the Sub-Saharan Africa's GDP; the 21 countries in the bottom tercile account for 64 percent of the region's economic activity. Some within-group variation is not accounted for in the top and bottom terciles of this country classification. However, the narrative of GDP growth in the region stays qualitatively invariant. The (weighted average) rate of GDP growth rates for the resilient and less resilient countries (as represented by the three terciles of the distribution) is presented in figure 1A.1.

1 For instance, the group of established countries includes only three countries (Ethiopia, Rwanda, and Tanzania), and that of improved countries includes only four (Côte d'Ivoire, Kenya, Mali, and Senegal). The combined weight of these two groups in the GDP of the region is about 16 percent. Computing a median and/or average of the combined group is a more accurate central measure than if computing medians/averages for each group alone—especially since only a few observations are available for 2015–17.

The data show that economic activity in resilient countries improved from an annual average GDP growth rate of 4.9 percent in 1995–2008 to 7.1 percent in 2015–17. This pattern of growth includes the sharp growth acceleration of improved countries (from 3.4 percent in 1995–2008 to about 6.5 percent in 2015–17) and the solid growth record of the established countries in the region (with annual GDP growth rate increasing from 6.6 percent in 1995–2008 to about 7.9 percent in 2015–17). Among the less resilient countries, economic activity in the middle tercile declined from an annual average GDP growth rate of 5.4 percent in 1995–2008 to 4.5 percent over 2015–17. Finally, countries in the bottom tercile saw their GDP growth rate plummet, from an annual average rate of 5.3 percent to 0.8 percent. The developments in the bottom tercile have a greater weight on the regional average, as the largest countries in the region are in this group.

FIGURE 1A.1: GDP Growth in Sub-Saharan Africa across Performance Groups, 2015–17 Compared with 1995–2008



Source: World Bank staff calculations based on the World Development Indicators database.

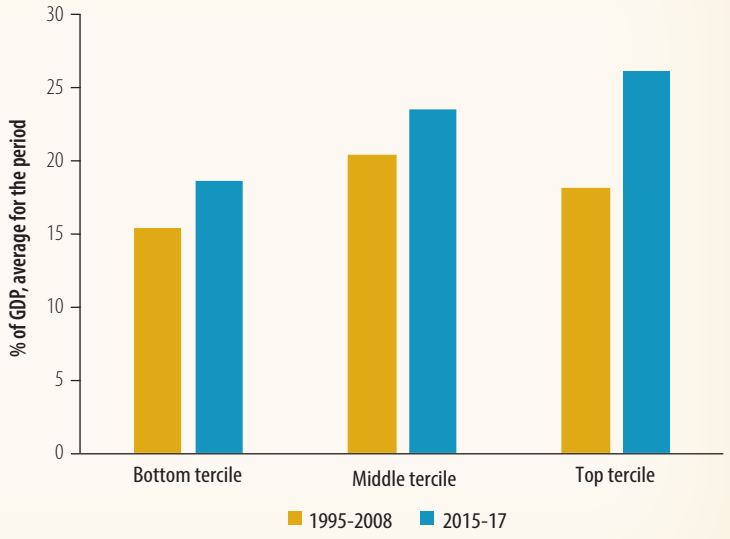
Economic activity in resilient countries continues to improve, from an annual average GDP growth rate of 4.9% in 1995–2008 to 7.1% in 2015–17.

Capital accumulation and efficiency of investment. What explains the growth dynamics exhibited by the three groups of countries in Sub-Saharan Africa? Is growth driven by higher investment-GDP ratios? Or is it attributed to greater efficiency of investment? Following King and Levine (1993), the growth rate of GDP is decomposed into the ratio of domestic investment to GDP and a residual measure of improvements in the efficiency of physical capital allocation—denoted here as efficiency of investment. The measure of the efficiency of investment can be interpreted as the variation in real economic activity to an additional unit of domestic investment. Given that this is a residual measure, it might also capture technological improvement, but also increases in (the quantity and quality of) human capital and intangible capital, among others.

The evolution of the investment-to-GDP ratio indicates that capital accumulation has increased for the resilient and less resilient country groups, even when economic growth performance has not. The uptick in the investment-to-GDP ratio across countries in Sub-Saharan Africa could be attributed to several factors, namely: countercyclical public investment by governments with fiscal space or access to global capital markets, and increased foreign capital flows to Sub-Saharan African countries from global investors searching for yields. The increase in this ratio was considerably larger among the resilient countries (top tercile), where gross capital formation rose from an average of 18 percent of GDP in 1995–2008 to 26 percent in 2015–17 (figure 1A.2). More specifically, the acceleration of the investment coefficient in this group is primarily attributed to the doubling of investment-to-GDP

Among resilient countries, gross capital formation rose from an average of 18% of GDP in 1995–2008 to 26% in 2015–17.

FIGURE 1A.2: Gross Capital Formation in Sub-Saharan Africa, 2015–17 Compared with 1995–2008



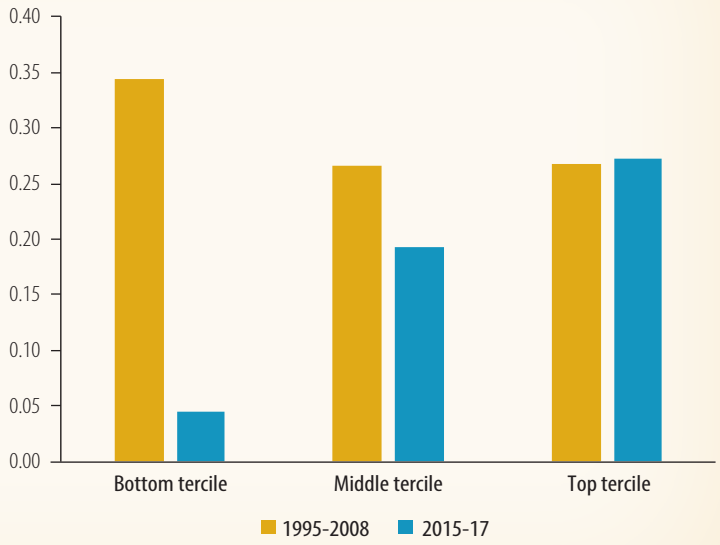
Source: World Bank staff calculations based on the World Development Indicators database.

in Ethiopia. Among the less resilient countries, those in the bottom tercile also experienced an increase in their investment-to-GDP ratio: from an average of about 15 percent in 1995–2008 to 19 percent in 2015–17. The higher investment rate in this group is mainly driven by the sharp increases in the Republic of Congo and Gabon. Overall, the evidence suggests that the growth deceleration of the less resilient countries (bottom and middle terciles) cannot be explained by lower capital accumulation.

Rising capital accumulation—as captured by the increased investment-to-GDP ratio over time—has not necessarily come along with greater efficiency of investment spending. When looking at the evolution of the efficiency of investment spending, it remains almost invariant among resilient countries, but declines among less resilient countries. The almost constancy in the efficiency of investment for the resilient countries conceals the significantly improved efficiency in some of these countries—most notably, Côte d'Ivoire and Kenya. Additionally, the resilient countries register the largest degree of investment efficiency during 2015–17 (figure 1A.3). By contrast, the efficiency of investment fell among less resilient countries—particularly among countries in the bottom tercile. The decline in the efficiency of investment can be attributed, among other things,

Resilient countries registered the largest degree of investment efficiency during 2015–17.

FIGURE 1A.3: Efficiency of Investment in Sub-Saharan Africa, 2015–17 Compared with 1995–2008



Source: World Bank staff calculations based on the World Development Indicators database.

to: resource misallocation, poor human and physical capital complementarities, inefficiencies in the application of existing technologies, insufficient skills and other capabilities for the adoption of new technologies, and distortive public policies. In the less resilient countries, the decline in efficiency of investment was primarily experienced as a deterioration in the quality of spending among resource abundant countries, namely, Chad, Equatorial Guinea, Liberia, Nigeria, and Sierra Leone, among others.

In sum, growth in the Sub-Saharan Africa region prior to the global financial crisis has been characterized, on average, by factor accumulation (specifically, physical capital) rather than total factor productivity growth (World Bank 2014). The investment boom among African countries was partly driven by greater capital spending by the government—as well as by surging flows of foreign capital. The narrative of post-crisis growth in the region is also explained by an investment boom that has been fueled by public sector borrowing. Countercyclical fiscal spending in most African countries has been accompanied by widened primary deficits and higher public debt stocks. However, this expansion has not come with higher growth—as is the case of the countries that are slipping and stuck in the middle—or with greater efficiency of investment—as is the case of established countries. Therefore, it could be argued that there is a growing incidence of spending inefficiency and/or resource misallocation.

Annex 1B examines the evolution of capital flows, especially foreign direct investment (FDI), in the region. A recovery in FDI and other flows, such as bond financing, holds the promise of spurring investment in the region. Section 2 analyzes the fiscal space constraints that countries in the region are facing, which could have implications for public investment programs.

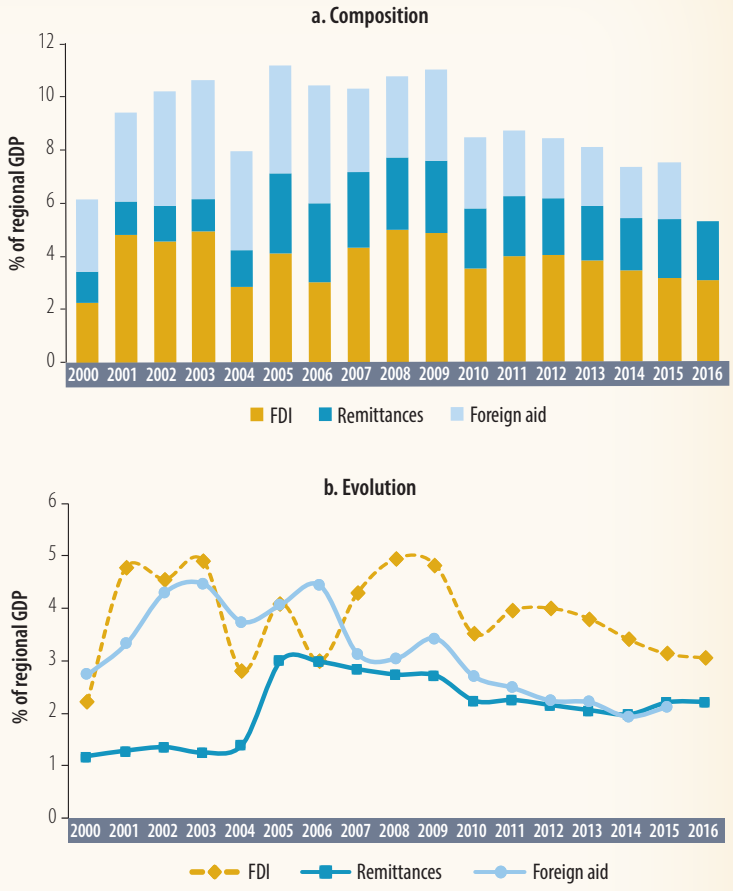
ANNEX 1B: EXTERNAL SOURCES OF FINANCING IN SUB-SAHARAN AFRICA

Capital flows to Sub-Saharan Africa slowed in 2015–16 on weaker global trends. This slowdown underpinned a deceleration in investment growth in the region. World Bank (2017) points out that investment growth in the region slowed from about 8 percent in 2014 to 0.6 percent in 2015—which is significantly lower than the 1990–2008 average of 6 percent and the rapid growth in investment of 11.6 percent during 2003–08. The deceleration is evident in public and private investment.

Capital flows into the region's only emerging market (South Africa) decelerated to 4.2 percent of GDP in 2015, after posting an annual average amount of 6.6 percent of GDP in 2011–14. The reduction in the amount of capital flows into South Africa was mainly driven by reduced FDI—which explains about half the drop in total inflows. This decline reflects not only lower international commodity prices, but also labor market problems that may have deterred investment. Total flows of foreign capital into the region's frontier markets, by contrast, grew from 5.8 percent of GDP in 2011–12 to 7.4 percent of GDP in 2015, boosted by an increase in other investment inflows (say, cross-border bank lending, private and official sector lending, or others). Finally, foreign capital flows into other countries in Sub-Saharan Africa slightly increased, from 7.3 percent of GDP over 2011–14 to 7.7 percent of GDP in 2015—and this increase is primarily explained by a small increase in FDI.

Although remittance inflows to Africa remained slightly invariant, foreign aid edged lower.

FIGURE 1B.1: Safer Financing Flows: FDI, Remittances, and Foreign Aid in Sub-Saharan Africa

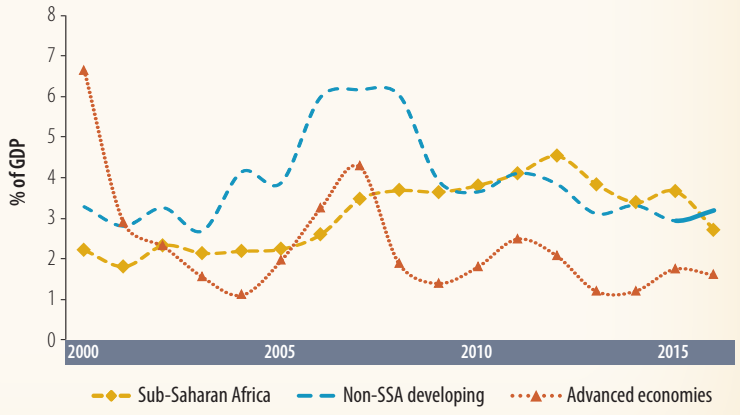


Source: World Development Indicators.

Note: Data for foreign aid are not available for 2016. FDI = foreign direct investment; GDP = gross domestic product.

FDI inflows as a percentage of GDP fell in 2015–16 relative to 2010–13 for all regions of the world.

FIGURE 1B.2: FDI into Sub-Saharan Africa and Other Regions



Source: IMF Balance of Payments Statistics; World Bank staff estimates.

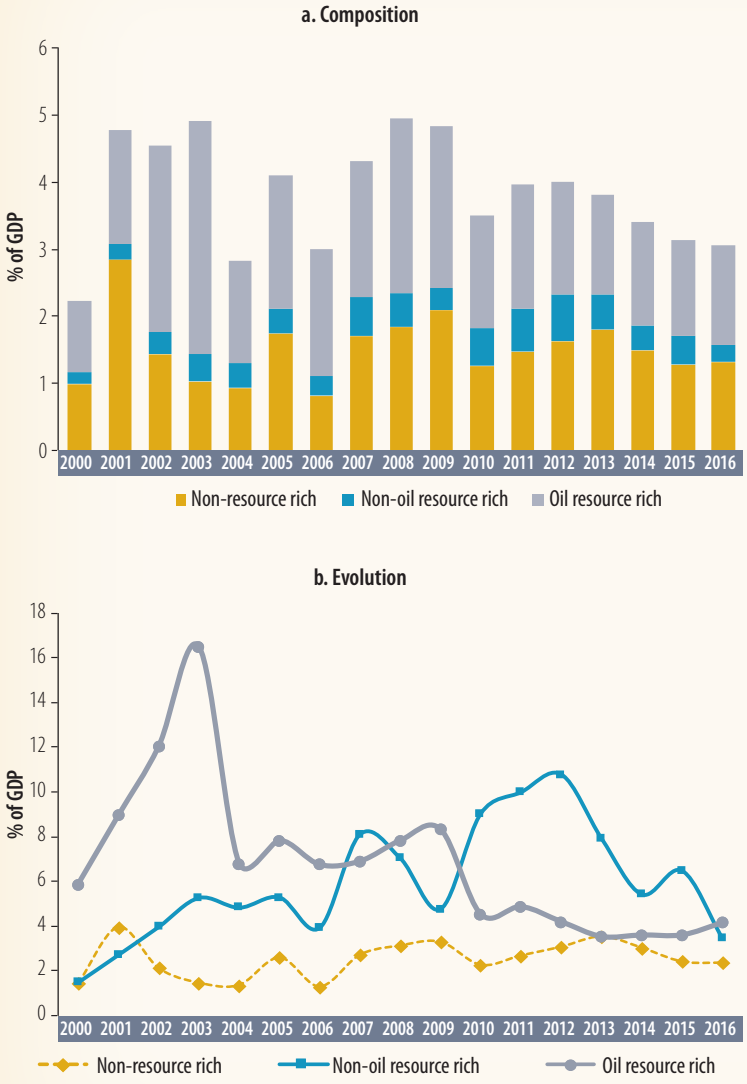
For the region, FDI inflows fell from 3.8 percent of GDP in 2011–14 to 3.1 percent in 2015–16. Relative to other safer forms of financing, regional inflows of FDI are larger than those of workers' remittances and foreign aid. Although remittance inflows to Africa remained slightly invariant (2.1 percent of GDP in 2011–14 and 2.2 percent in 2015–16), foreign aid edged lower, from 2.2 to 2.1 percent of GDP (figure 1B.1). Finally, there has been a retrenchment in all safer forms of external financing to countries in Sub-Saharan Africa after the global financial crisis. Since 2008, FDI inflows to the region declined by about 2 percentage points of GDP; foreign aid was reduced by 1 percentage point of GDP. Finally, remittances dropped by half a percentage point of GDP from 2008 to 2016.

The downward trend in FDI is also observed in other regions of the world. FDI inflows as a percentage of GDP fell in 2015–16 relative to 2010–13 for all regions (figure 1B.2). The largest decline took place in Sub-Saharan Africa, where FDI inflows slowed from 4.2 percent of GDP in 2010–13 to 3.2 percent of GDP in 2015–16 (a drop of about 1 percentage point of GDP). Developing countries outside Sub-Saharan Africa experienced a drop from about 0.6 percentage points of GDP in 2010–13 to 3.1 percent of GDP in 2015–16. Finally, FDI inflows to advanced countries declined from 1.9 percent of GDP in 2010–13 to 1.7 percent of GDP in 2015–16.

Going beyond the aggregate trends, there is some heterogeneity across countries in the region. Figure 1B.3 presents the evolution of FDI inflows by resource abundance in the region. In 2015–16, FDI flows into the region were about 3.1 percent of GDP—of which 1.3 percent of GDP flowed into non-resource rich countries, 1.5 percent into oil-rich countries, and 0.3 percent into non-oil-rich countries. Although FDI declined for all these groups, the pace of decline varied (figure 1B.4). The sharpest decrease in the ratio of FDI inflows to GDP was experienced by the non-oil resource rich countries, to 5 percent of GDP in 2015–16 (from 9.4 percent in 2010–13). FDI inflows to oil-rich countries declined from 4.3 percent of GDP in 2010–13 to 3.9 percent in 2015–16. Finally, non-resource rich countries saw a decline of 0.5 percentage points of GDP in 2015–16, to 2.4 percent (down from 2.9 percent in 2010–13).

FIGURE 1B.3: FDI Inflows to Sub-Saharan African Countries, by Resource Abundance

The sharpest fall in FDI inflows to GDP was in non-oil resource rich countries, to 5% of GDP in 2015–16.

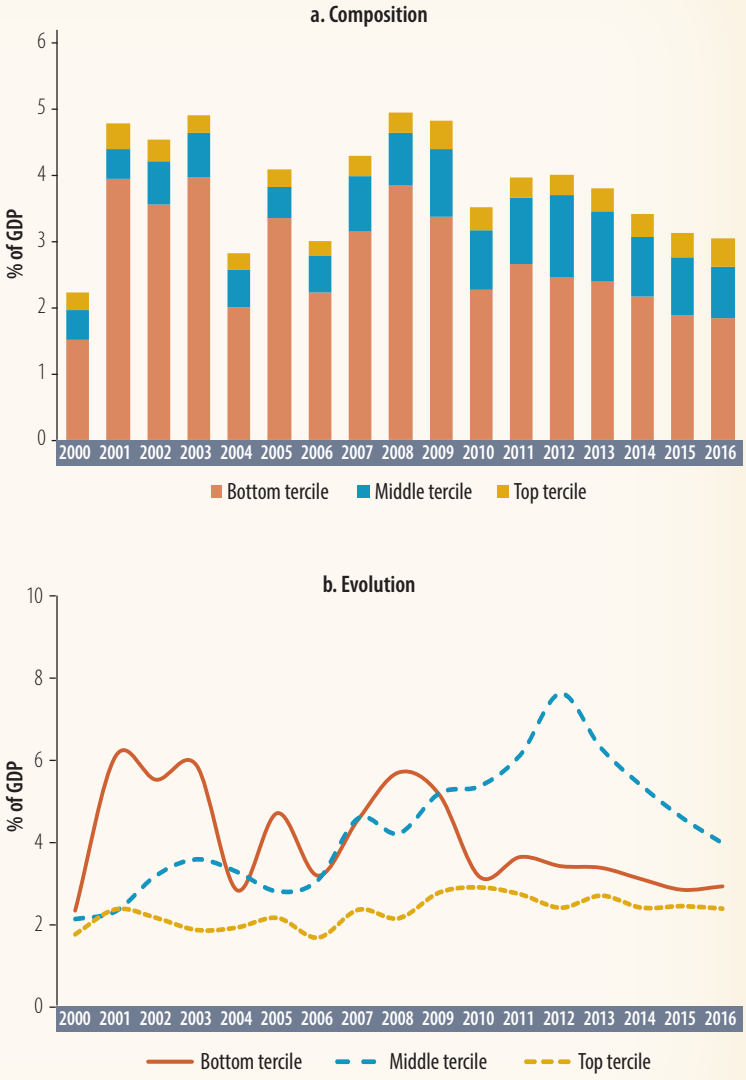


Source: IMF Balance of Payments Statistics; World Bank staff estimates.
Note: FDI = foreign direct investment; GDP = gross domestic product.

The distribution of FDI inflows across country groups by growth performance is uneven (figure 1B.4). Again, the FDI inflows that the region received during 2015-16, valued at 3.1 percent of GDP, went mostly to the less resilient countries: 1.9 percent of the regional GDP is accounted for by the bottom tercile; 0.8 percent of the regional GDP was invested in the middle tercile. The evolution of FDI inflows relative to each group's GDP shows that this ratio has declined for all groups—although at a faster pace for the least resilient countries, especially those in the middle tercile. FDI flows into the middle tercile countries declined to 4.3 percent of GDP in 2015–16, from 6.4 percent in 2010–13. This was followed by a decline in the bottom tercile countries, from 3.4 percent of GDP in 2010–13, to 2.9 percent in 2015–16. Finally, FDI inflows to resilient countries declined slightly, from 2.7 percent of GDP in

The 3.1% of GDP that the region received in FDI inflows during 2015–16 went mostly to the less resilient countries.

FIGURE 1B.4: FDI Inflows to Sub-Saharan African Countries, by Growth Performance



Source: IMF Balance of Payments Statistics; World Bank staff estimates.
Note: FDI = foreign direct investment; GDP = gross domestic product.

2010–13, to 2.5 percent in 2015–16—despite rising FDI flows into Ethiopia and Rwanda.

A closer look at country information on gross FDI inflows shows that 32 of 46 countries in the region experienced a decline in FDI inflows (as a percentage of GDP) in 2015–16 compared with 2010–13. The median decline in FDI inflows for those 32 countries was about 1.8 percent of GDP; the standard deviation was about 4.8. The largest drops in FDI inflows (in terms of GDP) took place in Equatorial Guinea, the Democratic Republic of Congo, Liberia, Niger, and Sierra Leone. Meanwhile, 14 countries experienced an increase in FDI inflows. The median increase in the ratio of FDI inflows to GDP was about 0.7 percent and its standard deviation was 2.8. The countries with the largest increases in FDI inflows were the Republic of Congo, Ethiopia, and Lesotho.

Looking ahead, a pickup in capital flows is underway, partly reflecting improving global conditions. The recovery in external financing, especially FDI, should help spur investment in the region. FDI has implications for skills building in Africa. This is discussed in Annex 1C.

ANNEX 1C: FDI AND SKILLS

FDI, along with international trade, is one of the most important vehicles for the international transfer of technology. Multinational enterprises (MNEs) provide proprietary technology to affiliates in the host country and enable the latter to compete successfully with local firms. The use of better technology by foreign affiliates may (fully or partly) offset local firms' superior knowledge of domestic markets, consumer

preferences, and business practices. However, technology spillovers from the MNE's foreign affiliate can affect the host country's economy—thus, boosting the human capital and productivity of local firms.

The spillover effects typically operate through forward and backward linkages. MNEs may provide technical assistance and training to their local suppliers, subcontractors, and customers. The labor market constitutes another important channel of transmission: MNEs tend to train their managers and operatives. Over time, these trained employees may take employment in local firms or establish new firms. Therefore, FDI is a valuable source of new technology—as it introduces new ideas and strengthens the human capital base needed to adapt these ideas to the local market.

However, productivity and technology spillovers are not necessarily an automatic corollary of greater FDI. The relationship between FDI and human capital is complex: FDI inflows may create potential knowledge spillovers to local labor markets and domestic employment. At the same time, the level of human capital of the host country may determine the amount of FDI that the host country can attract and whether domestic firms can reap the benefits from potential spillovers.

There is no monotonically linear relationship between FDI and human capital. Some economic models have predicted multiple equilibria in the relationship. Host countries with relatively abundant human capital may attract several technology-intensive MNEs. In turn, these MNES can contribute to the further development of labor skills—that is, skill upgrading. Countries with weaker levels of human capital are prone to receiving smaller FDI inflows, and the entrant MNEs may use simpler technologies and make a small contribution to local learning and skills development.

MNEs typically transfer technology through patent rights, expatriate managers and technicians, and the technology embodied in machinery and equipment. Additionally, MNEs can transfer technology to affiliates and other host country firms through training domestic employees—which affects different levels from simple manufacturing operatives, through supervisors to technically advanced professionals and top-level managers. The beneficiaries of the training provided by the MNEs are not only the workforce of the MNE's own affiliates, but also the MNE's suppliers, subcontractors, and customers. Training activities range from on-the-job training, to seminars and more formal schooling, to overseas education, perhaps at the parent company, depending on the skills needed. The various skills gained through the relation with the foreign MNE may spill over directly—when the MNE does not charge the full value of the training provided to local firms—or over time, as the employees move to other firms or set up their own businesses.

In sum, the entry of an MNE increases the demand for skilled workers in an industry or region, thus increasing wage inequality. Technology spillovers from foreign to domestic firms may raise the relative demand for skilled workers in the domestic firms—further contributing to wage inequality and skill upgrading. Section 3 addresses some of the key issues around skill-building in Africa.

Section 2: Fiscal Space in Sub-Saharan Africa

Countercyclical government spending amid the global financial crisis was a welcome part of the fiscal policy toolkit of Sub-Saharan African countries. The presence of fiscal space among countries in the Africa region was key for conducting countercyclical policies. Lower public debt burdens (especially, among heavily indebted poor countries (HIPCs)), adequate policy buffers (especially higher public savings among resource-abundant countries), and access to global capital markets (thanks to global investors searching for yields) play a key role in financing countercyclical fiscal policy actions.

Yet, countercyclical actions pursued by Sub-Saharan African countries in the downturn were not followed by measures to rein in spending and boost revenues when countries regained and consolidated growth momentum. Additionally, the plunge in the price of oil, as well as the prices of metals and minerals, sharply reduced government revenues in resource abundant countries—thus leaving them with fewer resources to fund public spending.

Consequently, many countries in the Africa region now face the need to undertake fiscal consolidation measures to narrow fiscal deficits and stabilize government debt. This section looks at the evolution of fiscal sustainability indicators, external debt, and balance sheet composition of Sub-Saharan African countries over the past 15 years. The discussion relies on the comprehensive fiscal space database recently developed by Kose et al. (2017). This database covers 200 countries—of which 48 are in Sub-Saharan Africa—over 1990–2016, and includes 28 indicators of fiscal space classified in four categories: debt sustainability, balance sheet vulnerability, external and private sector debt-related risks as potential causes of contingent liabilities, and market access.

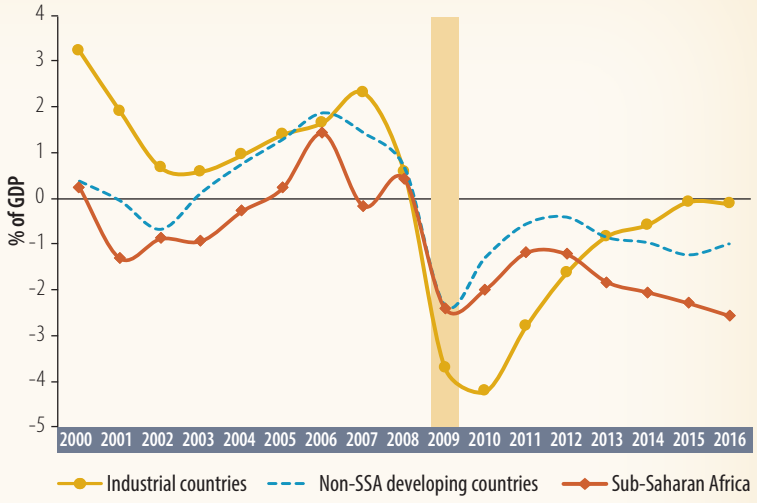
EVOLUTION OF FISCAL SUSTAINABILITY IN SUB-SAHARAN AFRICA DURING 2000–16

Fiscal sustainability measures in Sub-Saharan Africa saw a broad deterioration in 2008–09, mirroring a trend observed in other country groups—that is, developing countries outside Sub-Saharan Africa and industrial countries. There was a subsequent improvement in these measures in 2010–12, but more recent periods have seen a weakening trend in Sub-Saharan Africa. This pattern implies that fiscal outcomes in the region are linked to the commodity price cycle.

Primary balance. The evolution of the primary balance of Sub-Saharan African countries compared with industrial economies and developing countries outside Sub-Saharan Africa (non-SSA) is presented in Figure 2.1. Some basic features emerge from this figure. First, all country groups had a primary surplus in the run-up to the crisis. Sub-Saharan Africa was running an average primary surplus of 0.6 percent of GDP in 2006–08, relative to surpluses of 1.5 and 1.3 percent of GDP for industrial economies and non-SSA developing countries. Second, all country groups engineered considerable countercyclical policy measures in 2009–10. The fiscal balance of the Sub-Saharan Africa region shifted from a primary surplus of 0.6 percent of GDP in 2006–08, to an average deficit of 2.2 percent of GDP in 2009–10. The countercyclical push was even larger among industrial countries—with the primary balance moving

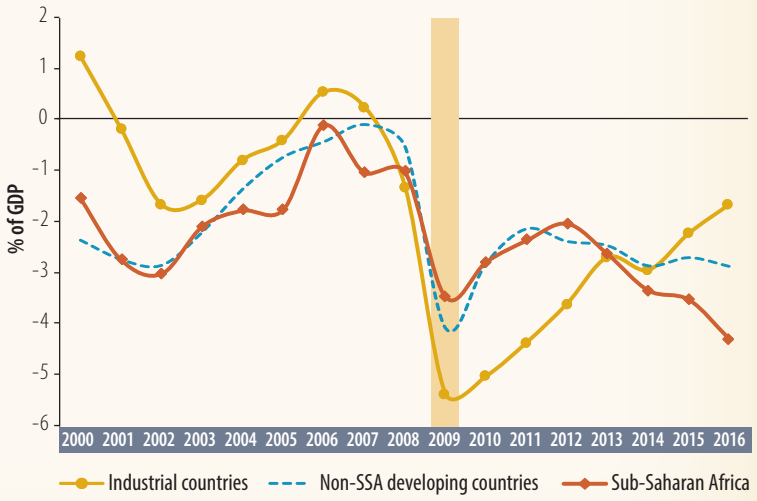
The fiscal balance in the Sub-Saharan Africa region shifted from a primary surplus of 0.6% of GDP in 2006–08 to a deficit of 2.2% of GDP in 2016.

FIGURE 2.1: Primary Fiscal Balance



Most economies recorded surpluses in the run-up to the crisis, but fiscal deficits widened in Sub-Saharan Africa and non-SSA developing countries after the crisis.

FIGURE 2.2: Overall Fiscal Balance



Source: World Bank staff, based on data from Kose et al. 2017.
Note: All figures reported are group medians expressed as a percentage of GDP. GDP = gross domestic product; SSA = Sub-Saharan Africa.

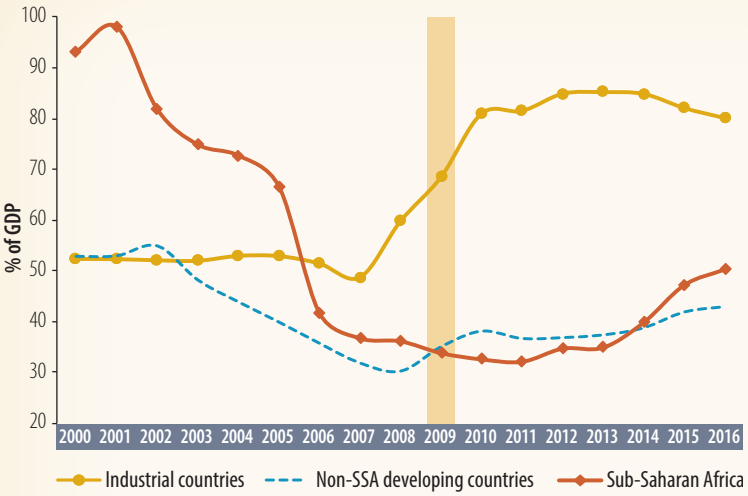
from a surplus of 1.5 percent of GDP in 2006–08, to a deficit of 4 percent of GDP in 2009–10. Third, primary deficits started to narrow among industrial countries after the 2009–10 fiscal impulse. The primary deficit of industrial countries narrowed to an average 1.7 percent of GDP in 2011–13, and 0.1 percent of GDP in 2015–16. However, this was not the case for Sub-Saharan Africa. After an initial retrenchment in 2011–12 (to a deficit of about 1.2 percent of GDP), the primary deficit of the region widened to 2.2 percent of GDP in 2016.

Overall fiscal balance. The main features observed for the primary fiscal balance remain invariant when net interest payments are included in the analysis—that is, the overall fiscal balance. Figure 2.2, which plots the evolution of the overall fiscal balance of Sub-Saharan Africa, non-SSA developing countries, and industrial countries, shows that all country groups recorded surpluses (although at different levels) in the run-up to the crisis. In 2009-10, they all conducted countercyclical policy actions—that is, higher spending and lower taxes. Finally, there is a significant narrowing of the fiscal gap among industrial countries while the fiscal deficit widened in Sub-Saharan Africa and non-SSA developing countries—although it widened at a slower pace in the latter group of countries.

General government gross debt. The countercyclical expansion of government spending in 2009–10 was financed through greater revenues, bond issuances, or domestic and/or external borrowing. Figure 2.3 depicts the evolution of general government gross debt as a percentage of GDP for industrial countries, Sub-Saharan Africa, and non-SSA developing countries. In the run-up to the crisis (2003–07), public debt was stabilized around 50 percent of GDP among industrial economies. Debt repayment and sound

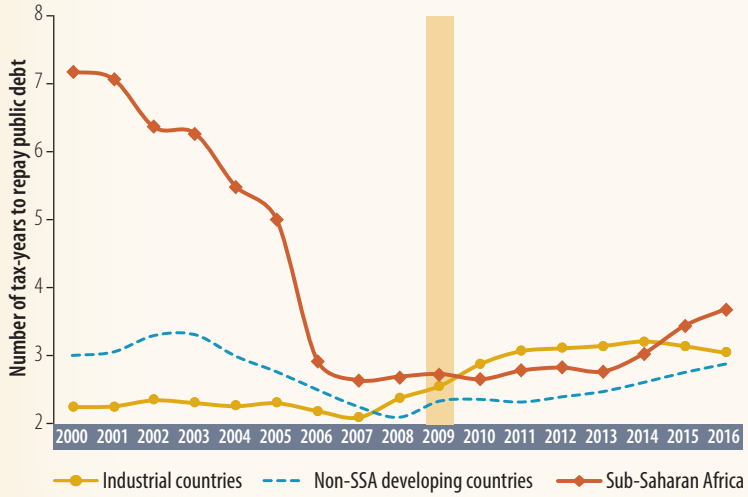
debt management practices explained the reduction in public debt, from 55 percent of GDP in 2002 to about 30 percent of GDP in 2008 among non-SSA developing countries (Anderson, Silva, and Velandia-Rubiano 2010). General government gross debt experienced a sharp decline in Sub-Saharan African countries, from nearly 100 percent of GDP in 2001 to about 35 percent of GDP in 2008—primarily driven by debt forgiveness granted to African countries through the HIPC initiative and Multilateral Debt Relief Initiative (MDRI).

FIGURE 2.3: General Government Gross Debt



In Sub-Saharan Africa, gross debt by the general government has gradually increased at a faster pace than among non-SSA developing countries.

FIGURE 2.4: Fiscal Space



In Sub-Saharan Africa, the number of tax years that it would take to repay the general government gross debt increased from 2.7 in 2006–08 to 3.6 in 2015–16.

Source: World Bank staff, based on data from Kose et al. 2017; Aizenman and Jinjarak 2010.
Note: Fiscal space is calculated as the ratio of general government gross debt to average tax revenues.

Financing countercyclical actions led to an expansion of the public debt burden, although at different rates of expansion. There was a rapid expansion among industrial economies, from 49 percent of GDP in 2007 to 85 percent in 2012. After hitting that peak, the public debt burden stabilized and it is slowly declining. In the case of non-SSA developing countries, the gross debt of the public sector has gradually and steadily increased, from about 30 percent of GDP in 2008 to 43 percent of GDP in 2016. In Sub-Saharan African countries, gross debt by the general government has gradually increased, from about 32 percent of GDP in 2012 to 50 percent of GDP in 2016; that is, it has increased at a faster pace than among non-SSA developing countries.

Fiscal space. Figure 2.4 depicts the fiscal space of countries in Sub-Saharan Africa, as well as industrial economies and non-SSA developing countries, from 2000 to 2015. Fiscal space is defined as "room in a government's budget that allows it to provide resources for a desired purpose without jeopardizing the sustainability of its financial position of the stability of the economy" (Heller 2005). Operationally, fiscal space is de facto defined as inversely related to the number of tax years it would take to repay the public debt (Aizenman and Jinjarak 2010). Computing this ratio requires information on the outstanding public

debt and the de facto tax base. Kose et al. (2017) use the general government gross debt position as a proxy for public debt. The de facto tax base is measured by the average tax revenues across several years to smooth business cycle fluctuations.[1] A turning point in the ratio of public debt to average tax revenues for all countries after the global financial crisis, which signals a tightening of their fiscal space is observed in figure 2.4. For instance, the number of tax years that it would take industrial countries to repay their debt increased from 2.2 in 2006–08 to 3.1 in 2015–16. For non-SSA developing countries, the number of years increased from 2.3 in 2006–08 to 2.8 in 2015–16. For countries in Sub-Saharan Africa, the number of tax years that it would take to repay the general government gross debt increased from 2.7 in 2006–08 to 3.6 in 2015–16.

HOW HAS THE FISCAL SPACE FARED IN THE POST–GLOBAL FINANCIAL CRISIS PERIOD?

Countries in the Africa region have faced a series of shocks—most notably, the plunge in oil prices and the steady decline in the prices of metals and minerals—and accumulated significant imbalances that may require fiscal consolidation measures. The aim here is to test whether the indicators of fiscal space deteriorated in 2015–16 vis-à-vis 2010–13 for Sub-Saharan African countries classified by their growth performance, namely, resilient (top tercile) and less resilient (middle and bottom terciles) countries.

Tests for the equality of medians in 2010–13 vis-à-vis 2015–16 were conducted for indicators of fiscal space classified as follows: (i) government sustainability indicators, and (ii) external debt and balance sheet composition. The first group of indicators includes the primary balance, overall fiscal balance, and general government gross debt. These variables are expressed as a percentage of GDP. This analysis also includes a broad measure of the tightness of fiscal accounts, namely, the general government gross debt as a percentage of average tax revenues. The second group of variables comprises indicators that capture the following: (i) the balance sheet composition, such as concessional external debt stocks (as a percentage of general government gross debt), and short-term debt stocks (as a percentage of total external debt); (ii) external liquidity (that is, short-term debt as a percentage of international reserves); and (iii) total external debt stocks (as a percentage of GDP).

Fiscal Sustainability Indicators

Table 2.1 reports the median and median equality tests of the fiscal sustainability indicators in 2010–13 and 2014–16 for the different groups of growth performance within the Africa region.

Resilient countries. For the countries in the region with growth rates in 2015–17 above the top tercile of 1995–2008, the primary and overall fiscal balances remain statistically invariant from 2010–13 to 2015–16. For instance, the primary deficit decreased slightly, from 2.2 percent of GDP in 2010–13 to 2 percent of GDP in 2015–16. The overall fiscal balance, instead, slightly deteriorated—thus, widening the overall deficit from 3.3 percent in 2010–13 to 3.5 percent in 2015–16. General gross government debt also increased, from 39 percent of GDP in 2010–13 to 48 percent in 2015–16, although this increase appears

1 This ratio captures the relative fiscal tightness of countries (Aizenman and Jinjarak 2010).

to be not statistically significant. Finally, growth among resilient countries (improved and established ones) in 2015–16 was supported by a still-large fiscal balance (that exceed 3 percent of GDP) and moderate-to-high levels of debt (median of 48 percent of GDP). This explains a narrowing of the fiscal space—as the number of years needed to repay fully the public debt burden increased (significantly), from 2.7 years in 2010–13 to 3.4 years in 2015–16.

Less resilient countries. The performance of countries in terms of fiscal outcomes differs within the group of less resilient countries. The bottom tercile shows a significant widening of the primary and fiscal deficits. For instance, the primary deficit widened from 1.4 percent of GDP in 2010–13 to 3.2 percent in 2015–16. Increasing deficits have come along with rising public debt: the general government gross debt increased from 33 percent of GDP in 2010–13 to 51 percent in 2015–16. The deterioration of fiscal balances and the debt burden translated into tighter fiscal conditions among countries in the bottom tercile. The number of tax years it would take these countries to repay their gross public debt increased from 2.2 in 2010–13 to 3.4 in 2015–16. This increase in the number of tax years is statistically significant at the 10 percent level under a one-tail alternative hypothesis.

For the middle tercile within the less resilient group of countries, the primary balance slightly deteriorated in 2015–16 vis-à-vis 2010–13, but this deterioration was statistically negligible. However, the overall fiscal deficit for this group of countries widened, from 2.4 percent of GDP in 2010–13 to 3.3 percent in 2015–16 (and this change is significant at the 10 percent level under a one-tail alternative hypothesis). General government gross debt significantly increased over time, from 34 percent of GDP in 2010–13 to 47 percent in 2015–16. The ratio of general government gross debt to average tax revenues increased significantly over time, from 3.0 in 2010–13 to 3.8 in 2015–16.

In sum, bottom tercile countries continued to pursue countercyclical policies in 2015–16 amid the sharp decline of international commodity prices—as captured by the significant widening of fiscal deficits and the expansion of government debt. For the middle tercile, the fiscal impulse was still present (with primary and overall deficits of 1.8 and 3.3 percent, respectively, in 2015–16), but this impulse was not statistically higher than that of 2010–13. Still, the public debt burden significantly increased. This implies that while the fiscal expansion persisted among less resilient countries (although this expansion was significant only for countries in the bottom tercile), this policy stance took place amid a narrowing fiscal space for both groups.

Balance Sheet Composition and External Debt Position

Table 1 (panel B) reports, for 2010–13 and 2015–16, the medians of the balance sheet composition and external debt position indicators for the different groups of African countries classified by their growth performance. The analysis focused on only two indicators of the balance sheet composition of governments: concessional external debt as a percentage of general government gross debt, and share of short-term debt as a percentage of total debt.[2] The discussion of external debt indicators focuses on total external debt as a percentage of GDP, and short-term debt as a percentage of reserves.

2 The fiscal space database developed by Kose et al. (2017) contains additional indicators of balance sheet composition, such as the share of general government debt in foreign currency, share of debt securities held by nonresidents, and share of central government debt held by nonresidents. Due to the lack of data for Sub-Saharan African countries, the averages for 2010–13 and 2014–16 were not calculated.

TABLE 2.1: Fiscal Space in SSA countries, 2010-16: Government Sustainability Indicators

	Bottom tercile			Middle tercile			Top tercile		
	2010-13 Median	2015-16 Median	Difference (p-value)	2010-13 Median	2015-16 Median	Difference (p-value)	2010-13 Median	2015-16 Median	Difference (p-value)
A. Fiscal Sustainability									
Gen. Gov. Gross Debt (% GDP)	32.6	50.8	(0.000)	33.5	47.3	(0.017)	38.7	48.3	(0.743)
Primary Balance (% GDP)	-1.4	-3.2	(0.001)	-1.6	-1.8	(0.829)	-2.2	-2.0	(0.743)
Fiscal Balance (% GDP)	-2.4	-4.7	(0.005)	-2.4	-3.3	(0.130)	-3.3	-3.5	(0.743)
Gen. Gov. Gross Debt (% avg tax revenues)	221.4	341.8	(0.186)	295.6	377.1	(0.005)	268.3	335.5	(0.003)
B. External debt and balance sheet composition									
Concessional Ext. Debt (% GG Gross Debt)	37.4	24.6	(0.330)	56.2	50.9	(0.271)	55.5	51.0	(0.447)
Short-term external debt (% total)	4.0	3.0	(0.957)	9.9	6.1	(0.199)	2.0	2.5	(0.688)
Short-term external debt (% reserves)	5.0	5.8	(0.843)	22.1	17.1	(0.323)	8.0	13.0	(0.923)
External debt stocks (% GDP)	25.6	31.7	(0.299)	27.9	34.1	(0.199)	26.1	31.1	(0.229)

Source: World Bank staff, based on data from Kose et al. 2017.
Note: The null hypothesis of the median equality test is that of no statistical difference across periods. GDP = gross domestic product; SSA = Sub-Saharan Africa.

Resilient countries. Interestingly, Table 2.1 reports that the balance sheet composition remained invariant (from a statistical standpoint) for this group of countries from 2010–13 to 2015–16. For instance, the share of concessional debt declined from 56 percent of general government gross debt in 2010–13 to 51 percent in 2015–16, although this decline is not statistically significant. The same occurred with the share of short-term external debt in total external debt: the ratio increased from 2.0 to 2.5 percent. On the external debt position, the debt stock and ratio of short-term external debt to reserves not only remained low in 2015–16 for these countries, but also has not varied statistically since 2010–13.

Less resilient countries. The share of concessional debt declined among less resilient countries, but the magnitude of the decline is not statistically significant at the 10 percent level (even when conducting tests with a one-tail alternative hypothesis). The same holds for the share of short-term external debt. Short-term debt represents less than 7 percent of total external debt for both groups. Finally, external debt increased in less resilient countries—although the increase is significant only for the middle tercile.

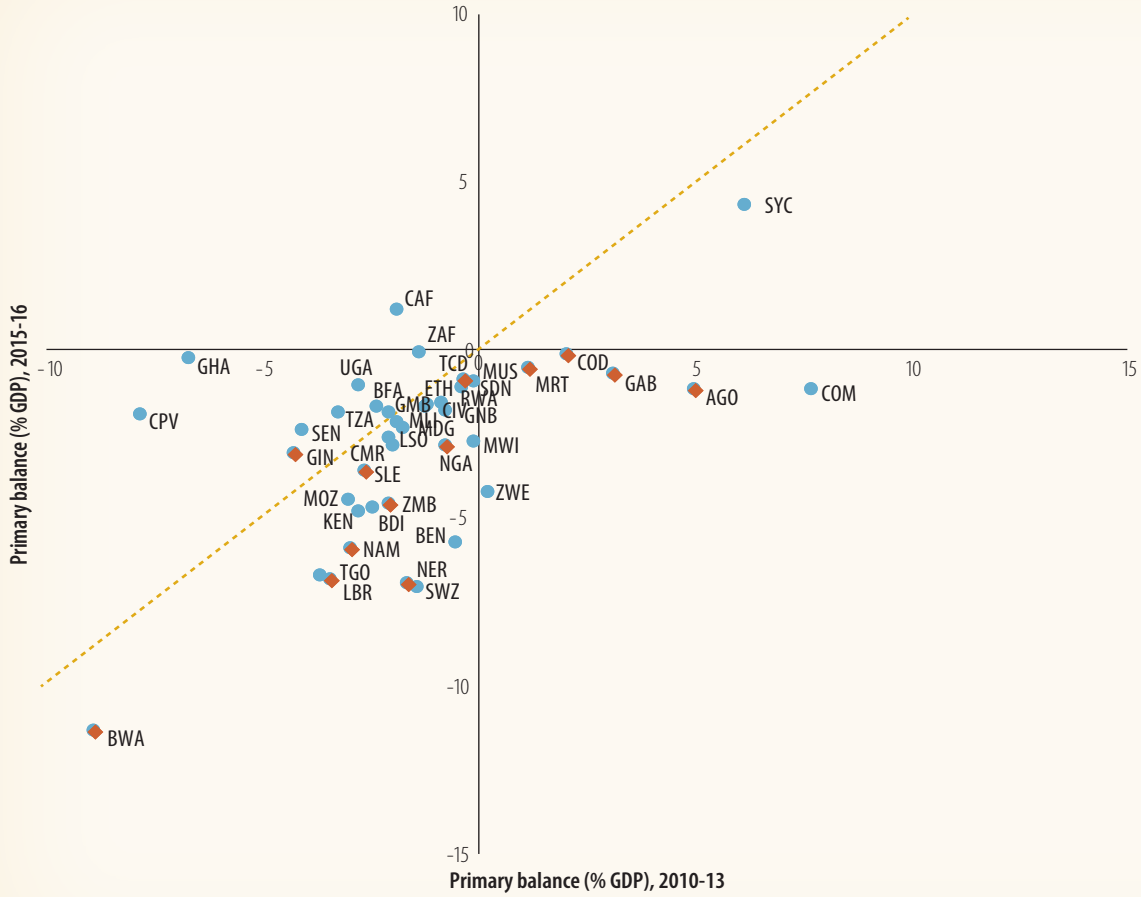
NEED FOR FISCAL ADJUSTMENT ACROSS SUB-SAHARAN AFRICAN COUNTRIES

The above analysis reveals that the magnitudes of the widening of fiscal deficits and increase of the public debt burden vary cross country groups. This section goes beyond the aggregate level and documents the evolution of these government sustainability indicators for 44 countries in the region.

Figure 2.5 plots the average primary balance (as a percentage of GDP) for 2010–13 vis-à-vis that for 2015–16. Of the 44 countries in the Africa region, 34 experienced a deterioration in the primary balance and 10 registered an improvement. For those with declining performance, the median deterioration of the primary balance was 2.3 percentage points of GDP; the median increase for the second group of 10 countries was about 1.4 percent of GDP. The countries in the region with the largest deterioration in their primary deficits were the Republic of Congo (which moved from a surplus of 9.6 percent of GDP in 2010–13 to a deficit of 14.3 percent in 2015–16) and Equatorial Guinea (where the deficit widened from 3.9 percent of GDP in 2010–13 to 17.4 percent in 2015–16). Other notable countries with a large primary deficit in 2015–16 are Niger (7.1 percent of GDP) and Botswana (11.5 percent of GDP). In contrast, Ghana, the Central African Republic, and Cabo Verde experienced an important reduction in their primary deficits. The primary deficit in Ghana was cut from 6.7 percent of GDP in 2010–13 to 0.4 percent in 2015–16, that is, a reduction of 6.3 percentage points of GDP. The primary balance of the Central African Republic shifted from a deficit of 1.8 percent of GDP in 2010–13 to a surplus of 1.1 percent in 2015–16.

FIGURE 2.5: Primary Balance across Sub-Saharan African Countries, 2010–13 vs. 2015–16

Of the 44 countries in the Africa region, 34 saw a deterioration in the primary balance and 10 registered an improvement between 2010–13 and 2015–16.

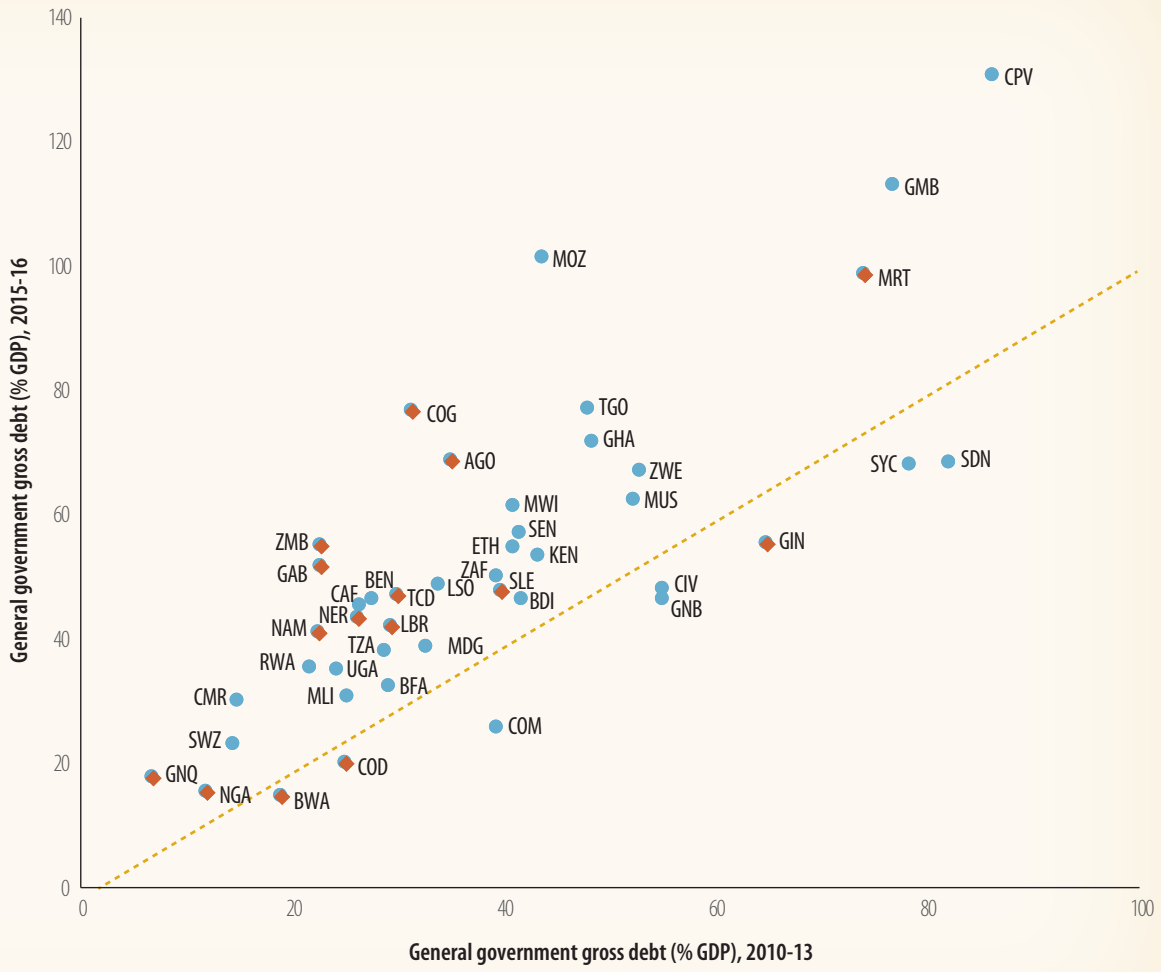


Source: World Bank staff, based on data from Kose et al. 2017.
Note: Red dots represent resource rich countries; blue dots represent non-resource rich countries.

In most countries in the Africa region (36 of 44), the public debt burden increased in 2015–16 compared with 2010–13 (figure 2.6). The median increase in general government gross debt was about 14.9 percentage points. The largest increases from 2010–13 to 2015–16 were in Mozambique (from 44 to 102 percent of GDP), Cabo Verde (from 86 to 131 percent of GDP), and The Gambia (from 77 to 113 percent of GDP). Other notable countries with high public debt burdens are Mauritania (99 percent of GDP in 2015–16) and Ghana (72 percent of GDP in 2015–16). The public debt burden increased in Ghana despite improvements in the primary surplus. This reflects the substantial size of interest payments. In contrast, Sudan, Guinea, and the Comoros experienced a decline in the general government gross debt that exceeded 10 percentage points of GDP—specifically, 14, 10, and 14 percentage points of GDP, respectively. However, their average levels of public debt in 2015–16 were very different—with the Comoros at 26 percent of GDP, Guinea at 55 percent, and Sudan at 69 percent.

In most countries in the Africa region (36 of 44), the public debt burden increased in 2015–16 compared with 2010–13.

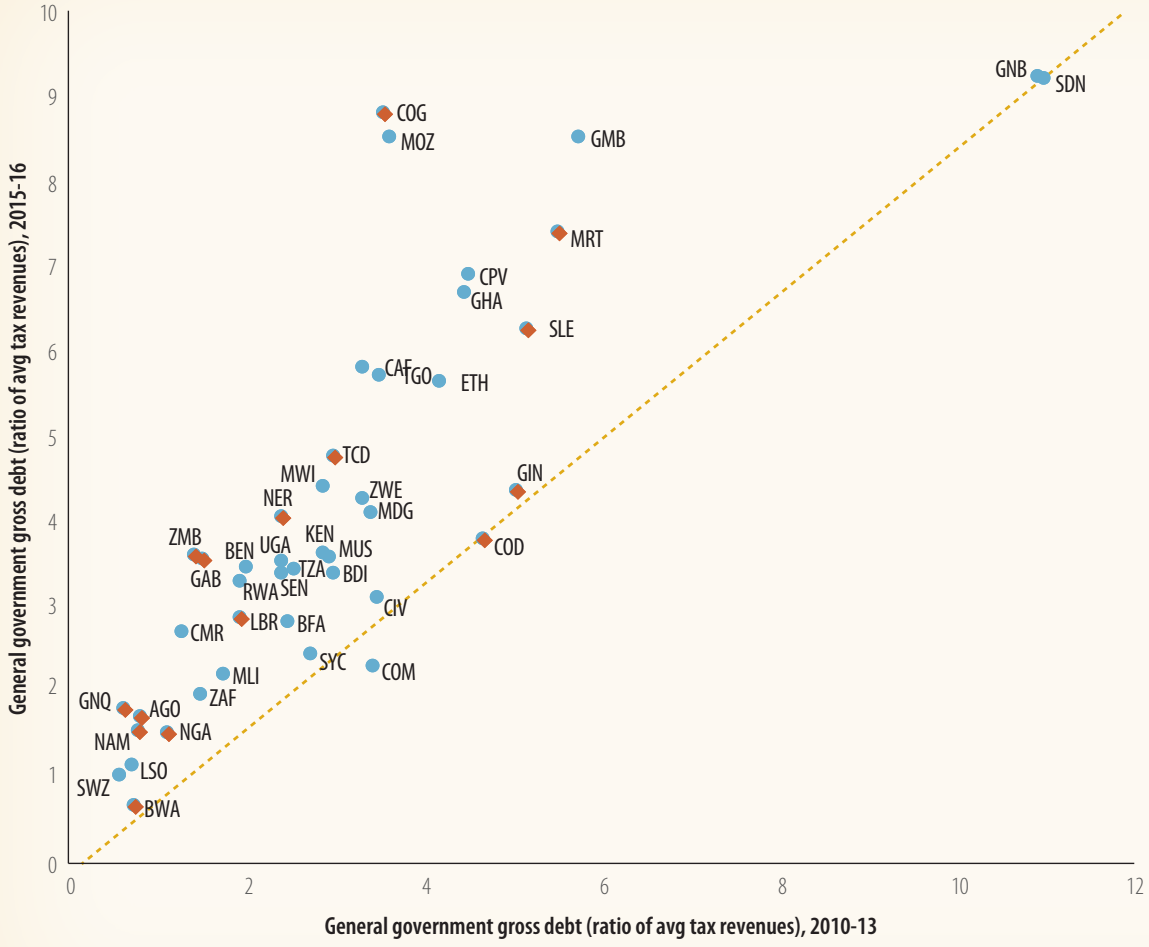
FIGURE 2.6: General Government Gross Debt across SSA countries, 2010–13 vs. 2015–16



Source: World Bank staff, based on data from Kose et al. 2017.
Note: Red dots represent resource rich countries; blue dots represent non-resource rich countries.

Fiscal space has shrunk in tandem with rising debt burdens. Figure 2.7 plots the fiscal space—as defined by the general government gross debt as a percentage of average tax revenues—of Sub-Saharan African countries in 2010–13 vis-à-vis 2015–16. Most countries in the region (36 of 44) have a reduced fiscal space—as proxied by an increase in the number of tax years needed to repay the public debt burden. From 2010–13 to 2015–16, the median increase is about 1.1 years for countries with tighter fiscal conditions. However, these central figures mask the wide variation across countries. The countries with the largest increase in the number of tax years required to pay off the entire debt burden from 2010–13 to 2015–16 were the Central African Republic (from 3.3 to 5.8), The Gambia (from 5.8 to 8.5), Mozambique (from 3.7 to 8.5), and the Republic of Congo (from 3.6 to 8.8). The findings suggest that in some countries (Sudan and Guinea-Bissau), it takes more than 9 years to repay their public debt burden (about 9.2 years), despite the reduction in this ratio for these countries when compared with 2010–13. For Botswana, Swaziland, and Lesotho, it would take at most one tax year to repay fully their general government gross debt stock.

FIGURE 2.7: Fiscal Space across Sub-Saharan African Countries, 2010–13 vs. 2015–16



Most Sub-Saharan African countries (36 of 44) now have a reduced fiscal space—as proxied by an increase in the number of tax years needed to repay the public debt burden.

Source: World Bank staff, based on data from Kose et al. 2017; Aizenman and Jinjarak 2010.

Note: Red dots represent resource rich countries; blue dots represent non-resource rich countries. Fiscal space is calculated by the ratio of general government gross debt to average tax revenues.

DEBT DYNAMICS IN AFRICA: ANALYZING THE FISCAL SUSTAINABILITY GAP

The fiscal sustainability gap is a summary indicator that captures the evolution of public debt dynamics; see, for instance, Blanchard (1993), Ley (2009), and Cottarelli and Escolano (2014). The fiscal sustainability gap compares the country's actual balance with its debt-stabilizing balance. Under certain macroeconomic and financial scenarios, the debt-stabilizing balance captures the long-term, cumulative impact of sustained fiscal deficits on debt stocks (World Bank 2017).

Fiscal sustainability gaps capture the emerging pressures from the accumulation of widening fiscal deficits over time to unsustainable debt stocks even if the initial public burden was low. The gaps provide a signal of the fiscal adjustment needed to reach debt targets under different macroeconomic scenarios (Kose et al. 2017). A positive fiscal sustainability gap indicates a primary balance that, if sustained, would reduce the government debt burden over time. In contrast, a negative gap signals a primary balance that would increase the stock of government debt over time.[3]

This section describes the evolution of the fiscal sustainability gap from 2003 to 2016 for Sub-Saharan Africa. Two types of comparisons are undertaken: (a) an international comparison, where the region is benchmarked to other developing regions, and (b) a comparison with Sub-Saharan African countries classified by their extent of natural resource abundance and access to markets. The section analyzes not only movements in fiscal balances and public debt stocks, but also country fundamentals that influence the long-term debt stabilizing ratio.

Primary Balance Sustainability Gap in Sub-Saharan Africa: International Comparison

Developing country regions, except South Asia, experienced fairly sound fiscal positions in the run-up to the global financial crisis (2003–08). Sizable fiscal surpluses in almost all regions enabled countries to decrease or stabilize their public debt levels before the crisis hit. All regions implemented countercyclical fiscal policy in 2009, leading to a deterioration of their fiscal balances. Fiscal balances slightly improved in the subsequent recovery (2010–13), but deteriorated from 2014 to 2016 amid falling commodity prices. Post-crisis debt ratios have broadly increased to their pre-crisis levels, except in the Middle East and North Africa and South Asia regions. Although the crisis has passed, many developing countries—especially commodity exporters—have not been able to stabilize their debt to the 2008 levels, as their primary balance sustainability gaps have deteriorated.

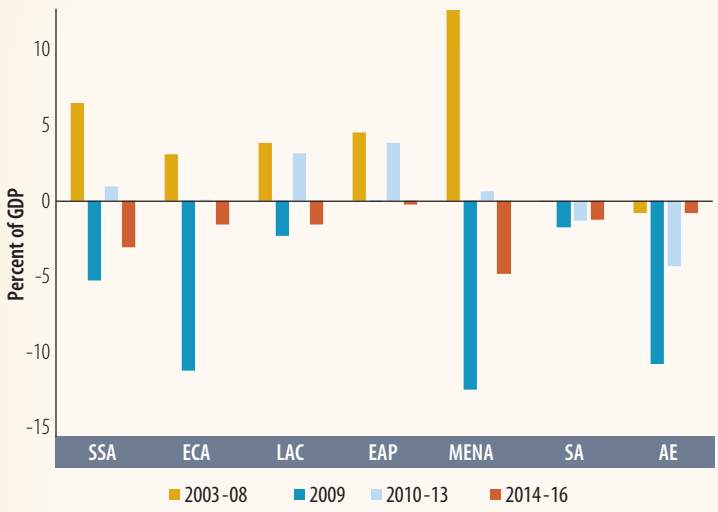
Figure 2.8 reports the primary sustainability gaps for the Sub-Saharan Africa region and other developing country regions over 2003–16. This gap is calculated based on a primary balance that stabilizes the stock of debt at a specific target; in turn, that target is defined as the historical median value of the debt stock for the developing countries.[4] Some key findings emerge from figure 2.8.

3 For more details on the concept and modeling of the fiscal sustainability gap, see Kose et al. (2017) and World Bank (2017).

4 Kose et al. (2017) note that this approach, compared with benchmarking against each economy's own historical median, implies more favorable debt targets in economies with debt below the peer-group median (in this case, the developing country group) and less favorable debt targets in economies with debt above the peer group median.

First, most developing regions, except South Asia, exhibited a positive primary balance sustainability gap in the run-up to the crisis. During 2003–08, many developing countries narrowed their primary deficits or turned them into surpluses that helped steadily lower their level of debt. For instance, Sub-Saharan Africa registered a positive primary sustainability gap of 6.5 percent of GDP—higher than that of Latin America and East Asia. Furthermore, some low-income countries in Sub-Saharan Africa and Latin America benefitted from debt relief initiatives, that is, HIPC and MDRI. General government gross debt among these countries declined sharply between their HIPC decision and completion dates (World Bank 2017).

FIGURE 2.8: Primary Balance Sustainability Gap



The pattern of debt sustainability in Sub-Saharan Africa is comparable to that of other commodity-exporting regions. This implies that the pattern fluctuates with the commodity price cycle.

Source: World Bank staff, based on data from Kose et al. 2017.

Note: Primary sustainability gaps are computed based on current growth rates and interest rates, as in Kose et al. (2017). The debt stabilization considered is the peer-group median for emerging market and developing economies and advanced economies correspondingly. GDP-weighted averages. AE = advanced economies; EAP = East Asia and Pacific; ECA = Eastern Europe and Central Asia; GDP = gross domestic product; LAC = Latin America and Caribbean; MENA = Middle East and North Africa; SA = South Asia; SSA = Sub-Saharan Africa.

Second, there was a sharp reversal in the general government debt dynamics following the global financial crisis. Debt-reducing fiscal positions in developing countries in 2003–08, as captured by their positive primary sustainability gaps, turned into debt-increasing fiscal positions because of large countercyclical policy actions in 2009. Sub-Saharan Africa's primary balance sustainability gap shifted from 6.5 percent of GDP in 2003–08 to -5.3 percent in 2009. This large deterioration of the primary balance sustainability gap was experienced in all other regions except South Asia. In the latter region, the fiscal sustainability gap is still negative, but it widened from -0.1 to -1.7 percent of GDP.

Third, fiscal dynamics slightly improved in the 2010–13 recovery period for most regions in the world. In 2010–13, the primary balance sustainability gap in Sub-Saharan Africa became positive, at 1 percent of GDP. The largest turnarounds in the fiscal sustainability gap (moving from negative to positive) were achieved by Eastern Europe and Central Asia, and the Middle East and North Africa.

Fourth, fiscal dynamics deteriorated again among developing countries in 2014–16, as international commodity prices took a plunge. Primary balance sustainability gaps turned from positive in 2010–13 to negative in 2014–16 in all developing regions except South Asia, where they remained negative and invariant between the two periods. The sustainability gap shifted from debt-stabilizing primary surpluses of 1 percent of GDP in 2010–13, to debt-increasing primary deficits of 3.1 percent of GDP in 2014–16.

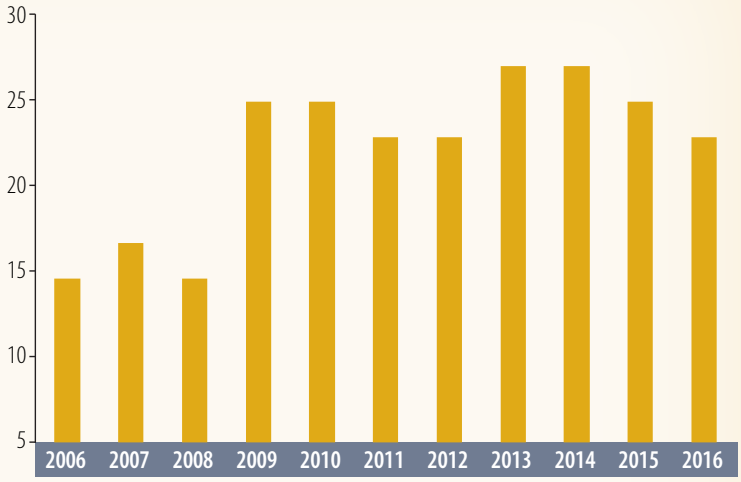
In sum, the pattern of debt sustainability in Sub-Saharan Africa is comparable to that of other commodity-exporting regions. This finding implies that fiscal outcomes in Sub-Saharan Africa fluctuate with the commodity price cycle. Prior to the global financial crisis, the region recorded primary surpluses, as commodity prices were on the rise; the region recorded primary deficits after the 2014–15 slowdown in commodity prices. Although debt levels remain below those in the late 1990s—when several international debt relief initiatives were implemented—they have been rising more rapidly than in other regions since 2009. On average, the primary balance sustainability gap was negative post-crisis, reflecting the debt sustainability challenges facing the region.

Primary Balance Sustainability Gap across Sub-Saharan African Countries

The primary surpluses recorded by the Sub-Saharan Africa region prior to the global financial crisis were reversed to deficits after the crisis. However, the regional averages hide differences in fiscal outcome patterns across countries. Figure 2.9 shows that the share of countries with negative primary fiscal balance sustainability gaps went from about 15 percent in 2006 to more than 27 percent in 2014. During 2014–16, fiscal space narrowed; in nearly 25 percent of the countries in the region, primary balances are below the threshold required to stabilize their debt to 2008 levels.[5] Fiscal outcome dynamics may also vary across countries, depending on their ability to access international financial markets. Moreover, several countries in the region rely heavily on commodity exports, but differences may emerge between energy-rich countries, minerals and metals abundant countries, and resource-poor countries.

In nearly 25% of Sub-Saharan African countries, primary balances are below the threshold required to stabilize their debt to 2008 levels.

FIGURE 2.9: Share of SSA Countries with Negative Primary Fiscal Balance Sustainability Gaps



Source: World Bank staff, based on data from Kose et al. 2017.

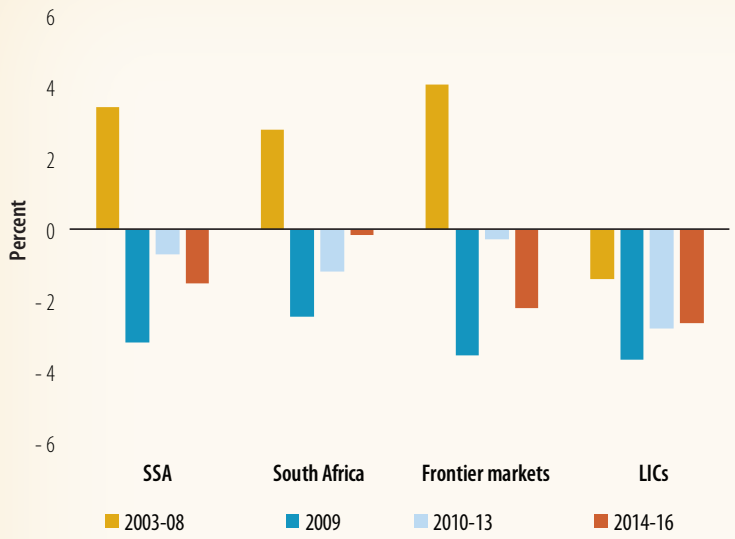
Note: Primary balance sustainability gaps are computed based on current growth rates and interest rates, as in Kose et al (2017). The debt stabilization considered is the 2008 debt level of each country in the region. The sample includes 37 SSA countries, where data are available, of which there are 13 frontier market countries, 23 low-income countries, and South Africa. GDP-weighted averages. GDP = gross domestic product; LICs = low-income countries; SSA = Sub-Saharan Africa.

Countries in Sub-Saharan Africa have increasingly resorted to international capital markets to finance part of their development needs. However, debt sustainability will be challenging in the near future for most African countries, as the protracted low commodity prices since mid-2014 and expected rising external borrowing costs, due to normalization of monetary policy in advanced economies, are likely to put pressure on public finances. Figure 2.10 depicts the primary balance sustainability gap

5 If sustainability gaps are computed using the overall fiscal balance, more than two-thirds of the countries in the Africa region have fiscal balances below the threshold required to stabilize their debt to 2008 levels.

across Sub-Saharan African countries according to their access to financial markets. In this case, the sustainability gap is benchmarked against each country's 2008 debt burden.

FIGURE 2.10: Primary Balance Sustainability Gap: Access to Financial Markets



South Africa recovered quickly from the global economic crisis. However, public debt has risen post-crisis and averaged 49% of GDP over 2014–16.

Source: World Bank staff, based on data from Kose et al. 2017.

Note: Primary balance sustainability gaps are computed based on current growth rates and interest rates, as in Kose et al (2017). The debt stabilization considered is the 2008 debt level of each country in the region. The sample includes 37 SSA countries, where data are available, of which there are 13 frontier market countries, 23 low-income countries, and South Africa. GDP-weighted averages. GDP = gross domestic product; LICs = low-income countries; SSA = Sub-Saharan Africa.

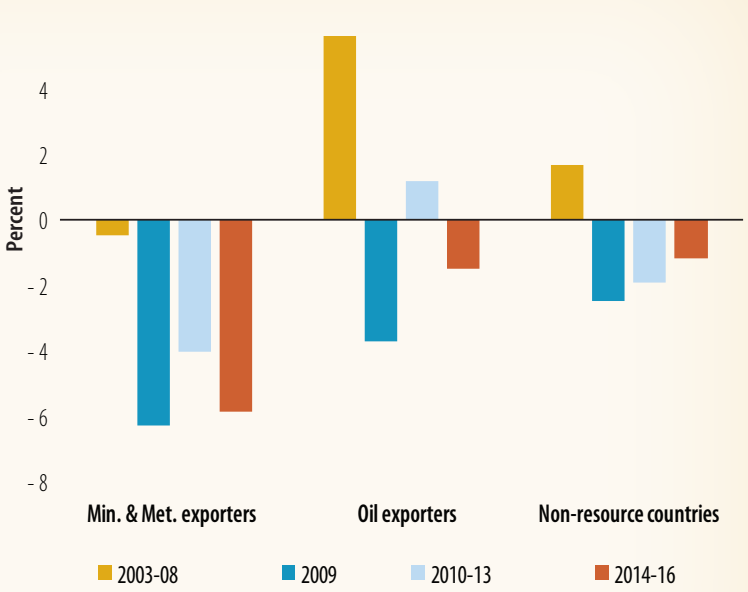
In South Africa, the only emerging market in the region, the economy continues its path to recovery although at a slower pace than other emerging markets. The adjustment of the primary balance was a deliberate fiscal policy effort, partly to defend the investment grade rating—which was lost in April 2017. However, public debt has risen post-crisis and averaged 49 percent of GDP over 2014–16, a significant increase from its pre-crisis level. This increase reflects weak growth performance coupled with an increase in borrowing costs induced by the risk of a sovereign downgrade. Sustainability gaps shifted from a debt-stabilizing primary surplus of 3.4 percent of in 2003–08, to a debt-increasing primary deficit of 1.2 percent of GDP in 2010–13. Gradually, this sustainability gap converged to zero in 2014–16 (figure 2.10).

In small, pre-emerging *frontier markets*, large pre-crisis surpluses became deficits after the crisis, with sharp deteriorations over 2014–16. However, this was not accompanied by large increases in public debt, as was the case in South Africa. The relatively low increase in public debt ratios in frontier markets reflects robust growth performance in countries such as Côte d'Ivoire, Ethiopia, and Tanzania. However, frontier markets in Sub-Saharan Africa have increasingly large shares of external debt denominated in foreign currency, and are therefore exposed to external shocks. Monetary policy is expected to normalize in advanced economies; hence, the external debt burden in frontier market economies is expected to increase. Debt-increasing fiscal deficits across frontier markets in Africa widened to 2.2 percent of GDP in 2014–16, after contracting to a deficit of 0.3 percent of GDP in 2010–13.

The fiscal position of *low-income countries* was different from that of frontier markets prior to the crisis. Low-income countries had the highest debt levels in the Africa region, and their primary fiscal balances were slightly in deficit. Due to the lack of fiscal space, these countries had the weakest

Debt-increasing primary deficits have widened considerably, from 0.5% of GDP prior to the crisis to 5.9% in 2014–16 among minerals and metals exporters.

FIGURE 2.11: Primary Balance Sustainability Gap: Natural Resource Abundance



Source: World Bank staff, based on data from Kose et al. 2017.

Note: Primary balance sustainability gaps are computed based on current growth rates and interest rates, as in Kose et al. (2017). The debt stabilization considered is the 2008 debt level of each country in the region. The sample includes 37 SSA countries, where data are available, of which six countries are classified as oil exporters, 13 as metals and minerals exporters, and 18 as non-resource countries. GDP-weighted averages. GDP = gross domestic product; SSA = Sub-Saharan Africa.

countercyclical response in the region. Debt gradually declined from 2000 to 2013, due partly to the implementation of relief initiatives, such as the HIPC initiative and the MDRI. However, debt has been increasing since 2014, narrowing the fiscal space in these countries. Although low-income countries already had debt-inducing primary deficits prior to the crisis (of about 1.4 percent of GDP), the deficits widened in the post-crisis period to an average 2.7 percent of GDP in 2010–16 (figure 2.10).

Figure 2.11 presents the primary balance sustainability gap across Sub-Saharan African countries *classified by their extent of natural resource abundance*. Large differences emerge in the fiscal dynamics of *minerals and metals exporters, oil exporters,* and *non-resource* countries. Again, the sustainability gap is benchmarked against each country's 2008 debt burden. In minerals and metals exporting countries, the fiscal outcomes are similar to those in low-income countries, reflecting the large proportion of low-income countries in this group. Debt-increasing primary deficits have widened considerably, from 0.5 percent of GDP prior to the crisis to 5.9 percent in 2014–16 among minerals and metals exporters.

Oil exporters recorded large surpluses pre-crisis, helped by the oil price boom. These reversed to deficits as the global financial crisis hit and the price of oil declined. The subsequent recovery from the crisis was accompanied by a rebound in the price of oil from 2010–13; oil exporters accordingly rebuilt fiscal buffers. However, the plunge in the price of oil in 2014–15 weighed on their public finances, with large deficits averaging about 3 percent of GDP over 2014–16. The ample fiscal space available prior to the crisis has narrowed (with negative primary balance sustainability gaps), although the debt ratios remain the lowest in the Sub-Saharan Africa region. Specifically, the sustainability gap shifted from debt-reducing primary surpluses of 6 percent of GDP prior to the crisis (2003–08) to debt-increasing primary deficits of 1.5 percent of GDP in 2014–16.

Non-resource countries recorded relatively small fiscal surpluses along with high debt pre-crisis and limited fiscal space. Consequently, the response to the crisis was weaker in these countries than in other groups. Although there were efforts to rebuild fiscal buffers in these countries after 2009, debt has been rising and averaged 51 percent of GDP over 2014–16, which is higher than the pre-crisis average of 45 percent of GDP. Still, debt-increasing primary deficits have gradually declined, from 2.5 percent of GDP in 2009 to 1.2 percent in 2014–16.

Section 3: Skills for Africa Today and Africa Tomorrow[1]

SUMMARY

Sub-Saharan Africa has the youngest population of any region of the world. The growing working-age population represents a major opportunity to reduce poverty and increase shared prosperity. But the region's workforce is the least skilled in the world, constraining economic prospects. Despite economic growth, declining poverty, and investments in skills-building, too many students in too many countries in Sub-Saharan Africa are not acquiring the foundational skills they need to thrive and prosper in an increasingly competitive global economy. Thus, building the skills—cognitive, socio-emotional, and technical—of today's workers and those of future generations will be vital for realizing the development potential of the region.

Countries in Sub-Saharan Africa have invested heavily in skills building, with public expenditure on education increasing sevenfold over the past 30 years. On average, education absorbs about 15 percent of total public spending and nearly 5 percent of GDP, the largest spending ratios among developing regions. There is of course variation across countries, in the range of about 11 to 28 percent of total government spending, and from 2 to 15 percent of GDP. In addition to public resources, it is estimated that households contribute around 25 percent of the total national education expenditure.

More children are in school today than ever. Over the past half-century, primary completion rates have more than doubled, while completion of lower secondary has increased more than fivefold. Still, almost one in every three children fails to complete primary school. In most countries, far less than 50 percent of all children complete lower secondary education (the equivalent of middle school in some countries), and under 10 percent make it to higher education. Although gender gaps in both primary and secondary school have narrowed in most African nations, there remain significantly more girls than boys out of school. In some countries, there are fewer than three girls for every four boys.

For children in school, learning outcomes have been persistently poor, leading to huge gaps in basic cognitive skills—literacy and numeracy—among children, young people, and adults. The literacy rates of the adult population are below 50 percent in many countries, and functional literacy and numeracy are lower. Even at recent rates of progress, in the decades to come, the region will continue to fall behind other regions in the world in educational attainment at all levels. In addition, child stunting rates remain stubbornly high, leading to adverse impacts on all future skill investments.

Countries' skill-building efforts must strive to make spending smarter, to ensure greater efficiency and better outcomes. But smart investing in skills is more difficult than it looks. Sub-Saharan African countries face two difficult choices in balancing their skills portfolios: striking the right balance between overall productivity growth and inclusion, on the one hand, and investing in the skills of the workforces of today and tomorrow, on the other hand. In both cases, these choices are particularly salient with the use of public resources for skills investments.

1 This section draws heavily on the forthcoming study, "The Skills Balancing Act in Sub-Saharan Africa: Investing in Skills for Productivity, Inclusion, and Adaptability," by Omar Arias, Indhira Santos, and David K. Evans.

One skill investment that results in both growth and inclusion is investment in strong foundational skills for all. Sub-Saharan African countries can close significant gaps in education and training if they prioritize universal foundational skills, by tackling child stunting and building the literacy, numeracy, and socio-emotional skills of children, youths, and adults. This strategy requires focusing on investments in the early years and inputs that matter most for education quality, specifically investing in effective teaching, not merely hiring more teachers or building more buildings. It requires training that draws on the latest evidence, and creating incentives for the best to become teachers. Particular attention must be paid to ensuring equal access to quality services for the poor and to closing gender gaps, especially in high-inequality contexts. It also requires supporting youth and adults who have missed out on foundational skills. Such support would include interventions that build basic literacy and socio-emotional skills among those employed in farm and nonfarm rural activities and low-productivity urban self-employment. The expansion of basic education in the region calls for renewed public-private partnerships (PPPs), with a strong regulatory role for the state.

In skills training, countries must be selective and ruthlessly demand-driven. For productivity growth, support should target demand-driven technical and vocational education and training (TVET), higher education, entrepreneurship, and business training programs tied to catalytic sectors. Such support should incentivize more on-the-job training, especially in smaller firms. Special attention should be paid to science, technology, engineering, and mathematics (STEM) fields, focusing on the transfer and adoption of technology in economies with an enabling policy environment for these skills investments to pay off. Economic inclusion requires investing in labor market training programs focused on disadvantaged youths, and improving the skills of workers in low-productivity activities in urban areas (for example, through informal apprenticeships) and rural areas (for example, in comprehensive livelihood programs and agricultural extension services). For adaptability, reforms should be introduced in secondary and tertiary education to delay the tracking of students into technical education and vocational streams, at least until the upper secondary level. In addition, education systems should create effective pathways between academic and technical tracks, and introduce more active and work-based learning practices.

In designing and implementing this skills agenda, countries should engage multiple actors. Families can invest in and nurture children's cognitive and socio-emotional development through quality care and parenting, and by engaging with schools to hold them accountable for effective service delivery. The private sector can participate effectively in the provision of services to enhance access and quality, invest in on-the-job training, work with education and training providers to ensure programs are aligned with their needs, and engage in national social dialogue to prioritize skills development and reforms, to create a policy-enabling environment for skills investments to pay off.

Achieving significant progress in building skills is possible in Sub-Saharan Africa. But achieving this progress will require enacting systemwide change. Small-scale programs and local reforms often fail to achieve the desired impacts at scale. Achieving more equitable access, quality, relevance, and efficiency in skills building cannot hinge on just scaling up "best practices." There is need to pay attention to the governance environment in which skills programs take place. Multiple agencies at the central and local levels are involved in skills development strategies. Skills are "everyone's problem, but no one's responsibility." Lack of coordination and weak capacity can result in inefficiencies, duplication of efforts, or, perhaps worse, lack of attention to important issues. Therefore, to achieve broad and sustained results,

policies and reforms need to tackle the politics of policies, build capacity for evidence-based policies, and create the incentives to align the behaviors of all stakeholders to pursue national skills development goals.

In their policy choices, countries will face trade-offs—often stark ones—that will have distributional impacts and a bearing on their development path. This is the core of the skills balancing act in Sub-Saharan Africa.

CHALLENGES AND OPPORTUNITIES FOR SKILLS IN SUB-SAHARAN AFRICA

In the past 20 years, decades after independence and recovery from conflict in several countries, Sub-Saharan African countries have grown rapidly, reduced the incidence of poverty, and boosted access to education. The region has lifted millions out of poverty and put an unprecedented number of children through school. More than two-thirds of children now complete primary school, up from just over half in 1990, and completion of lower secondary has nearly doubled in the same period. In several countries, access to tertiary education has begun to expand. The region increased its public expenditure on education sevenfold between 1984 and 2014.

Thus, Sub-Saharan Africa is on the right track in its focus on education. But the region's workforce is the least skilled in the world. The region must overcome its skills crisis to accelerate its social and economic transformation in the next 20 years and to benefit from its demographics. Sub-Saharan Africa has the youngest population of any region of the world: 43 percent of the population is under 15 years of age and about 60 percent of the population is under the age of 25 (United Nations 2017). A large and fast-growing workforce provides a major opportunity to speed up economic transformation, boost growth, and increase prosperity. To realize this opportunity, the region will need to make strategic and smart investments in the early years and in education and training to address the skills crisis.

Despite progress, in half the countries of Sub-Saharan Africa, fewer than two in every three children complete primary school. In most countries, far less than 50 percent complete lower secondary education and under 10 percent go on to higher education. Learning outcomes have been so poor for so long that a learning crisis has led to huge gaps in basic cognitive skills (literacy and numeracy) among children, youth, and adults out of school, with important gender gaps. To overcome this crisis, countries need smart investments to continue expanding the access to and quality and relevance of skills building. This is vital if the region is to avoid the fate of remaining the least skilled region in the world 20 years from now, blunting its competitive edge and its chances to take advantage of the demographic window of opportunity for most countries in the region.

The challenge of skills development in Sub-Saharan Africa historically shares many similarities with other regions of the world. The region needs to invest appropriately in the skills of today's children to reap the demographic dividend. Meanwhile, the region must invest in the skills of youths and adults, to spur economic growth and an economic transformation from agrarian to industrial and service-based economies. To achieve these challenges, countries in the region will need to overcome significant institutional weakness in the skills-building system.

At the same time, in important ways, the skills development challenge in Sub-Saharan Africa is unique. Countries are undergoing economic transformation while facing a more challenging environment than

other regions of the world faced at similar stages of development in the 19th and 20th centuries. The region needs to build skills from the bottom up at a time of stiff economic competition. The workforce—today's and tomorrow's—needs a wider set of foundational cognitive and socio-emotional and technical skills, in a radically more demanding world that puts a premium on the adaptability of individuals and systems. At the same time, countries are pressed to meet the mounting aspirations of their youth. When young people are denied opportunities for a better future, the unskilled, discontented, and disconnected are easy prey for those seeking to spread anger, fear, and radicalization.

Although there are challenges, Sub-Saharan African countries also have opportunities to invest smarter and make rapid progress in building skills. Countries can apply the expanding body of rigorous evidence on what can work in skills building; they can leverage the use of new technologies and social programs, such as cash transfers for service delivery in more urban societies; and, finally, the region can tap the opportunities from regional cooperation to achieve farther-reaching progress with economies of scale and lower costs.

POLICY FRAMEWORK FOR SKILLS INVESTMENTS IN SUB-SAHARAN AFRICA

The portfolio of potential investments that countries in the region can make includes the following: (i) accelerating overall productivity growth (prosperous economies), (ii) promoting economic inclusion (inclusive societies), and (iii) ensuring the adaptability of the workforce in the 21st century (resilient economies and individuals). But countries in the region face hard choices to realize this potential.

A smart skills development strategy requires figuring out which skills are needed, for what, who needs them, and how they can be developed at the right time and in the right way. Figure 3.1 illustrates a framework aimed at guiding skills priorities for education and training policies and investments in the region. The figure encapsulates three main guiding principles.

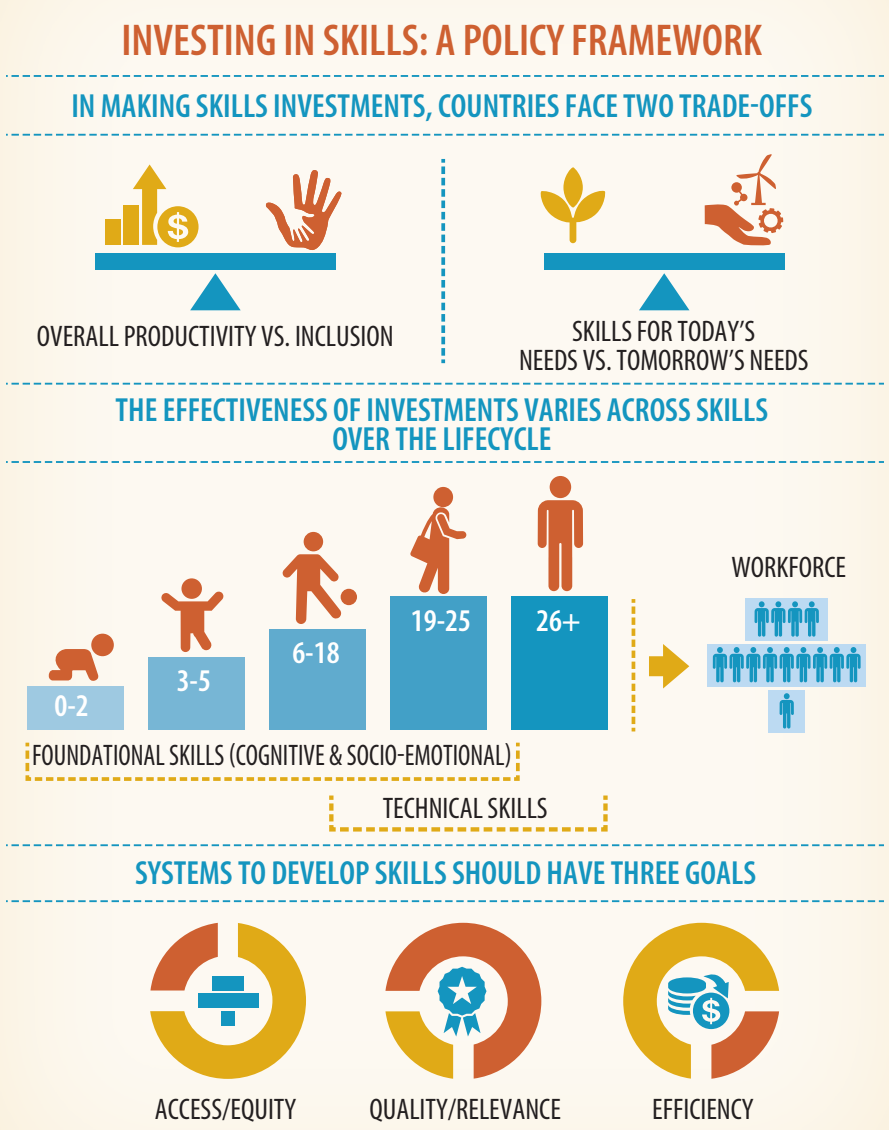
First, skills investments need to reckon with two main potential trade-offs. The first potential trade-off is between investments in skills with greater potential to maximize economywide productivity gains—such as technical skills for economic activities with high-growth potential that can catalyze economic transformation through productive resource reallocation and tapping new technologies—and investments in skills aimed at economic inclusion, such as skills for improving livelihoods and earnings opportunities, especially for the poor. The second potential trade-off is between investments that cater to the needs of the skills gaps of the out-of-school young and adult population for today's largely agrarian and self-employment-based economies, and investing in the skills of future cohorts of workers for tomorrow's transforming economies, to ensure their adaptability and resilience to navigate employment changes in their working lives and the fast-changing world of work.

Second, a balanced skills portfolio requires investing cost-effectively over the lifecycle in the multiplicity of skills needed in modernizing economies. These include, broadly: (i) *foundational cognitive skills* (for example, literacy and numeracy), (ii) *foundational socio-emotional skills* (for example, to manage one's self and relate with others, such as self-regulation, perseverance, curiosity, empathy, and tolerance), and (iii) *technical or job-specific skills* (for example, vocational and professional qualifications, and digital and management skills).

These skills are important for new cohorts of workers—those of school age and youth still in education—and the current stock comprised of youth, middle age, and older adults already outside the formal education system. A balanced skills portfolio encompasses a range of investments, from foundational, cognitive, and socio-emotional skills—from the early years, toddlers to teenagers—to the technical skills of youth and adults and a reinforcement of skills through on-the-job training, labor training, and education programs for youth and the adult population.

In making these investments, policy makers should consider that skills formation is a life-long process in which skills beget skills. Figure 3.1 shows that there are optimal stages for acquiring different skills over the lifespan, highlighting how and when the skills that are most appropriate to each stage are acquired. Human capital formation is a time-dependent process. For families who are unable to engage in human capital formation at the right time, the prime opportunity is gone. Investments in the early years are crucial, because this is when neural connections flourish and are pruned and solidified.

FIGURE 3.1: Policy Framework for Skills Policy Priorities in Sub-Saharan Africa



Source: Arias, Santos, and Evans (forthcoming), World Bank.

Cognitive and socio-emotional development are highly influenced by maternal and child health and nutrition, especially during the first 1,000 days of life, and the quality of nurturing environments during infancy and childhood. Although basic cognitive skills are well set by the teen years, schooling can provide subject knowledge and tools that enhance these abilities, as well as socio-emotional skills that remain malleable through adolescence and the early adult years. Foundational skills determine a person's "readiness to learn" in basic education, post-secondary schooling, training, and on the job. Although it is more cost-effective to invest earlier, brain plasticity and malleability through adulthood mean that later investments can remedy foundational skills gaps among the current stock of workers. This is especially

important for the most vulnerable individuals, who fall out of the education system and miss critical foundational skills acquisition. These investments can in turn bring positive intergenerational effects; that is, literate mothers are more likely to raise healthier children with stronger foundational skills.

The third guiding principle is that, in order to provide the right skills, at the right time, and in the right way, education and training systems need to ensure equity, quality, and efficiency. Investments and policy reforms need to provide wide access to opportunities for skills acquisition (*equitable access*), learning that builds skills to meet labor market demand (*quality and relevance*), and value for money in the financing and provision of education and training, to minimize waste of resources (*efficiency*).

Armed with these guiding principles, countries need to rally multiple actors in skills development. A coalition of investors—families, government, and the private sector, including employers and private providers of training—is vital to make the most of investments in the early years, education, and training. The members of the coalition have distinctive and complementary roles. *Families* can actively invest and nurture children's cognitive and socio-emotional development through quality prenatal and child care and parenting, and by engaging with schools to hold them accountable for effective service delivery. The *private sector* can participate effectively in service provision, to enhance access and quality; invest in on-the-job-training to build skills on the job; engage with education and training providers, to ensure that programs are aligned with the sector's needs; and engage in national social dialogue to prioritize skills development and reforms to create a policy-enabling environment for skills investments to pay off.

The *public sector* has a crucial role in ensuring equity and addressing market and coordination failures. It does this through investments and complementary policies that ensure individuals' readiness (foundational skills), opportunities, and incentives for skills acquisition. That is, the public sector should ensure equality of opportunities and the environment to materialize the rate of return on skills investments (public and private). This role includes tackling the political economy of reforms, fostering cooperation, commitment and coordination of stakeholders through strategic leadership, social dialogue, and adequate incentives.

BALANCING ACT

Four questions encapsulate the main policy issues around investments in skills in Sub-Saharan Africa:

- Are investments in skills meeting the needs of the economies of today and tomorrow?
- Is current skills development built on a solid foundation?
- Is there a good case for investing in the skills of out-of-school youth and adults?
- Are countries in the region investing adequate resources in skills?

In answering these questions, governments in Sub-Saharan Africa face a difficult balancing act in making hard choices among pressing and competing skills investments. To manage the trade-offs, priorities should be tailored to country context, particularly the skill levels, state of economic transformation, and policy environment, to enable skills investments to pay off. This is a matter of relative allocation of scarce public resources.

Question 1. Are investments in skills in Sub-Saharan Africa meeting the needs of the economies of today and tomorrow?

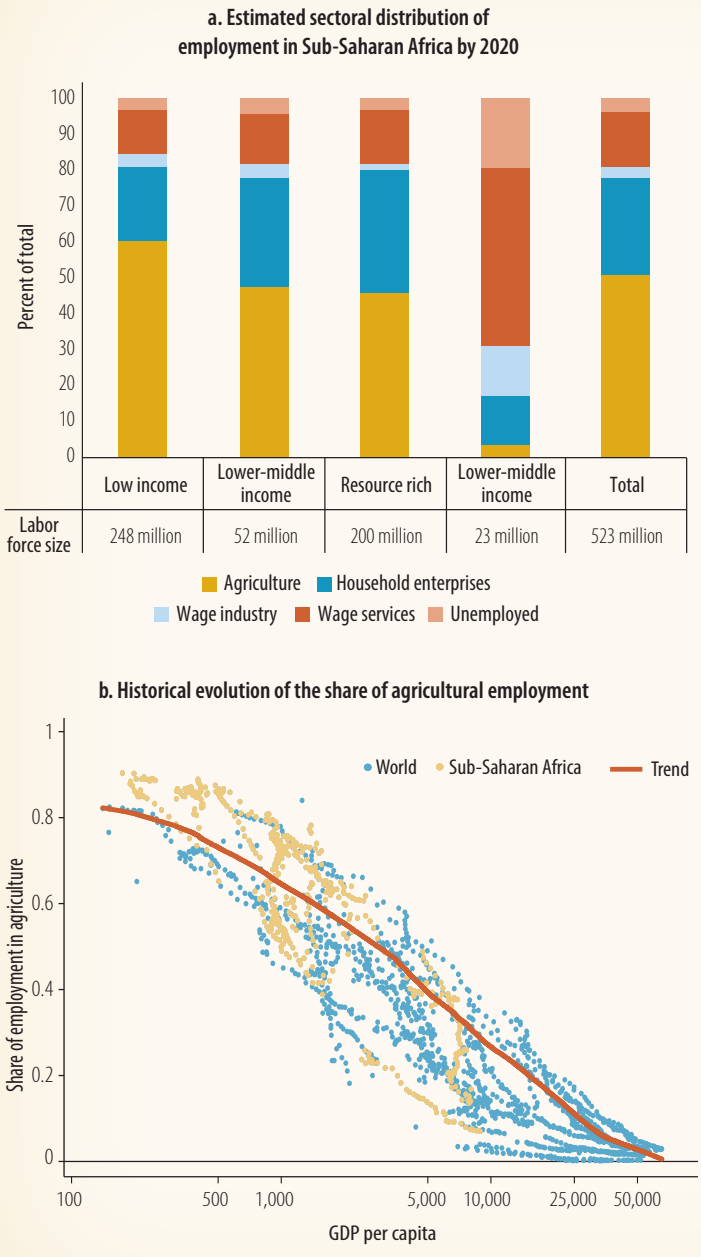
The short answer: often not, for three reasons.

The first reason is that, in most countries, the formal education and training system largely caters to wage employment in the very small formal sector. To be sure, a key role of skills investments in the region is to meet the skills needs for catalytic sectors that will enable economic transformation. This is vital for Sub-Saharan Africa to move workers from low-productivity sectors, like subsistence agriculture, into higher-value jobs, including modern agriculture. High-skilled jobs in leading economic activities not only raise earnings, but also create additional jobs indirectly. However, skills investments need to reckon with the reality of today's economies, which rely heavily on subsistence agriculture and informal employment—mostly self-employment and in small firms in the services sector—to provide jobs and livelihoods. Skills policies need to help improve the earnings and livelihoods of the large population that will likely remain in agriculture and informal jobs for decades to come.

On average, across countries in Sub-Saharan Africa, eight of every 10 jobs is in agriculture or nonfarm household enterprises, most often in services. In some countries, such as South Africa and progressively in others, including The Gambia and Ghana, manufacturing and services are more important sources of jobs. However, as shown in figure 3.2, the movement of labor out of agriculture in most of Sub-Saharan Africa has been slower than in the rest of the world, and projections show that even in optimistic scenarios, the share of nonwage informal employment is likely to change very slowly.[2] Most of these are low-productivity jobs that provide low earnings.

FIGURE 3.2: Sectoral Share of Employment and Its Historical Evolution

Despite an ongoing structural transformation, a large share of employment will remain in agriculture and household enterprises for the foreseeable future.



Source: Based on Fox, Thomas, and Haines 2017 (panel a) and data from the Groningen Growth and Development Centre 10-sector database (panel b).

2 Fox et al. (2017).

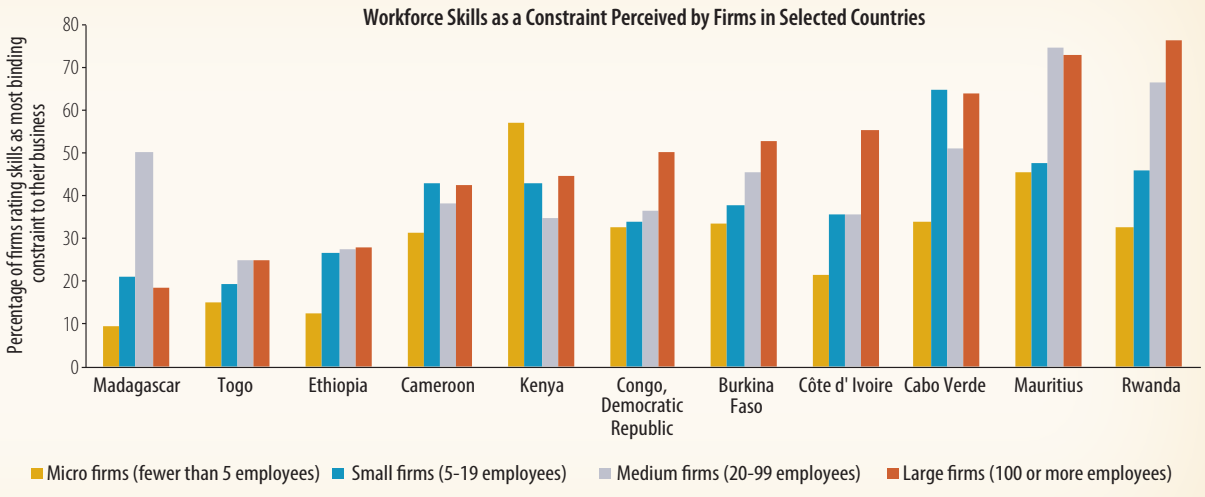
Yet, this is not the objective for which (formal) education and training systems in the region prepare workers. Agricultural extension programs that incorporate skills training often do not pay attention to remedying deficits in the foundational (basic literacy, numeracy, and socio-emotional) skills of farmers. This is found despite the evidence that these skills are at least as important as technical skills for the adoption of new technologies and more productive agricultural practices. Entrepreneurship education in secondary schooling is nascent, although programs such as Educate! in Rwanda and Uganda can be a model in this area. Training programs for the self-employed remain limited in scope and with significant design and implementation issues. Recent innovations in programs that combine multiple skills training with cash show promise.

Formal and informal apprenticeships are yet to achieve their potential. Ongoing reforms in apprenticeship frameworks in many countries in the region recognize this situation, and are aiming to expand access to these opportunities by providing more incentives to the private sector to take on apprentices, strengthening partnerships with employers (including in the management of such schemes), complementing on-the-job training with classroom training (including in foundational skills), more clearly recognizing the skills gained, and combining apprenticeships with more comprehensive support that aids the transition to higher-productivity self-employment or wage work.

The second reason why investments are not meeting the needs of economies is that there are signs of misalignment in programs that invest in skills for the small formal sector. As countries in the region grow richer over time, firms are increasingly reporting that skills are a constraint to their growth and productivity (figure 3.3). In many countries, that constraint is felt most strongly in firms with at least 20 employees, exactly those firms that are generating employment in growing economies. Productive and export-oriented firms are feeling the pinch from a shortage of skills the most. As documented by Perotti (2017), skills are also becoming more binding, as other constraints to firms' operations, particularly access to finance, are addressed. Moreover, as in many other developing economies, employers in the region are increasingly requiring workers to have a multiplicity of skills, including literacy, numeracy, and socio-emotional skills, as well as technical skills. For example, more than half of the formal and informal, large and small firms surveyed as part of the School to Work Transition surveys in Benin, Liberia, Malawi, and Zambia reported that technical, interpersonal, and higher-order cognitive skills (problem solving, decision making) are very or extremely important for them.

Firms increasingly rate workforce skills as a constraint.

FIGURE 3.3: Workforce Skills as a Constraint in Sub-Saharan Africa

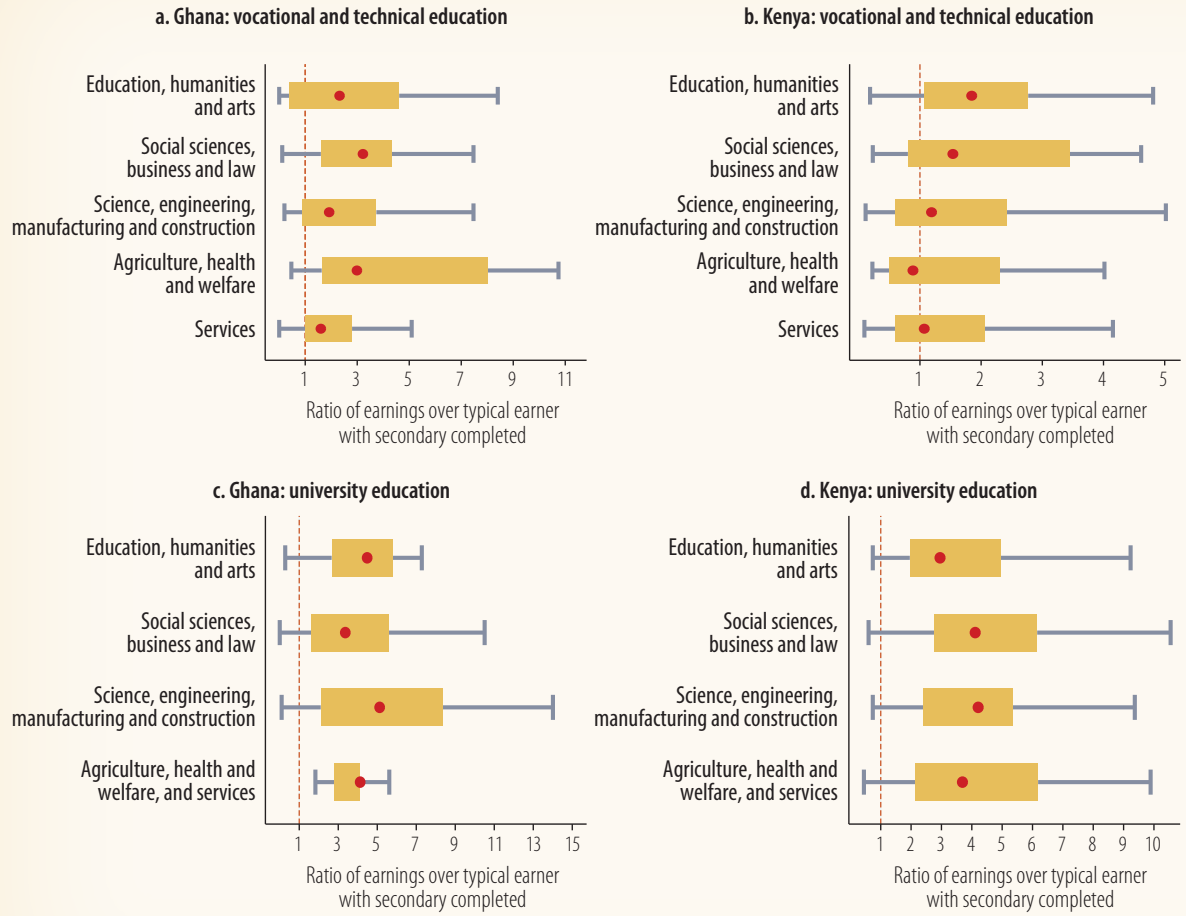


Source: Perotti 2017, based on World Bank Enterprise Surveys.
Note: Data from the standard Enterprise Surveys covering largely formal firms and excluding microenterprises.

Although some degree of skills mismatch is natural and unavoidable in any growing and restructuring economy, many graduates from technical, vocational, and general education pursue fields for which there is weak labor demand. Although average returns to education, especially higher education, are high and, in some cases, increasing, there is a lot of variation across and within fields of study. Often, investments in TVET or higher education do not pay off for many students (figure 3.4). Tellingly, TVET does seem to pay off for those students with the weakest prospects in the labor market and the slimmest chances of reaching the high-quality universities for which returns to education are the highest. Although TVET can help in the school-to-work transition and confers a positive earnings premium on average, there is also a lot of variation across students, fields, and institutions. This variation in returns to post-secondary education may result from students' lack of readiness (due to weak foundational skills), as well as the low quality and misalignment with labor market needs of technical and vocational education at the upper secondary and tertiary levels. Just above a quarter of the region's university students are enrolled in programs in the applied sciences, engineering, and technology, with a lower fraction among women. The region has only 92 scientific researchers per million people, compared with the global average of more than 1,000.

FIGURE 3.4: TVET and Higher Education

TVET and higher education do not pay off for everyone.



Source: Arias, Santos, and Evans (forthcoming), based on STEP household surveys.

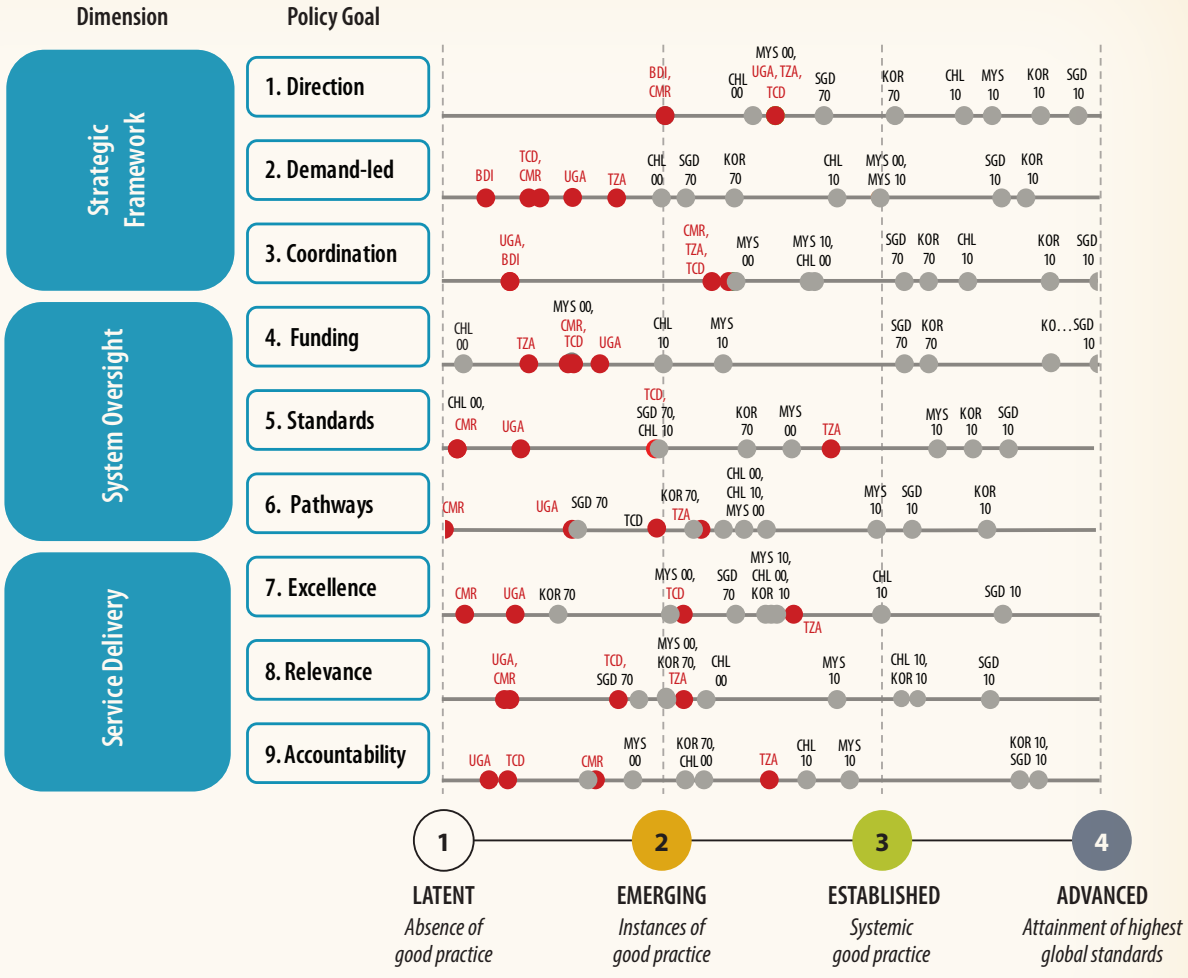
Note: The figure shows the ratio of earnings from various TVET fields and university education to the earnings of typical individuals with complete secondary education across the distribution. The red dot represents the median of the distribution. The lower end of the box represents the 25th percentile and the upper end the 75th percentile. The lines outside the box represent the ratio for the highest and lowest values of earnings excluding outliers. STEP = Skills Towards Employability and Productivity.

At a deeper level, these gaps stem from institutional weaknesses in the service delivery system of tertiary education. TVET and higher education often have poor links to labor demand, lack diverse pathways that can allow students to build skills cumulatively, and have financing and accountability mechanisms that are not tied to results. Figure 3.5 shows how a subset of countries in the region (Burundi, Cameroon, Chad, Tanzania, and Uganda) scores in internationally comparable institutional assessments of formal workforce development systems (comprised mostly of TVET, but also labor market programs, for example). The region often lags other developing regions and high-performing countries in the early stages of development of their TVET systems. Similar institutional weaknesses pervade higher education.

The third reason why investments are not meeting the needs of economies is that Sub-Saharan Africa needs to tackle these gaps in skills development while also bracing for the impacts of key global and regional mega-trends that are bound to change the world of work. Countries in Sub-Saharan Africa, like

Technical and Vocational Education and Training in Sub-Saharan Africa have institutional weaknesses.

FIGURE 3.5: Workforce development performance across specific policy goals, by selected countries



Source: Arias, Santos, and Evans (forthcoming), based on the World Bank SABER Workforce Development Database.

Note: This graph includes data for Sub-Saharan Africa (Burundi, Cameroon, Chad, Tanzania, and Uganda); Middle East and North Africa (Arab Republic of Egypt, Iraq, Jordan, Morocco, West Bank and Gaza, Tunisia, and Republic of Yemen); high performers in 1970 (Ireland (1980), Republic of Korea (1970), and Singapore (1970)); high performers in 2010 (Chile (2011), Ireland (2000), Republic of Korea (2010), Malaysia (2010), and Singapore (2010)). Circles are labeled with country abbreviation and year. SABER = Systems Approach for Better Education Results.

the rest of the world, face three mega-trends that are reshaping the global economy, rapidly changing the demand for skills, and posing opportunities and challenges for skills policies: population shifts, global integration, and technological change (with the ensuing shrinking role of manufacturing as a source of employment and a force of economic transformation).

The first trend pertains to population shifts. Most countries in Sub-Saharan Africa are entering or have entered the demographic transition with the "dependency ratio" (the fraction of the population that is too young or too old to work) declining and giving rise to the potential "demographic dividend." Changes in fertility in most of the region are favorable to human capital accumulation. In almost every country today, fertility rates are falling and families are having fewer children. This can free up resources, as the workforce grows faster than the dependent population, raising per capita incomes and the capacity of families to invest in the skills of their offspring. This demographic dividend is accompanied by urbanization. Across the region, more than one-third of the population already lives in urban areas, facilitating service delivery (figure 3.6). Altogether, there are potentially more resources to invest in the early years and quality education for children, as well as lower costs of making these investments. Demographic forces offer many countries in the region a unique "window of opportunity" to harness the potential of a significant increase in their nation's young population to generate greater productivity, increase prosperity, and reduce poverty. Although the demographic transition in Southern African countries is more advanced, they still have a decade or so to take advantage of the heightened potential payoff to skills investments during the transition. At the same time, countries in the region will need to secure the resources to expand the supply of basic education and secondary schools, to ensure access to quality schooling for the growing size of the student population.

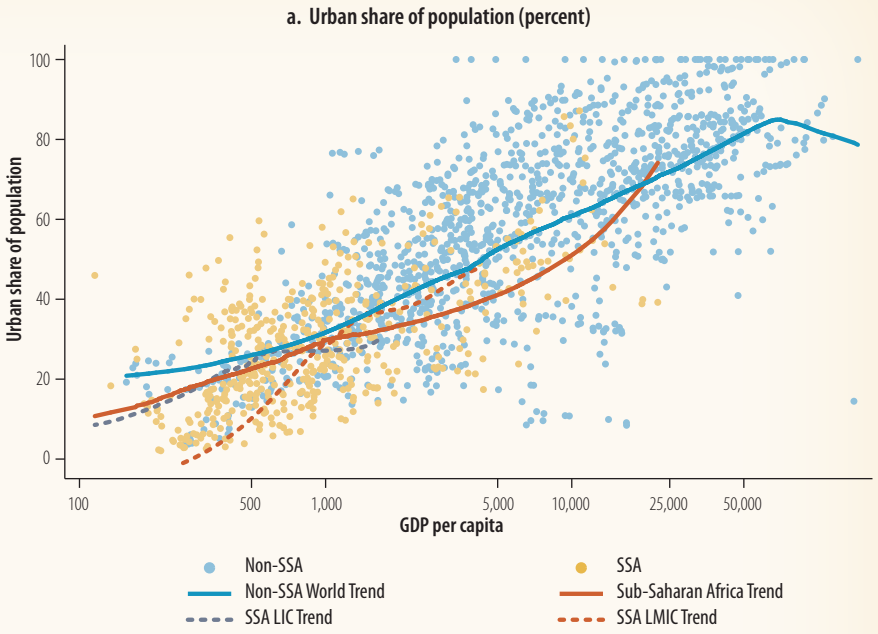
The second trend is the increasingly interconnected nature of the global economy. Production in manufacturing and services takes place in interlocked global value chains, in which China and other East Asian economies have managed to capture the lion's share of investments in export-oriented industries. This trend goes hand in hand with increased economic competition.

Finally, the third trend is the impact of digital technologies and robots, and the ensuing rapidly changing world of work. New technologies risk destroying more jobs than they create, at least in the near term. Africa is not immune to the impact of automation. We are already seeing automation of routine tasks in employment in developing economies. The recent World Development Report, *Digital Dividends*, estimates that—from a technological standpoint— in countries like Nigeria and South Africa, over 40 percent of today's jobs may be at risk of being significantly transformed or altogether replaced by digital technologies over the next two to three decades. Even if automation does not directly lead to the destruction of routine jobs in Sub-Saharan Africa, many of these jobs may first disappear in countries like China before economies in the region can capture the related industries through lower labor costs. Moreover, just as critically, even when jobs are not destroyed, these technologies change the types of skills that are needed at work.

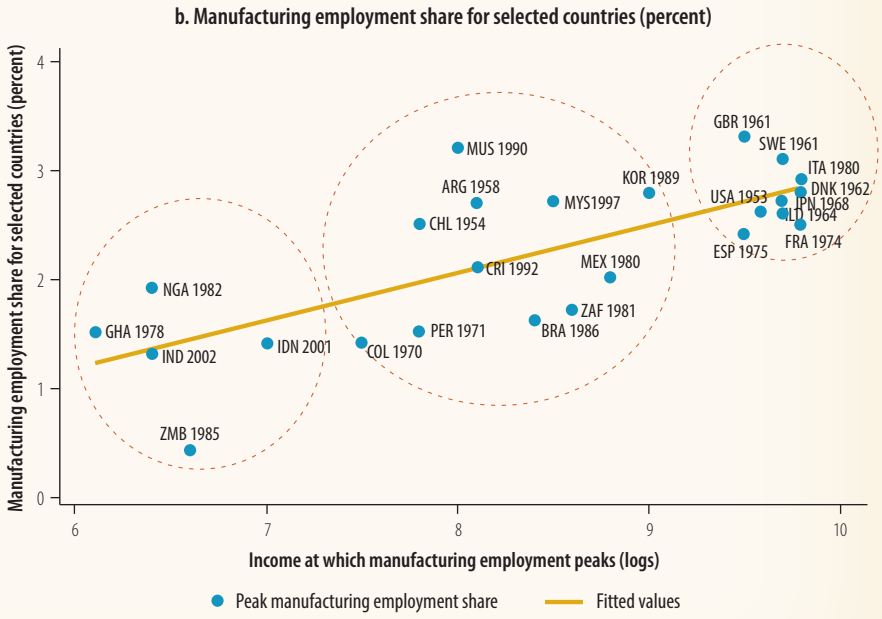
These last two trends combined bring about the challenge of premature de-industrialization. As shown in figure 3.6, panel a, drawing on the work of Rodrik (2015), over the past couple decades, there has been a shrinking role for manufacturing as a force of transformation to pull labor from agriculture in the region. Increasingly, the engine for transformation and job creation comes from services, often from informal self-employment and micro-enterprises. There will be limited jobs in the formal sector, especially in

SSA is urbanizing fast, although slightly below the pace of other regions.

FIGURE 3.6: Mega-Trends and Skills Demand, by Region and Country Groups



SSA faces a shrinking role of manufacturing as an engine of job creation and transformation.



Source: Arias, Santos, and Evans (forthcoming), based on World Development Indicators and household surveys (panel a) and Rodrik 2015 (panel b).

Note: LIC = low-income countries; LMIC = low- and middle-income countries; SSA = Sub-Saharan Africa.

manufacturing, over the decades to come. More individuals will need to be prepared to create their own jobs.

Policy makers should include these regional mega-trends when establishing priorities to manage the trade-offs in skills investments. First, the trends will raise the educational and social mobility aspirations of families and individuals, especially youth. Second, the trends will change the types of skills that are in demand. Demand for high-level nonroutine cognitive and socio-emotional skills will grow; the skills required for many routine low- and medium-skill jobs will fall. And third, the trends will accelerate the speed of change and put a premium on the adaptability of individuals and systems.

At the same time, these changes bring opportunities for countries to step up progress in skills formation. As countries go through the demographic transition, the share of younger people in the working-age population will rise faster, and older and less educated workers can be replaced with younger workers at a faster pace. Most countries have only recently set out on this path and can still reap most of these benefits. Furthermore, countries in the region can apply the expanding body

of rigorous evidence on what can work in skills building and learn from others' successes and failures. They can leverage the use of new technologies and the advantages of service delivery in more urban societies, as well as a wider net of social programs, such as cash transfers. Developing countries have reached a higher life expectancy than today's developed countries reached at comparable stages of development, thanks to improvements in health technology, such as vaccinations and antibiotics (Deaton 2013). Recent applications of new technologies hold the promise to extend the significant gains in school enrollment to learning outcomes. And finally, the region can tap the opportunities from regional cooperation and approaches to common problems to achieve farther-reaching progress with economies of scale and lower costs.

Patience is required, since skills investments, especially in new cohorts, have a long maturity and take time to bear fruit. It will take nearly two decades for skills investments in today's children to translate into a more productive labor force and improvements in national and family incomes. Because of past slow progress, in many countries, up to 30 percent of prime-age and older adults failed to acquire a minimum set of foundational skills. This situation puts those heading families at higher risk of poverty, which then hinders the opportunities of their children. These families would have to wait a decade or more before any schooling bequests to their young children can lift family incomes significantly. In many countries, the demographic window of opportunity is opening; in others, it has been open for some time. For some, that window is closing. Given the importance that governments, employers, and families in the region place on education and training, this is not an opportunity to be missed.

Question 2. Is skills development built on a solid foundation in Sub-Saharan Africa?

In most countries in Sub-Saharan Africa, it is not, for several reasons.

In recent decades, the region has made big strides in enrollment in basic (especially primary) education, which should be celebrated. In 1990, about half of the children in Sub-Saharan Africa did not go to school. By 2015, that figure had fallen to less than a third. In the majority of countries, over 80 percent of primary-age children are enrolled in school today. Burundi is a standout performer, which more than doubled the proportion of primary-age children enrolled in school, from less than 41 percent in 2000 to 96 percent in 2014. Niger, Mozambique, Guinea, and Burkina Faso boosted their primary enrollment ratios by 30 to 36 percentage points; Zambia, Mali, Ghana, Senegal, and Lesotho managed an increase of about 22 to 26 percentage points (UIS 2017).

Yet, access to basic education remains incomplete. Inequities in access to education persist among children across demographic and socioeconomic groups and regions within countries. Although the number of out-of-school children in the region has fallen over the past couple decades, 31 million primary-age children and nearly 57 million adolescents and youth of secondary-school age, many of them girls, were not attending school in 2014 (UNESCO 2016). Although more than eight of every 10 primary-school-age children were enrolled in school, only two of every three adolescents were enrolled in lower secondary. In Nigeria, the region's most populous country, nearly 9 million children are not attending school; many of them live in the conflict-affected northeast region.

Thus, the important goal of universal basic education remains elusive. Overall, about 55 percent of children complete primary education and less than one in three children complete lower secondary education. The overall rate of completion of primary is much lower than in Latin America and the

Caribbean, Asia-Pacific, and other regions. There is significant variation within the Africa region, of course. Countries like Botswana, Cabo Verde, Ghana, Kenya, the Seychelles, and South Africa are close to achieving universal completion of primary education. But in Burundi, Niger, Mozambique, Guinea, and Burkina Faso—the countries with the greatest recent progress in enrollment—fewer than 50 percent of the students complete primary education.

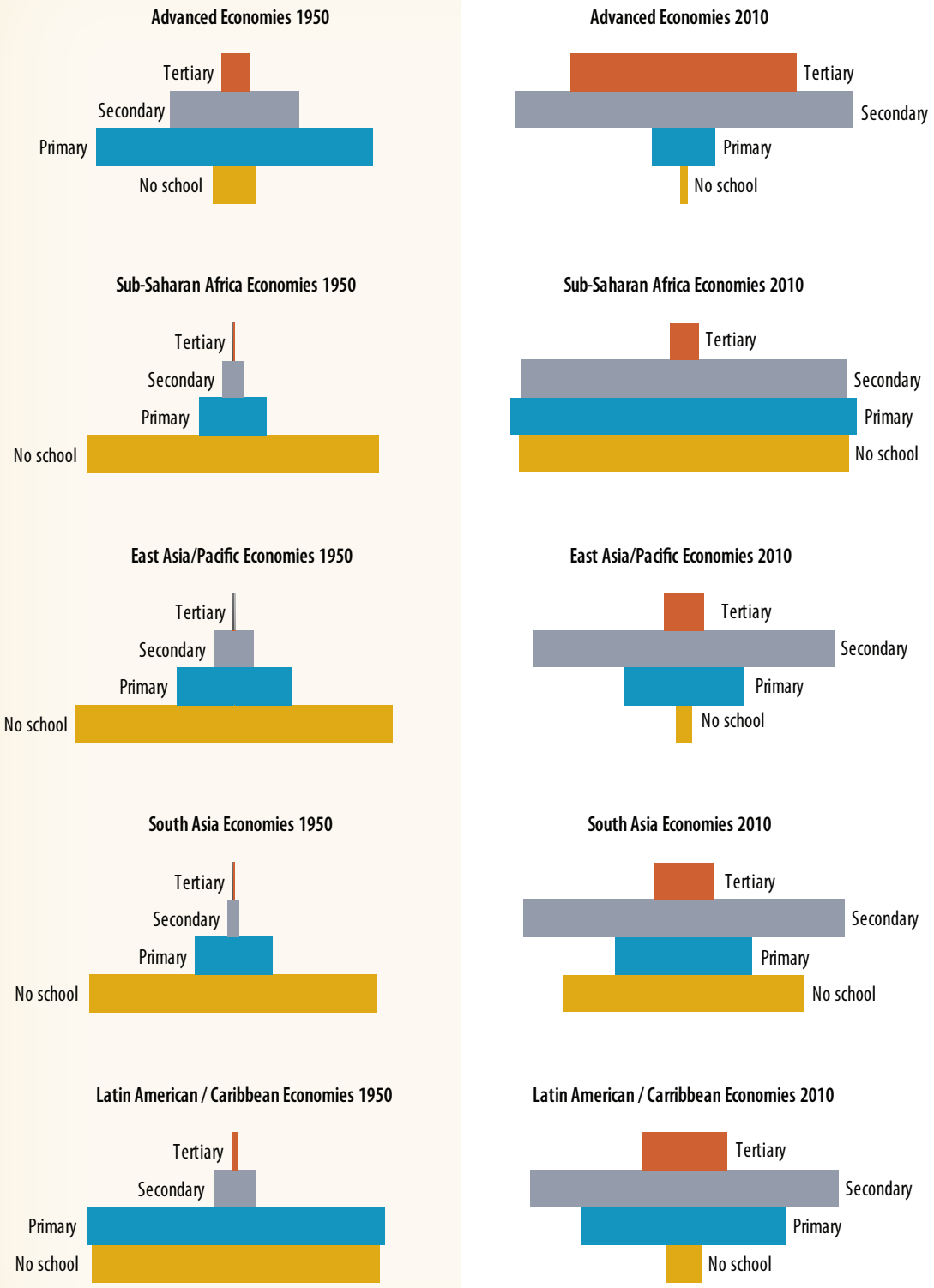
The low rate of school completion stems from a combination of inadequate physical access, repetition, family income constraints, and social norms biased against girls. In several countries, many children still lack adequate access to primary school. Many still live too far from schools. In Lesotho, Malawi, Mali, and Rwanda, half or more of the children live more than 2 kilometers from the nearest primary school and must walk at least a half hour. The currently recommended norm is a maximum distance of 1 km or 15 minutes. High repetition rates persist in primary school, and often extend to higher grades. In countries like Benin, Burundi, Côte d'Ivoire, Lesotho, Rwanda, and Togo, 15 to more than 25 percent of children repeat a grade in primary school. Although the vast majority of African nations offer primary education without formal tuition fees in compulsory basic education, the region still has the highest number of countries that charge fees, such as Guinea, Somalia, South Africa, Zambia, and Zimbabwe. These, together with other indirect costs (for books, uniforms, and so forth), can amount to a significant burden for the poorest families. Finally, enrollment figures mask significant numbers of over-age students, an important factor that is linked to leaving school, especially at the lower and upper secondary education levels, due to a combination of late entry to school and repetition. UNESCO (2016) estimates that the region has the countries with the highest proportions of over-age primary school students, with more than one-third of the students being over-age. Across the region, early marriage, teenage pregnancy, and other social norms lead to early school leaving by many girls.

Secondary enrollment and completion rates are still low, particularly among girls, although growing. By 2014, overall only 40 percent of youth in the region were enrolled in upper secondary school (the equivalent of high school in many countries) and only 15 percent completed it. Growing primary completion rates and population growth have been increasing demand for secondary education across the continent. The pressure is mounting. Between 1990 and 2010, the cohort of children ages 5 to 14 years grew by 65 percent in the region. Countries will need to ramp up construction of new secondary schools and assure they are well staffed and resourced. Gender disparities in secondary schooling remain widespread; for example, most countries have not yet achieved gender parity. For instance, in the Central African Republic and Chad, both recently affected by conflict and violence, nearly half as many girls as boys were enrolled in secondary school in 2012; in Lesotho, only 71 boys were enrolled for every 100 girls.

Sub-Saharan Africa's advances have not been rapid enough to keep up with global progress on educational attainment, particularly that in other developing countries. The desirable educational attainment structure resembles a diamond, with a majority of the population completing basic and high school education and building foundational skills, and a fraction of the population reaching tertiary (university or tertiary TVET) education that will increase progressively as countries become richer. As shown in figure 3.7, this is what we see today in most countries in East Asia and Pacific, a region that looked like Sub-Saharan Africa in 1950. Despite recent progress, today Sub-Saharan Africa still has an education pyramid with a wide base of low-educated adult population.

FIGURE 3.7: Evolution of Educational Pyramids in Sub-Saharan Africa and Other Regions

Despite recent progress, Sub-Saharan Africa still has an education pyramid with a wide base of low-educated adult population.

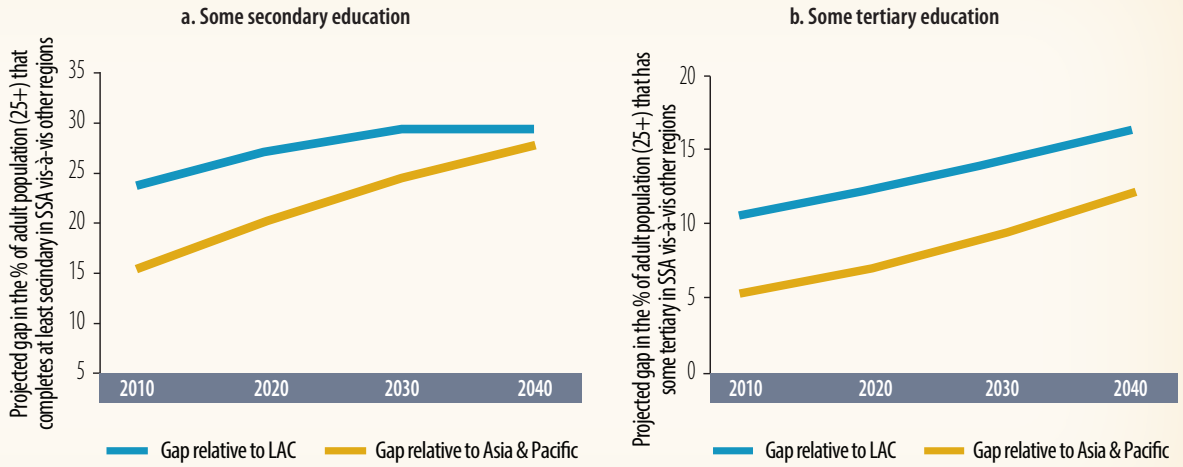


Source: Arias, Santos, and Evans (forthcoming), based on Lee and Lee 2016.
Note: The graphs shows the highest level of education (incomplete or complete) reached by the adult population (ages 25 to 65).

Sub-Saharan Africa risks falling even further behind in educational attainment in the decades to come. Under current trends, UNESCO (2016) projects that by 2030, about three of every four children will complete the full cycle of primary education; six in 10 will complete lower secondary; and four in 10 will finish upper secondary. UNESCO projects that only eight countries in the region would achieve universal lower secondary completion by 2030 if they expanded at the fastest rate of progress ever observed in the region. This projection suggests that the speed in education progress required to meet the Sustainable Development Goal target of universal foundational skills would be unprecedented. Worryingly, with recent rates of progress in education, the region would continue to diverge from Asia and Latin America over the next couple of decades in the completion rates of primary, secondary, and tertiary education of the adult population (figure 3.8).

Sub-Saharan Africa, as a region, will continue to diverge from other regions in human capital accumulation.

FIGURE 3.8: Human Capital Accumulation, by Region
(projected gap in the percentage of adult population (25+) in SSA compared with other regions)



Source: Arias, Santos, and Evans (forthcoming), based on Barro and Lee (2015).

Note: The graphs show the gap (difference) between SSA and the other regions in the percentage of the adult population projected to complete at least secondary school, or reach at least some tertiary education. The gaps are based on simple averages across countries (not population weighted). Asia and Pacific includes South Asia, East Asia, and Pacific. LAC = Latin America and the Caribbean; SSA = Sub-Saharan Africa.

There is considerable variation across countries in the region. Well-performing countries, such as Ghana and South Africa, have an educational structure today that is beginning to resemble that of East Asian economies. In contrast, in countries like Niger and Mali, around 70 percent of young adults ages 20 to 24 have no formal education.

Moreover, even when countries succeed in enrolling more children and keeping them in school, most fail to acquire even the most basic foundational skills. As children reach the end of basic education, more than half cannot carry out basic reading or math tasks. According to recent student assessments, more than half of the second-grade students in Zambia, Mali, Uganda, Ghana, and Malawi cannot read a single word. This finding compares with just one in 10 in Jordan, a third in Morocco, and less than four in 10 in Nepal. Kenyan children ages 7 years and younger in the northeast (one of the poorest regions) are eight times more likely to be unable to read letters than their peers in Nairobi. Even countries like Botswana, Ghana, and South Africa perform worse than all other participating countries in international student assessments (such as the Trends in International Mathematics and Science Study). When adults in Ghana and Kenya recently participated in the World Bank Skills Towards Employability and Productivity surveys, which measure the functional literacy

skills of urban adults, they performed far worse than adults in other developing countries. In Kenya, less than 1 percent of tertiary-educated adults who completed the reading skills test achieved levels 4 or 5 in proficiency (for example, synthetizing or integrating information from multiple texts). More than a quarter were at level 1 or below, meaning that they cannot enter personal information into a document or identify a single piece of information from a simple text, even when it appears identically in the text.

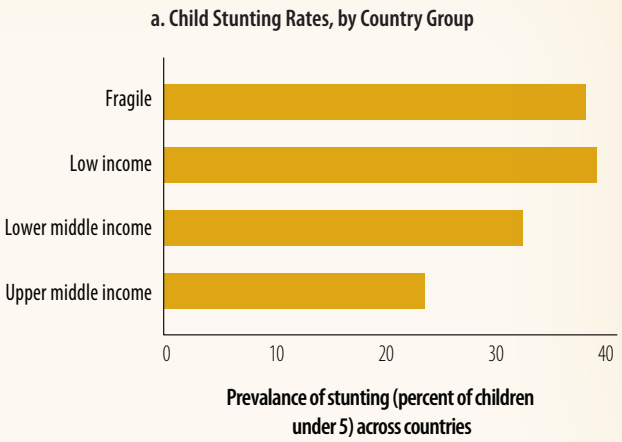
These deficits in basic foundational skills start very early in life. Chronic malnutrition (stunting) rates in many countries hinder readiness to learn even before children enter the education system. Across the region, more than a third of children under age 5 years are stunted. The prevalence of under-5 child stunting is significantly higher in low-income and fragile states on the continent, reaching nearly 40 percent. Even in upper-middle-income countries, the child stunting rate is just under 25 percent, still dramatically high (figure 3.9, panel a). Stunting is associated with lower levels of schooling, cognitive ability, and earnings later in life. Furthermore, access to preschool and other early childhood development services is low and highly unequal. As a result, by age 5, children from better-off families are twice as likely to demonstrate certain cognitive skills than those from poor families. Nevertheless, some countries in the region are among the most successful countries in the world in having made significant progress in reducing stunting. Kenya reduced its stunting rate from 40 to 26 percent (more than a one-third reduction) over 15 years; Ethiopia lowered it by over 10 percentage points in a decade. Malawi, Senegal, and Tanzania also made progress, albeit at a slower pace (figure 3.9, panel b).

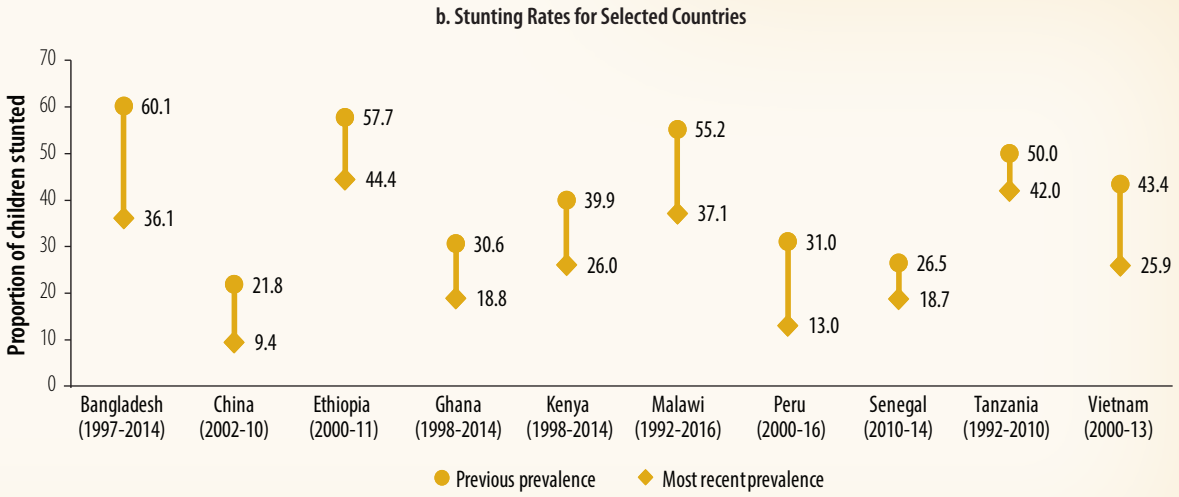
The gaps in investments in the early years are compounded by the low quality of schooling in basic education, as revealed by teacher absenteeism and deficiencies in subject knowledge. Effective teaching—the most critical determinant of learning—is lacking in many countries in the region. Data from the Service Delivery Indicators program, based on nationally representative surveys of primary schools in Kenya, Mozambique, Nigeria, Togo, Uganda, and Tanzania, reveal that too many teachers do not even show up to schools, and, even if they do, too many are unprepared and lack the proper support. On average, across the seven countries, teachers were absent from the classroom—when a visitor appeared unannounced to check during class time—over 40 percent of the time. In Mozambique, when time lost within a lesson is also taken into account, students experienced an average of just 1 hour and 40 minutes of daily effective teaching time. Moreover, in recent tests of teachers in these countries, on average one in every three teachers failed to demonstrate the minimum knowledge of the math content they are required to teach, reaching as low as 50 percent in some countries. Even in South Africa, a study found that nearly 80 percent of grade 6 math teachers did not have a complete understanding of the sixth grade math curriculum. Because teachers remain in the workforce for many years, updating knowledge and skills requires time as well as upgrading the skills of new and ongoing teachers.

The Service Delivery Indicators data from classroom observations also reveal weaknesses in the pedagogical approaches deployed in teacher instruction. Across countries, around 30 percent of classroom time was spent writing on the blackboard or lecturing or reading to students; 30 percent was devoted to interacting with students; another 22 percent was spent asking students questions and listening to responses; and 6 percent was devoted to testing. Most of the questions elicited students to recite memorized information. Only 43 percent of teachers summarized the lesson at the end of class. About six of every 10 teachers used positive reinforcement (like smiling at students) and three in 10 used negative

Some African countries are among the most successful countries in the world in reducing stunting. Kenya reduced its stunting rate from 40% to 26% over 15 years; Ethiopia, Malawi, Senegal, and Tanzania also made important progress.

FIGURE 3.9: Child Stunting Rates in Sub-Saharan Africa
(% children under-5 who are stunted)





Source: Staff estimates based on the latest wave of Demographic Household surveys in the past 10 years (from 2007 to 2017) for Sub-Saharan African countries except Angola, Botswana, Cabo Verde, Central African Republic, Equatorial Guinea, Eritrea, Guinea-Bissau, Mauritania, Mauritius, Seychelles, Somalia, South Africa, and Sudan, for panel a; Shekar et al. 2016 for panel b.

reinforcement in their interactions. All in all, observers identified a lot of room to incorporate pedagogical practices that have been shown to be positively associated with learning outcomes.

Teachers in Sub-Saharan Africa teach in challenging environments. They often work far from their homes and with little instructional and pedagogical support. Teachers' salaries are often delayed, and may be slow to catch up with the salaries of comparably trained professionals.

However, in most systems, teachers are neither held accountable for poor performance nor rewarded for good performance, including recognition and the opportunity to mentor others. The failures of educational systems to provide support and incentives for teachers are likely proximate causes of the failure of schools in the region to deliver the levels of learning that are necessary for children to acquire strong foundational skills.

Not surprisingly, the huge gaps in early childhood development and learning in basic education hinder equitable access and readiness to post-secondary skills acquisition. In many countries, students are tracked too early (in lower secondary) to a vocational track and miss the opportunity to acquire the foundational skills needed to navigate their lives in a rapidly changing world of work. Youth from disadvantaged families, particularly with low-educated parents, face low chances to pursue tertiary education, especially at the university level. In addition, even among those who make the transition to higher education, their performance is severely hindered by weak foundational skills. For instance,

a study of South African high school graduates finds that those who do worse on the final high school graduation test have lower chances of progressing to university and, even if they do, are more likely to drop out before completing university (Van Broekhuizen 2016). Weak foundational skills hinder access and success in the STEM fields, applied sciences, and pedagogical schools, from which the next generation of engineers, doctors, and better-prepared teachers will emerge.

Again, skills beget skills. Those skills developed early in life are the foundation for the development of other skills throughout life. Solid foundational skills—literacy, numeracy, and socio-emotional—determine a child's readiness to learn throughout education and into adult life. Only by ensuring that everyone—rich or poor, girl or boy, from the capital city or a rural area—has this foundation can inequalities throughout the education and training system be effectively addressed.

Question 3. Is there a good case for investing in the skills of out-of-school youth and adults in Sub-Saharan Africa?

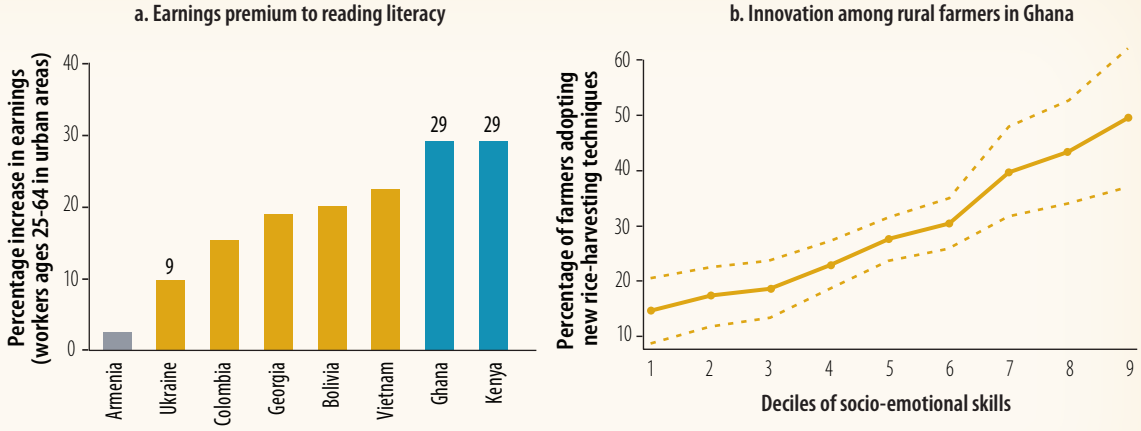
Yes, although, since programs aimed to improve the skills of this population have a mixed record of impacts, these investments need to be carefully crafted, cost-effective, and well leveraged. There are two main reasons why countries in the region cannot afford not to invest smartly in out-of-school young and older adults.

First, because of the legacy of low access and poor quality of basic education, the basic skills deficit among out-of-school youth and adults is too large to be ignored. According to UNESCO (2015), over two-thirds of the working-age population in Sub-Saharan Africa has left the formal education system without completing primary education. In 2008, about 40 percent of adults, more than 160 million, and 50 percent of adult women were illiterate, defined as being unable to read or write in any language. Literacy rates in the region are much more varied, ranging from less than 50 percent (West and Central Africa) to over 90 percent (South Africa). The functional literacy rate—that is, the ability to apply literacy skills to tasks at work and daily life—is likely to be even lower, as suggested by available data from functional literacy assessments in countries like Ghana and Kenya. In any case, this is too large a stock of unskilled workers, many of whom still have long working lives ahead because they never entered school or dropped out of the school system very early. Moreover, given that it will take time to improve child development outcomes, the rates of completion, and the quality of basic and upper secondary education, the relative size of the pool of youth and adults who missed out on acquiring basic skills will shrink gradually at best over the next couple of decades.

The second reason to invest in out-of-school young and older adults is because there can be important economic and social benefits to investments in their foundational and technical skills. These skills can improve livelihoods, enable mobility out of low-productivity jobs, improve productivity in existing jobs, and enhance social cohesion, since jobs are more than just incomes. A recent cross-country study by Valerio et al. (2016) finds that the returns to literacy are highest in Ghana and Kenya, the two African countries included in the study (figure 3.10, panel a). The majority of the working population in Africa will likely remain in agriculture and informal employment for the next couple of decades. Farmers with stronger cognitive and socio-emotional skills (such as future orientation and persistence) have been shown to be more likely to adopt more productive technologies in rice production in Ghana (figure 3.10,

Cognitive skills improve earnings and productivity in Sub-Saharan Africa.

FIGURE 3.10: Cognitive Skills, Earnings, and Productivity in Sub-Saharan Africa



Source: Valerio et al. 2016, based on World Bank STEP Surveys (panel a); Ali, Bowen, and Deininger 2017 (panel b).

Note: In panel b, socio-emotional skills include measures of work centrality, tenacity, achievement, power motivation, locus of control, impulsiveness, polychronicity, optimism, organization, and trust. In panel a, the graph shows the net effect of cognitive skills on hourly earnings using standardized scores for reading efficiency as a a proxy for cognitive skills. For example, a 1 standard deviation increase in reading literacy is associated with a 9 percentage point increase in earnings in Ukraine.

panel b) and tobacco, a cash export-oriented crop, in Malawi. In Kenya, these skills have been shown to be important for productivity in maize production, and to reinforce technical skills.

Training in vocational, socio-emotional, and entrepreneurship or management skills, often bundled with other forms of support or workplace experience, have led to such improvements in countries like Ethiopia, Kenya, Liberia, Togo, and South Africa. Moreover, improvements in adult skills can have direct and indirect positive effects on intergenerational human capital. Parental literacy, particularly of mothers, and improvement in adults' incomes can enhance children's skills development by improving child health, early stimulation, and the learning environment at home.

Many programs that aim to build skills among youth and adults fail; those that succeed tend to have modest impacts. The impacts of remedial adult education and training programs should be gauged against what they are set to accomplish, which is partially redressing skill gaps that formal education failed to provide over years. Although adults learn in many ways—through training, on the job through informal apprenticeships, or through social interactions—remedying large deficits in foundational skills later in life is more difficult and costly. Thus, the impacts of well-designed programs tend to be on a par with the returns to a year of schooling (McKenzie 2017).

There are lessons, however, about how to make the most of the investments in these programs and mitigate the trade-offs with investments in the skills of new cohorts. Skills programs for out-of-school youth and adults can be made more cost-effective if they are designed tailored to the needs, constraints, and incentives of the target population and the contexts of local labor markets. Programs that are paired with social and productive inclusion or agricultural extension programs can be delivered at a lower cost per person; the programs can also harness the power of new digital technologies in provision. The key is to apply the lessons learned from successful and promising programs, and evaluate new programs before scaling them up.

Question 4. Are countries in the region investing adequate resources in skills?

For the most part, countries' levels of spending are commensurate with what they can afford and what can be expected, but there is ample room to leverage current investments. Given that skill-building efforts need to expand, all countries must improve the efficiency of public spending and crowd-in more private investment. Figure 3.11 presents a comparison of average spending figures in Sub-Saharan African countries with other developing regions.

On average, Sub-Saharan Africa already devotes significant public resources to education. This conclusion has been reached by recent detailed analyses of public spending in the region, such as UNESCO (2011) and Global Education Commission (2016-2017). A country's effort on education and the priority it gives to the sector can be gauged by the level of public education expenditure as a percentage of total government expenditure and as a percentage of GDP. Although these are incomplete indicators, since they fail to account for private investments in education and other skills training by families and enterprises, the public sector plays a major role in providing education and training services, and these measures allow international comparisons. The internationally recommended targets are for governments to invest 15 to 20 percent of total public expenditure and 4 to 6 percent of GDP in education. On average, countries in Sub-Saharan Africa allocate about 15 percent of total public spending and nearly 5 percent of GDP to education, the largest spending ratios among developing regions. There is variation across countries, with a range from about 11 to 28 percent of total government spending and from as low as 2 to 15 percent of GDP. Overall, countries in the region tend to prioritize a relatively large proportion of resources to education, despite their low per capita incomes and other competing demands for infrastructure and public services, which are also important for economic growth and well-being. In addition to public resources, it is estimated that households contribute around 25 percent of the total national education expenditure.[3]

The region had the greatest increase in spending among developing regions over the past decade. Real public spending rose on average by about 6 percent per year; it rose by 0.7 percentage point of GDP among countries with available data during the past decade. This expansion of education expenditure allowed countries to maintain or even increase the expenditure per pupil while they were expanding enrollment in basic and even tertiary education. Currently, spending per student in basic education is commensurate with the levels of other low-income countries.

Thus, in most countries, it is unrealistic to count on an increased effort of public investment in skills; instead, countries should seek improvements in efficiency. All countries should make the most of current spending, by improving the targeting of resources to foundational skills and families in greater need, and establishing stronger accountability mechanisms, such as better financial management and reliable education management information systems to cut waste and reduce the costs of inputs and infrastructure spending. Of great importance is to scale up effective interventions to enable and compel teachers to spend their time teaching by tackling

3 Figure based on data from 16 countries (UNESCO 2011).

Spending on education in Sub-Saharan Africa is comparable to that in other regions.

FIGURE 3.11A: Public Education Spending (% of GDP), by Region

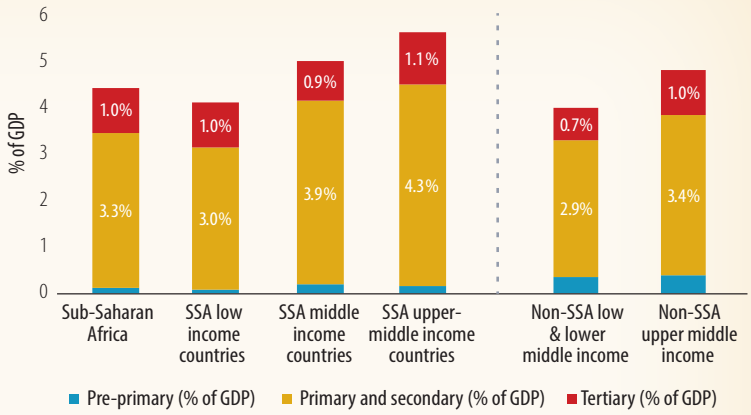


FIGURE 3.11B: Public Education Spending (% of total expenditures), by Region

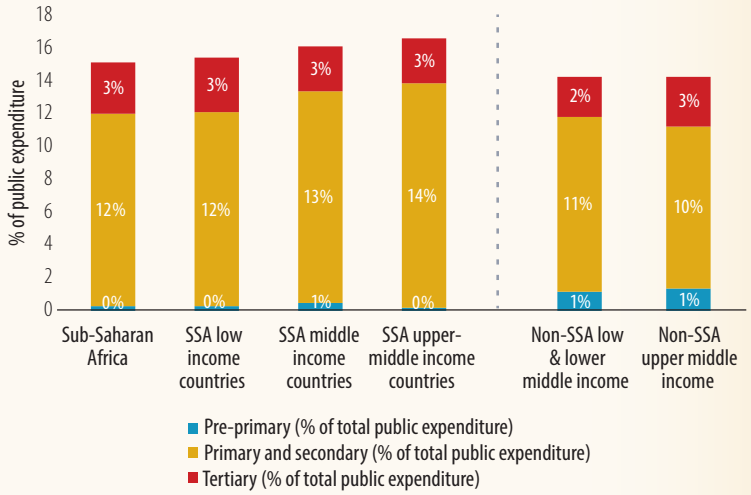
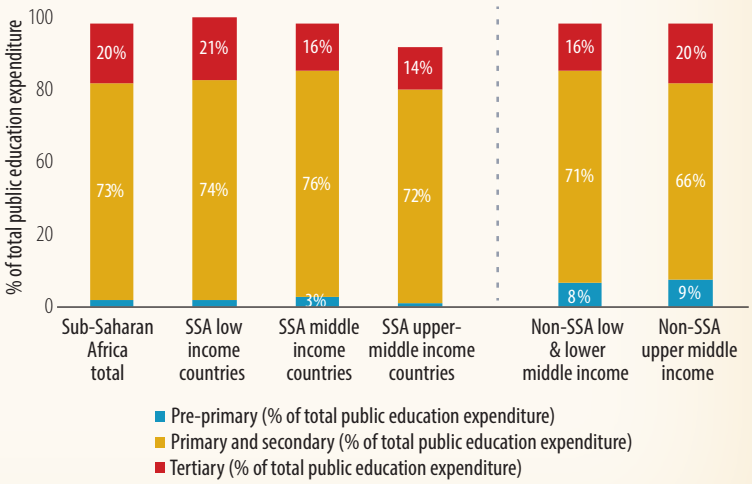


FIGURE 3.11C: Composition of Public Education Expenditures, by Region



Source: Arias, Santos, and Evans (forthcoming), based on World Development Indicators data.
Note: Values are the average from the three most recent available years (2010–15).

the systemic causes of absenteeism. There are some exceptions, particularly among some natural resource–rich countries in the region, which can afford and need to step up education spending (in terms of their GDP per capita and overall public expenditure) while also improving efficiency.

Moreover, there is room for reallocations of public education expenditure to prioritize foundational skills and disadvantaged groups. Although the region already devotes most public spending to basic education, resources devoted to pre-primary education account for just about 0.3 percent of education spending. In countries with high child stunting rates, there is also a need to step up investments in effective interventions, such as prenatal care and cash transfers tied to health and nutrition services. To create room for this additional spending, countries can reduce higher education subsidies for the well-off by implementing selective cost-recovery, expanding student loan programs—when the conditions for their success are met—and using social impact bonds. Public spending on post-secondary technical and vocational education and higher education can

be targeted to disadvantaged groups based on merit and giving greater weight to fields of study with potentially greater externalities for growth and productivity, such as STEM and agricultural technicians.

Finally, countries need to crowd-in private sector investments and leverage other public spending for skills building. Workplace learning and on-the-job training are an important source of skills formation. On average, about 30 percent of formal sector firms in Sub-Saharan Africa provide on-the-job training, compared with 35 percent of firms in the rest of the world. The region's firm training incidence is comparable to that in South Asia, higher than in the Middle East and North Africa, but lower than in Europe and Central Asia, East Asia and the Pacific, or Latin America and the Caribbean. The percentage of firms offering training varies from 9 percent in Sudan to as high as 55 percent in Rwanda. On-the-job training in micro and small firms, often informal, is even more challenging. The potential reasons for the lower incidence of on-the-job training are multiple and likely vary across countries. Improvements in infrastructure, the business environment, and governance could lead to increases in on-the-job training. To the extent that market failures, such as firm credit constraints, are important, there may be a role for public sector interventions aimed at incentivizing on-the-job training, such as tax and spending incentives.

HOW CAN COUNTRIES IN SUB-SAHARAN AFRICA BEST SKILL UP THEIR LABOR FORCE FOR TODAY AND TOMORROW?

More and better skills can help create more productive, inclusive, and adaptable economies in Sub-Saharan Africa. Guided by the previously discussed policy framework, Arias, Santos, and Evans (forthcoming) highlight four strategic directions for policies and reforms aimed at aiding Sub-Saharan African countries to meet the challenges of skilling up their workforces to transform their economies while preparing for a rapidly changing world of work:

1. Set priorities for skill investments tailored to country context and policy reforms, to create the enabling environment for investments to pay off. Policy makers face difficult choices to strike the right balance between investing in skills for productivity and inclusion, on the one hand, and investing in today's workforce and tomorrow's workforce, on the other hand. In striking this balance, policy makers in all countries need to:
    a. Prioritize the universal foundational skills (cognitive and socio-emotional) of children, youths, and adults, as the most effective way to reckon with the two trade-offs of skills investments.
    b. Invest selectively in the technical skills of youths and adults through TVET, higher education, and labor and on-the-job training tied to growing sectors and economic inclusion.
    c. Strive for equity, quality, and efficiency in skills-building systems.
2. In prioritizing achieving universal foundational skills, focus on investments in the early years, inputs that matter most for quality (for example, effective teachers, not only buildings), and supporting youth and adults who have missed out on basic skills.

3. In investing selectively in technical skills for youths and adults, give greater attention to skills for growing sectors—through market-driven TVET and higher education, incentives for on-the-job training, and entrepreneurship support—and skills for inclusion of disadvantaged youths and adults—including through remedial education, informal apprenticeships, and self-employment support—while implementing reforms to ensure demand-driven content and value-for-money in education and training programs.
4. Countries must harness the roles of all stakeholders—public and private sectors, and families, and seize the potential of learning and other performance metrics to enact systemwide change, guide policy and spending decisions, and achieve more responsive and adaptive education and training systems.

FACING THE SKILLS BALANCING ACT: MAKING DIFFICULT CHOICES TO SET PRIORITIES

Investing in the foundational skills of children, youths, and adults is the most effective strategy to enhance productivity growth, inclusion, and adaptability simultaneously. Therefore, all countries should prioritize building universal foundational skills for today's and tomorrow's workers. This is more pressing in countries with low basic educational attainment and poor learning outcomes among children and youth.

When it comes to other priorities, more than other regions in the past, Sub-Saharan Africa must strike the right balance between competing priorities. Figure 3.12 illustrates how, armed with the policy framework outlined here, countries can balance competing priorities in skills investments according to their initial context, namely, their skills base (as proxied by the educational attainment of the adult population), level of income, and policy environment (as proxied by the World Bank Doing Business Indicator). Given that there is a high overlap between countries' skills base and their level of income, figure 3.12 combines these two dimensions into one.

As an illustration of skills priorities, consider five broad groups of countries, each with their own challenges in skills development. There will of course be significant variation within these groups, and every country will need to judge the most essential investments in skills for its people.

(i) *Higher income and a policy environment more conducive to reaping the returns to skills*. These are the upper-middle-income and high-income countries in the region that have made the most strides in reallocating labor out of agriculture and into more productive activities, and in implementing reforms to improve the business environment for the private sector, relative to the rest of the region.

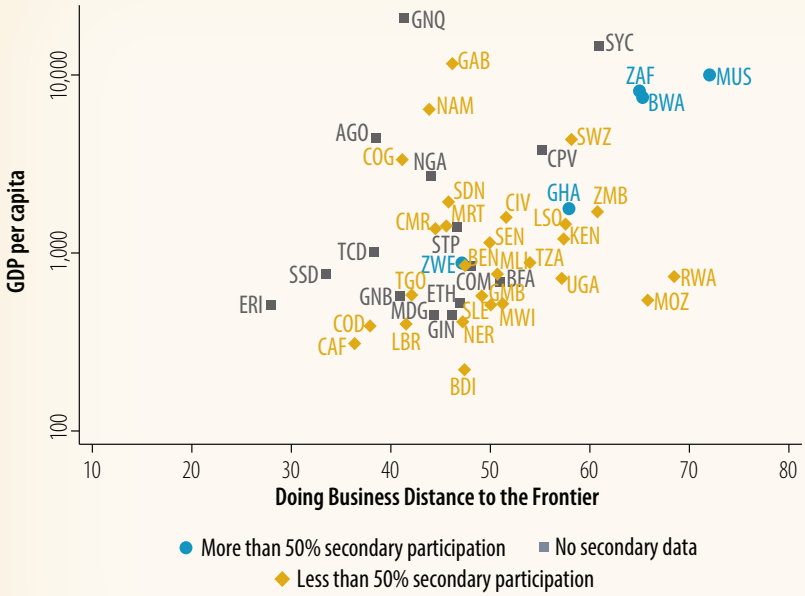
These countries are better placed to reap the returns of investing more in post-secondary technical skills through TVET, higher education, and on-the-job training, although they should continue to implement policy reforms to improve their global competitiveness standing. They also should invest in skills for the inclusion of disadvantaged youth and adults, including through remedial education, informal apprenticeships, and self-employment support. As they expand access to post-

secondary education and training, the countries can benefit from leveraging the role of the private sector in the provision of education and training and ensure its market-driven relevance.

(ii) *Higher income and a less conducive policy environment*. These countries have made progress in moving labor out of agriculture and growing their economies, but are still lagging in economic and regulatory reforms.

FIGURE 3.12: Skills Challenges in Sub-Saharan Africa, GDP Per Capita and Policy Environment

Skills Challenges in Sub-Saharan Africa vary by countries' GDP per capita and policy environment.



Source: Arias, Santos, and Evans (forthcoming), based on World Development Indicators for GDP per capita (most recent year, constant US$) and Doing Business 2015 Database for the distance to frontier indicator.
Notes: GDP = gross domestic product. Countries' position across stages of economic transformation (proxied by GDP per capita) and policy enabling environment (proxied by Doing Business Indicator).

Although these countries need to continue investing in post-secondary technical skills for growing sectors to aid economic transformation, they need to ramp up their reform efforts to ensure the payoff to these investments. At the same time, they need to invest in skills for the inclusion of disadvantaged youth and adults, including remedial education, informal apprenticeships, and self-employment.

(iii) *Natural resource rich and a less conducive policy environment*. These comprise the natural resource–rich economies in the region, which, although richer, are less diversified. For the most part, these countries lag in reforms.

In the case of natural resources that have the potential to generate associated industries (such as diamonds and flowers), countries can afford to invest in post-secondary technical skills tied to the needs of natural resource and related sectors through industry-led training and PPPs for specialized training abroad, and to tap into the derived rents to diversify their economies, provided they accompany these investments with policy reforms to create a business environment conducive to transformation and diversification. For countries with natural resources less linked to associated economic activities (such as oil), the best investments may be in broader skills to strengthen the economy. In both cases, they also need investments in skills for the inclusion of disadvantaged youth and adults.

(iv) *Lower income and a more conducive policy environment*. These countries have made more efforts to improve their business environment, although they lag in their economic transformation.

These countries can carry out selective investments in post-secondary technical skills closely tied to catalytic (growth potential) sectors while deepening policy reforms to promote transformation, leveraging partnerships with the private sector. But this group also needs to devote greater attention to the skills of youths and adults geared toward improving earnings and livelihoods in low-productivity sectors.

(v) *Lower income and a less conducive policy environment*. These countries have a substantial pending policy agenda for creating a business environment that can spur private investment, reward and incentivize skills investments, and achieve sustained economic growth and productive transformation.

More than in other countries, priorities need to give a greater weight to investing in supporting livelihoods for inclusion and social cohesion, including through support for agriculture, self-employment, and informal apprenticeships. These countries need to implement policy reforms to ignite economic transformation before they can step up investment in post-secondary technical skills, and could benefit from PPPs to leverage private provision, including in basic education.

Most countries in the region fall somewhere along the continuum between these five groups. Rapidly transforming economies need to pay more attention to the adaptability and reskilling of their workforces. Countries that have good policies will reap higher returns from investing in tertiary and other skills that galvanize economic dynamism. In low-income settings affected by fragility and conflict, skills to improve livelihoods have a premium and can avoid poverty traps that may hinder economic growth.

In pursuing their priorities, policy makers need to guide their investments over the lifecycle of individuals by the three traditional objectives of education and training systems. Investments and policy reforms need to pursue *equity* for wide access to opportunities for skills acquisition, *quality* for learning and relevance by meeting appropriate standards and responding to labor market demand, and *efficiency* to ensure that education and training financing and provision deliver value for money.

When it comes to public spending, the message is clear: ensure more value for money. Countries should aim to sustain current levels of investment effort in skills and should strive to make spending smarter to ensure greater efficiency and integration with other social policies. Some countries may need to increase spending, for which they would need to reprioritize public spending across sectors, increase their tax effort, and/or tap more external resources. All countries would be able to increase the absolute level of spending in skills as they grow their economies. For all, however, the imperative is to make the most of their current spending efforts, including rebalancing their skills investment portfolio by redirecting current spending, for example, from subsidies for the well-off in tertiary education to early childhood education and nutrition.

Given the complexities of the skills agenda, countries should actively harness the contributions of multiple actors in their skills strategies. As highlighted here, there are distinctive and complementary roles for the various actors involved in skills building. Families can actively invest and nurture children's

cognitive and socio-emotional development through quality care and parenting, and by engaging with schools to hold them accountable for effective service delivery. The private sector can participate effectively in service provision to enhance access and quality, invest in on-the-job training to build skills, engage with education and training providers to ensure programs are aligned with their needs, and actively engage in national social dialogue to prioritize skills development and reforms to create a policy-enabling environment for skills investments to pay off. The public sector has a crucial role in equity and addressing market failures through investments and complementary policies that ensure individuals' readiness (foundational skills), opportunities (equitable access), and incentives (complementary enabling and regulatory policies, information on returns) for skills investments. That is to ensure the rate of return for skills investments. Governments should also tackle the political economy of reforms, fostering cooperation, commitment, and coordination of stakeholders through strategic leadership, social dialogue, and adequate incentives.[4]

FACING THE SKILLS BALANCING ACT: FOCUS ON FOUNDATIONAL SKILLS

Foundational skills—investments in the early years, as well as basic literacy and numeracy—circumvent one of the big trade-offs: universal foundational skills increase economic growth and promote inclusion. Countries should prioritize building universal foundational skills for today's and tomorrow's workers. This begins with investments to promote equality of opportunities and school readiness, including through investments in maternal health, child nutrition, and early stimulation during the first 1,000 days of life and the early years. It requires continuing to improve access to basic education and decisive actions to close large and persisting learning gaps, through improvements in schooling quality. It also demands interventions, such as second chance and adult literacy programs, to support those who missed out on critical foundational skill building.

Ensuring That All Children Are off to a Great Start: Investments in the Early Years for School Readiness

Countries should, first and foremost, step up smart investments in the early years of individuals' lives, to eradicate chronic child malnutrition and promote healthy childhood development. Stunting rates in Sub-Saharan Africa are among the highest in the world, and countries in and outside the region are showing the way to fight child stunting.[5] Peru and Senegal provide useful lessons.

Peru has used a multi-pronged approach to halve child stunting rates in just a decade, from 33 to 14 percent. This success was broadly a result of three mutually reinforcing factors: (i) political commitment at the highest level, (ii) targeted and results-oriented financing to implement evidence-based policies, and (iii) changing behaviors for lasting results. Time-bound and concrete targets established at the presidential level rallied coordination and cooperation across agencies and levels of government. Regular data collection and dissemination helped garner and sustain political support across different government administrations. Results-based financing targeted the municipalities that were most in

4 World Bank (2017).
5 Galasso et al. (2016).

need, to strengthen key health and nutrition services in tandem with a conditional cash transfer program to poor families with children, tied to regular child growth monitoring and other health and nutrition services. A major media campaign made stunting visible and empowered parents to change behaviors and parenting care practices, to promote healthy child growth.[6]

Senegal lowered child stunting rates to among the lowest rates in the region. The government created a special initiative within the Prime Minister's Office to fight malnutrition and coordinate efforts across sectors. The initiative used a multisector, community-focused program targeted to children younger than age 5 years, pregnant/lactating women, and mothers in vulnerable families. It has promoted regular child growth monitoring, breastfeeding, and nutrition education on child feeding and care practices. It has also included the distribution and promotion of the use of vitamin A and iron supplements, as well as community-level food security activities.[7]

The large-scale delivery of early childhood development (ECD), including preschool programs, requires careful attention to implementation, using adaptive learning to adapt to the country context. Some countries have recently announced or are considering universalizing pre-primary education, including Burkina Faso, Ethiopia, Ghana, Kenya, Liberia, Malawi, Nigeria, Sierra Leone, Tanzania, and Uganda. Achieving this goal will require finding cost-effective models for delivering quality services at scale. In a given context, the realities of government and community capacity may favor a community-based or a center-based model, or a mixed approach, such as community organizing of parents.

The right ECD program design will not deliver results if countries do not get the implementation right. Programs in and outside Sub-Saharan Africa that prove ineffective often have an overly ambitious design that fails to factor in implementation challenges, like ensuring adequate staffing. Testing and evaluating approaches that combine local and global knowledge and experiences with adaptive implementation at scale can improve the odds of success. In The Gambia, the government tested and evaluated two approaches to integrate a new ECD curriculum into the formal school system, namely, an informal community volunteers–based arrangement, and adding an additional classroom to existing primary schools to serve children ages 3 to 6.[8] The results of the evaluation favored the latter, in combination with actions to improve take-up rates, address staffing challenges, and implement quality assurance and monitoring. In Mozambique, an evaluation of a community-based preschool program that yielded positive results led to a successful scale-up of the program.[9]

In center-based ECD delivery, teacher quality and classroom practices, more than infrastructure, are paramount. A recent evaluation of an ECD school-based program in Ecuador finds that, measured by classroom observations, better teachers lead to the most significant learning gains in children's language, math, and self-regulation.[10] In Colombia, far costlier center-based ECD services failed to deliver impacts on child development outcomes compared with a home visits program, due to misguided attention to shiny infrastructure over effective instructors.[11]

6 Shekar et al. (2016).
7 Shekar et al. (2016).
8 Blimpo et al. (2017).
9 Martinez, Naudeau, and Pereira (2013).
10 Araujo et al. (2016).
11 Attanasio et al. (2015).

Ensuring Access to Quality Primary and Secondary Education: Effective Teaching as an Essential Condition for Learning

The expansion of access to primary and secondary education must go hand in hand with ensuring effective teaching in schools. This is a simple yet powerful lesson for countries in Sub-Saharan Africa to leapfrog progress in skills building. Many countries in other regions of the world, including richer economies, which expanded access without assuring effective teaching, and thus school quality, have failed to produce learning and skills. A focus on quality will no doubt be challenging, given existing gaps in physical infrastructure and pressure stemming from increasing demand for secondary education. Countries will have to find ways to simultaneously build more high schools and improve the quality of education provided, by becoming more efficient in the use of resources.

In continuing to expand access, Sub-Saharan African countries can find lessons from successes within and outside the region in enrolling and keeping children in school. The countries in the region with the biggest gains in enrollment boast free education. The elimination of tuition fees marked major increases in enrollment in Malawi, Kenya, and Uganda, with smaller jumps in Cameroon, Tanzania, and Zambia. Countries like Ethiopia, Lesotho, and Malawi have leveraged cash transfer programs targeted to poor families as part of the strategy to increase enrollment, to offset other indirect costs, including the opportunity cost of schooling; the results have been overwhelmingly positive. These positive impacts hold for unconditional and conditional programs, although evidence from Burkina Faso suggests that the children who are most vulnerable to dropout—girls overall, and boys who are doing less well in school—may benefit from conditions. Conditional cash transfers in Malawi more than tripled girls' school attendance, in addition to reducing early marriage.[12] The Cycle to School Program in Bihar, India, improved access without additional school construction.[13] It provided all girls ages 14 and 15 who enrolled in grade 9 with funds to buy a bicycle and increased their probability of being enrolled in or having completed grade 9 by 30 percent, closing the access gap with boys by 40 percent.

Targeted financial assistance and complementary low-cost interventions can help keep boys and girls in schools. Enrollment and completion of secondary education is also deterred by a higher opportunity cost to studying, or for girls by teenage marriage or pregnancy. Targeted assistance may be effective. In Ghana, scholarships to students who were admitted to secondary school but could not immediately enroll—usually because of lack of funds—doubled the rate of high school completion, improved math and language learning scores, increased the odds of enrolling in tertiary education by 30 percent, and reduced the number of children among girls by age 25.[14]

The private sector. Many countries struggle to find the fiscal space to cope with the wave of students transiting to secondary school. Access remains inequitable. PPPs can help crowd-in resources to address the infrastructure and service needs in secondary education. PPPs in education could potentially leverage public financing aimed at improving equity of access through the delivery of all or part

12 Baird et al. (2010); Baird, McIntosh, and Özler (2011).
13 Muralidharan and Prakash (2017).
14 Duflo, Dupas, and Kremer (2017).

of secondary education infrastructure and/or services to low-income households. A study of a PPP in Uganda, where the government offered a per-student subsidy to participating low-cost private secondary schools, found that it helped absorb large numbers of eligible students, equally among girls and boys, and student performance in participating schools improved.[15]

Private schools have been part of the landscape of African education for many years. One in every six students in Sub-Saharan Africa attends private primary schools. However, recent developments have brought private provision of education to the headlines, including the emergence of chains of for-profit schools and moves by some governments to provide public resources to private schools to handle some provision (PPPs). Ultimately, what matters is that the state guarantees access to quality education to all children and youth. In environments where public provision is scarce, private schools can fill a substantial gap, but governments must play a strong regulatory role and empower families to make informed school decisions. They should hold all schools (public and private) accountable for results. In countries with weak regulatory capacity, policy makers must ask themselves whether effective regulation will be more manageable than direct provision.

Getting families involved. Parental participation and empowerment can be useful in ensuring quality standards in schools. Yet, too often, parental decisions may be based on incomplete information. For example, parents may demand early education in English or French rather than their mother tongue, despite that literacy occurs more rapidly if it is begun in the mother tongue, as was recently seen in Kenya.[16] Evidence from Madagascar shows that parents often underestimate the returns to schooling.[17] Yet, when given relevant information, most parents make the best decisions for their children. Information campaigns can help address blind spots, to increase parental engagement and empowerment.

Families and adolescents may be unaware of or misperceive the value of education. Low-cost interventions may address these information gaps. In Madagascar, such an intervention provided parents and students with accurate data on the returns to education and led to improved attendance and learning.[18] Other interventions that indirectly improve the perceived gains from education—for example, by facilitating job search assistance and intermediation or by affecting relevant social norms through, for example, legislating quotas for female political leadership as in India[19]—have also increased school enrollment and attainment. Other potentially helpful interventions include addressing the issue of safety for girls attending schools, and improving relevance to the labor market, for example, by introducing entrepreneurship courses and socio-emotional skills in secondary school.

Keeping kids engaged by providing better schooling. Most critically, effective teaching in classrooms is central to keeping kids in school longer and, importantly, assuring they learn and acquire skills. In recent years, a large body of evidence from school interventions in low- and middle-income countries clearly points to more effective teaching through improved pedagogy as the most impactful way to improve learning.[20] A pedagogical approach with proven results is helping teachers to teach to the level

15 Barrera-Osorio et al. (2016).
16 Piper, Schroeder, and Trudell (2016).
17 Nguyen (2008).
18 Nguyen (2008).
19 For evidence on job recruiting services, see Jensen (2012). For evidence on female leadership, see Beaman et al. (2012).
20 Evans and Popova (2016).

of the child. In many countries, an ambitious and inflexible curriculum leaves many students behind. Interventions that help teachers to target their teaching to the diverse learning needs of students in the classroom have been highly effective. In Ghana, supplementing teachers with community assistants to help the weakest students has led to sizeable gains in literacy and numeracy, especially when it is done after school.[21] Further, in Ghana, training teachers to teach students in small groups, targeted to their learning levels, boosted their literacy skills. In rural Kenya, separating primary students into groups based on their initial ability led to sizeable gains in math and language for high achievers and low achievers, by allowing teachers to teach at a level more appropriate to children's needs.[22]

The role of technology. Technology-aided instruction has the potential to improve learning when it is used to aid teachers and give students an individualized learning experience. There has been much hype on the potential for new technologies to facilitate leapfrogging in education in developing countries and achieve what advances in medical technology have delivered in terms of improved health outcomes. But the evidence so far is sobering and demonstrates that technology works best when it complements teachers rather than seeking to replace them. Hardware-focused interventions that provide computers at home or at school have had little impact on learning outcomes. Interventions that rely on technology-enabled instruction to improve pedagogy and allow students to learn at their own pace have worked better. Recently, interventions that use technology to give students a dynamic learning experience seem to deliver much bigger impacts on learning.

Taken together, this evidence suggests that when embracing the promise of technology-aided instruction, countries in the region should move with caution. Realizing the potential of technology-based education will depend crucially on the details of the specific intervention and the extent to which it alleviates binding constraints on learning. Careful planning and assessment are needed. Technology can fulfill its promise if it is assessed with an eye toward cost-effectiveness and a careful assessment on what country systems can implement.

Better teachers. Given the prominent role of teachers in learning, much effort is needed to have better teachers in schools. Many teachers in the region do not command the minimum subject knowledge they are expected to teach and do not make sufficient use of pedagogical practices that lead to higher learning. Since it is much more difficult and costly to skill up or retrain an unprepared teacher workforce, high-performing education systems, such as those in Finland and Singapore, have highly selective teacher education programs in which a small fraction of applicants is accepted. Analysis of the requirements for entry into teacher training programs in many Sub-Saharan African countries suggests very low standards. Countries around the world have experimented with different ways to attract better candidates into the teaching profession, including creating special incentives for top students to go into teaching in Chile or raising the standards of entry into teacher training colleges in Peru. Improving the standards of entry into the profession itself can potentially improve outcomes.

Socio-emotional skills. Another opportunity to leapfrog can come from incorporating socio-emotional skills into the goals and teaching practices of schools, institutions, and programs. A related area of policy

21 Duflo and Kiessel (2012).
22 Duflo, Dupas, and Kremer (2011).

priority is ensuring that preschool and basic education (general and vocational) curricula and pedagogic practice pay adequate attention to the critical development of socio-emotional skills. These skills can be taught in schools through several approaches that have been proven effective, as part of regular school curricula through specific activities, goals, and pedagogic support. The experience with related reforms and interventions in the world can offer useful lessons, such as recent innovations in several countries, including Colombia, the Former Yugoslav Republic of Macedonia, Peru, the United States, and Vietnam.

An area warranting policy reform is postponing early tracking into TVET in secondary education to allow youths to acquire stronger foundational skills. Some educational systems still track students too early (in lower secondary education) into vocational and technical streams at the expense of foundational skills. Early tracking into vocational and technical schools inhibits the acquisition of strong foundational skills, limiting the adaptability and lifetime earnings of TVET graduates. In the short to medium term, delayed tracking into technical and vocational tracks needs to be accompanied by a strengthening of foundational skills in TVET schools and institutions, broadening the often-narrow focus on technical and vocational skills.

Building Foundational Skills among the Current Stock of Workers

Finally, strengthening foundational skills among out-of-school youths and adults has been a blind spot in the region, especially in agriculture and the informal economy. Given the deficiencies in basic literacy, numeracy, and socio-emotional skills in current workers, remedial programs aimed at addressing these gaps can play an important role in improving people's livelihoods and productivity. Although adult literacy programs have had a mixed record of impacts, recent innovative programs hold promise. The *Project Alphabetisation de Base par Cellulaire* is a mobile phone-based literacy and numeracy program in rural Niger that— by tapping into people's intrinsic motivation— managed to boost literacy and numeracy among adults.[23] There is also great potential in incorporating adult literacy and socio-emotional interventions into agricultural extension and cash transfer programs. This is what is being done in the context of Brazil's *Bolsa Familia* and Mexico's *Prospera* cash transfer programs.

FACING THE SKILLS BALANCING ACT: INVESTING IN THE TECHNICAL SKILLS OF YOUTH AND ADULTS

Investing in the technical skills of youth and adults requires improving the equity, efficiency, and relevance of TVET and higher education. In most countries in the region, these two subsectors remain small. There are opportunities to leapfrog by establishing early the institutional and policy frameworks that can ensure more equity, efficiency, and relevance, drawing lessons from countries that have already expanded these systems.

Responding to Social and Equity Concerns in the Provision of Technical Skills

In terms of equity, for TVET and higher education, the most important goal is to ensure readiness. This means imparting strong foundational skills for all in early childhood and basic education, especially among children and youths from disadvantaged backgrounds. For those close to entering tertiary

23 Aker, Ksoll, and Lybbert (2012).

education, bridge and remedial programs in secondary school or at the beginning of tertiary can help level the playing field and improve readiness. In Namibia, for example, the Pathways Program at the University of Namibia targets students from the marginalized Owambo ethnic group, with a focus on preparing them to study science and engineering at the tertiary level. In addition, these bridge programs can tackle gaps in socio-emotional skills that are considered key for success in TVET or tertiary studies.

Financing. In addition, improving equity requires attention to other financial and nonfinancial constraints that keep many from acquiring quality technical skills. For upper-secondary and tertiary TVET and higher education, public financing should be targeted through need-based scholarships and subsidized student loans. If it exists, in lower-secondary TVET, the same kind of public financing that is used for general secondary education will create opportunities for youth to gain skills that will deliver the highest returns for them. In other words, if a country has a policy of free lower secondary education, then financing TVET at that level will allow more differentiated skills. On average, there is less cost sharing in Africa at the tertiary level than in other regions, but some countries have tried to move progressively from free higher education toward cost-sharing arrangements. Malawi, Uganda, and Zambia have shifted some costs, including living expenses, to students. Botswana, Ethiopia, and Lesotho have implemented deferred cost-sharing programs in which students can repay tuition incrementally after graduation. Kenya, Mauritania, Mauritius, Namibia, Rwanda, South Africa, and Tanzania have implemented means-tested support.

There are also several examples of promising loan schemes in the region. For example, Ghana's Student Loan Trust carries sufficient interest and has established strong administrative and loan default policies, thus minimizing government loss and improving cost sharing. A few countries, including Botswana, Ethiopia, and South Africa, have created alternatives to loan repayment in the form of public service as teachers (Ethiopia) or specializing in a field facing a shortage of skilled labor (Botswana).

Beyond the formal education system, improving equity in out-of-school and on-the-job training requires a strong focus on the informal sector through informal apprenticeships, labor programs aimed at disadvantaged youths, and on-the-job training in micro and small firms, especially in rural areas.

Better Governance and Financing for Efficiency and Results in TVET and Higher Education

Regulation and quality assurance can contribute to improving efficiency (and quality) in tertiary education and training. Over the past decade, many Sub-Saharan African countries have set up agencies to conduct assessments and accreditation of tertiary institutions, but capacity is still limited. Quality assurance mechanisms range from simple licensing of institutions by the ministry responsible for tertiary education, to comprehensive systemwide program accreditation and national qualification frameworks. By 2012, 21 African countries had already established quality assurance agencies, and a dozen other countries were at relatively advanced stages. These agencies have been doing some basic quality control, having closed or prevented the opening of some low-quality programs. Yet, many countries in the region are still aiming to develop full national qualification frameworks. This might be premature. Many of these agencies lack the capacity to implement their mandates more fully, which requires

definition of standards of quality and performance and the capacity to assess whether those standards are met. Since building complex quality assurance frameworks can take time, countries can focus first on building simple but solid fundamentals that instill market discipline.

Most critically, public funding of TVET and higher education institutions in the region needs to be linked gradually to performance or performance-enhancing reforms. Most financing of public TVET and higher education in the region is done on a historical basis, based on inputs (number of staff or salaries), enrollment (for example, cost per student, as in the case of higher education in Kenya and Rwanda), or normative unit costs (for example, student-teacher ratios and prescribed unit costs by discipline, as in Ghana and Nigeria's higher education). These financing mechanisms create little incentives for cost saving, innovation, or improving quality and labor market relevance for students. To create such incentives, the ambitious approach is to direct the bulk of the public financing through a performance-based system. Early experimentation with performance-based mechanisms in Africa offers possible stepping-stones. These include, for example, paying for performance in higher education in Mali and in the *Centers of Excellence* around the region, and focusing initially on performance-enhancing reforms, as in Chile. Competitive innovation funds—such as, for example, the Teaching and Learning Innovation Fund in Ghana or the Quality Innovation Fund in Mozambique—can be used to steer promising reforms and innovations to increase access to tertiary education, improve the quality of teaching, or improve the management of institutions. These and other mechanisms can help countries gradually move toward financing-for-results reform efforts that could apply to universities and TVET institutions.

Countries need to pay attention to prerequisite factors for the success of performance-financing reforms. A challenge is to define quantitative and transparent indicators and collect the data required to measure them. There is also a risk of "creaming," that is, that service providers will have an incentive to exclude youths and adults who are more difficult to train or transition into jobs. To counter this, contracts can provide premiums for priority target groups, as in the *Centers for Excellence* or the Employment Fund in Nepal. An alternative or complement would be to use a voucher system that allows individuals to choose and directly pay training providers (whether public or private). Such a voucher program was used in Western Kenya and resulted in a significant increase in access to public and private TVET among youths.[24]

For public universities, promoting innovation in programs, curricula, teaching methods, and partnerships requires greater effective autonomy. Insufficient autonomy to select the staff they need and decide on their academic programs makes it more difficult for universities to serve the needs of the labor market and the economy. For greater chances of success, reforms toward greater autonomy should be combined with performance-financing and governance arrangements that strengthen accountability across the board. Providing students with relevant information to choose and the opportunity to move across institutions and fields of study can help strengthen accountability to produce results.

24 Hicks et al. (2011).

Fostering the Economic Relevance and Demand-Driven Provision of TVET

Given the large informal sector in the region and rapid changes in skills demand, there is a need to rethink the public sector's role in technical and vocational education and training (box 3.1). Staying relevant requires an agility and flexibility that publicly provided TVET and higher education struggle to attain. Partnering with the private sector—including on training provision—will be critical, as countries in and outside the region increasingly recognize.

TVET needs to gear more toward preparing workers for nonwage employment, outside the manufacturing sector. This begins with course offerings, which only recently started incorporating entrepreneurship and core business skills training that are directly relevant for self-employment, management of small enterprises, and services. For example, these skills encompass costing, pricing, preparing financial statements, keeping business records, project management, marketing, sales, and preparing business plans, among others. Promising programs, such as Educate! in Rwanda and Uganda, are introducing entrepreneurship, work readiness skills, and experiential applied teaching methodologies in secondary schools. Tanzania is developing new TVET curricula with a focus on skills for self-employment (box 3.2).

BOX 3.1: Strengthening Strategic Sectors through Training

In Nigeria, the government wanted to increase the workforce in information technology and call centers. Through a training of two months, the government certified university graduates in these areas. As a result, the graduates were more than 25 percent more likely to enter the information technology and call center sectors. The impact was especially large for women, as there were initial biases against women working in these sectors. The impact demonstrates that exposure through training can overturn biases and increase opportunities for women.

Source: Croke, Goldstein, and Holla (2017).

BOX 3.2: Entrepreneurship Skills and Economic Transformation

Entrepreneurship is a multidimensional concept that can be measured by different functions in a market economy, namely, control and management of production, risk taking, organization, and driver of innovation. The combination and interaction of these functions make the entrepreneur a critical element for a vibrant private sector and a key engine of growth and development.

Empirical evidence on the relationship between entrepreneurship and development is mixed. Firm entry in the formal private sector is directly related to the level of income per capita. In contrast, self-employment is inversely related to economic development (Klapper and Love 2011). Additionally, other studies have suggested a U-shaped relationship between entrepreneurship and the level of income per capita (Naudé 2010). This implies a higher rate of entrepreneurial activity in low-income countries than in middle-income countries (Wennekers et al. 2005). Three of every four workers in Nigeria are entrepreneurs, whereas only one of every 10 workers is an entrepreneur in the United Kingdom (Gollin 2008). Failure to secure a job might lead people in developing countries to form their own micro or small enterprise.[a]

The relationship between entrepreneurship and development boils down to the distinction between innovative (opportunity) entrepreneurs and replicative (necessity) entrepreneurs (Baumol 2010). The

BOX 3.2
Continued

predominance of micro and small enterprises in developing countries and the lack of evidence of a direct relationship between entrepreneurship and development suggest that entrepreneurs in developing countries are less innovative and more "necessity" motivated (Ács, Desai, and Hessels 2008; Gollin 2008).

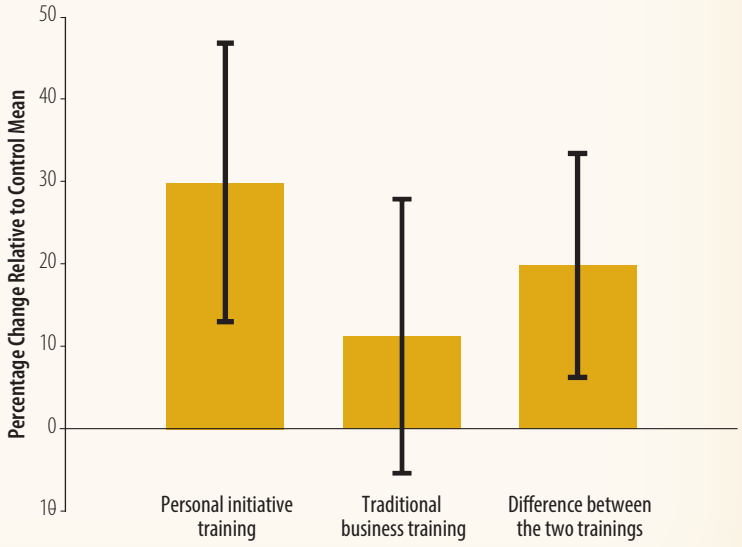
More innovative firms tend to be more profitable and grow at a faster pace (Lentz and Mortensen 2008). Thus, a limited supply of innovative (or opportunity) entrepreneurs curtails the potential for high-productivity businesses, and consequently serves as a constraint to economic transformation. Improvement in the quality of entrepreneurs in Sub-Saharan Africa would enhance the productivity of small and medium-size enterprises (SMEs), and potentially trigger an expansion of such enterprises, leading to a transformation of the economies of countries in the region.

Many nonagricultural workers in Sub-Saharan Africa are self-employed and operate their own firms. However, they lack the set of skills needed to generate sustained profits. Providing these micro-entrepreneurs with skills can boost their productivity and, hence, improve their welfare. Despite the marked progress, the skills base of Sub-Saharan Africa is still weak. The region has the largest share of low-skilled or unskilled workers, and its education systems have been unsuccessful in providing the set of skills that is necessary for enhancement of entrepreneurial ability. The policy issue then is to find ways to improve the quality of entrepreneurial ability and effectively increase the pool of innovative entrepreneurs, which would eventually reduce the need for "necessity" entrepreneurs.

It has been argued that entrepreneurship can be taught. A strand of the literature argues that the quality of management practices is positively associated with a country's income per capita (Bloom and Van Reenen 2007). Additionally, the study finds that better management practices help improve the performance of large firms in the formal sector (Bloom, Sadun, and Van Reenen 2012). However, urban workers in developing countries are not employed in large firms, but in those with fewer than 10 employees. McKenzie and Woodruff (2017) assess the relationship between management practices and firm performance using a sample of micro and small enterprises in seven countries, including Ghana, Kenya, and Nigeria. Business practices are measured through a questionnaire that captures 26 individual practices in the areas of marketing, record keeping, financial planning, and stock control.[b] Using panel data from Kenya and Nigeria, the authors find that business practices measured at baseline are related to an increase in the rate of enterprise survival and higher growth in sales over the following year(s). However, micro-enterprise training has a negligible impact on sales and profits. Most training programs have weak effects in triggering a significant impact on firm performance.

The modest effects from traditional entrepreneurship programs targeting adolescents have raised the question of whether the focus of these programs has been on the wrong skills. Another strand of the literature focuses on the development of noncognitive

FIGURE B3.2.1: Personal Initiative Training Raised Monthly Profits More Than Traditional Training.



Source: Campos et al. (2017) results.

Note: The vertical lines represent 95% confidence intervals. Estimates are average effects over all four rounds of post-training surveys.

BOX 3.2
Continued

skills to unleash creativity and innovation among entrepreneurs. Huber, Sloof, and Van Praag (2014) examine the effectiveness of early education on entrepreneurship knowledge vis-à-vis developing a set of noncognitive skills pertinent to entrepreneurial activity, including risk taking and creativity. Using a randomized field experiment, they show that the program had a robust positive effect on noncognitive entrepreneurial skills, but no effect on entrepreneurship knowledge, such as how to run a business, suggesting that noncognitive entrepreneurial skills are best developed at an early age.

Campo et al. (2017) test whether a psychology-based personal initiative training approach with a focus on developing entrepreneurial behaviors and a proactive mindset would be more effective than traditional business training. Between two groups of trainees in Togo, one was assigned to a traditional program that focused on four core courses: accounting and financial management, marketing, resource management, and formalization. The other group was assigned to the new personal initiative training program, which focused on teaching the mindset of self-starting behavior, innovation, and identifying and exploiting new opportunities, among others. The findings revealed that the personal initiative training raised monthly profits by 30 percent relative to the control group—an effect that was sustained over two years after the training for men and women. In contrast, the more standard business training had no significant impact on profits.

Brooks, Donovan, and Johnson (2017) explore the role of mentorship in improving the performance of inexperienced female micro-enterprise owners in Kenya. After identifying the most experienced and profitable entrepreneurs in the community of Dandora, they assigned young entrepreneurs to be their mentees. Mentors and mentees got together to explore approaches to benefit the mentee's business. The effects from the mentorship program are compared with traditional business training—as the study provided business classes for a comparable group of people. Entrepreneurs in the mentorship program saw their profits rise by about US$4 per week over the course of the year, that is, 20 percent higher profits compared with the control group. The profits of entrepreneurs with traditional business training did not change, despite the adoption of new accounting and/or marketing practices. Additionally, the mentorship program was cost-effective: each US$1 spent on the program led to US$1.73 in higher profits for the mentee—as opposed to US$0.25 for the entrepreneur with business training. Mentorship led to an increase of 19 percent in supplier churning, which implies that mentors help mentees find lower-cost suppliers.

These findings support the notion that innovative entrepreneurs can be developed and, thus, provide an avenue for policy makers to improve the quality of entrepreneurs, pivoting from the predominant focus on entrepreneurship knowledge to a focus on the innovative abilities of entrepreneurs.

Specific policy options could include the following:

i. Investing in early education programs that target the development of noncognitive skills pertinent to entrepreneurship
ii. Investing in training programs and apprenticeships that incorporate a psychological mindset approach
iii. Tailoring educational systems to prepare entrepreneurs for the new industrial revolution.

Millions of young people enter the labor market in Sub-Saharan Africa every year. As such, a vast, innovative entrepreneurial base would be instrumental for the growth and productivity of SMEs, which would in turn provide decent jobs for the much-needed inclusive and transformative growth in the sub-region.

a. SMEs are the largest employers in the formal and informal sectors, and are instrumental to innovation in various sectors, aided by their less bureaucratic organizational structures and greater flexibility. An estimated 95 percent of enterprises in the world are SMEs, accounting for about 60 percent of private sector employment (Ayyagari, Demirgüc-Kunt, and Maksimovic 2011). In Ghana, Nigeria, and South Africa, for example, SMEs constitute the majority of businesses (Quartey et al. 2017).

b. McKenzie and Woodruff refer to these practices as business rather than management practices, to reflect that human resources management is not as important for small firms.

Prepared by Cesar Calderon and Emmanuel K. K. Lartey.

There is also a need to address inflexible course times that make it difficult to combine training and work, the lack of practical training, and high costs that make education inaccessible or irrelevant for workers in the informal sector. Better incorporating the views and skills needs of the informal sector in public TVET, for example by linking to existing organizations of informal workers and enterprises, can be a way forward. TVET institutions in Kenya are often associated with business centers through which consultancies are provided to small-scale entrepreneurs. Graduates of youth polytechnics are encouraged to form business groups and these then approach credit providers.

Making TVET relevant to the needs of catalytic sectors requires building gradual but sustained engagement with employers at the local level. In Tanzania, for example, the private sector is increasingly playing an advisory role in TVET through the Tanzania National Business Council; the Association of Tanzania Employers occasionally helps define strategic priorities.

Several PPPs are now underway in the region to introduce job-related training designed to meet the short-term needs of employers. In Ghana, since 2005, the Industrial Skills Development Center has provided training in mechanical, electrical, and process engineering through a governance arrangement that includes industry representatives on its decision-making board and an impressive list of partner firms. South Africa's Middelburg Higher Technical School has established successful partnerships with companies like Toyota Motor Company that invest in the school, provide workplace training, and consider graduates for employment. Although these initiatives need to be assessed, they incorporate some of the lessons from successful or promising new models of TVET training, particularly a close involvement of employers and alignment with their needs.

The private sector is a critical partner for improving teacher quality and offering opportunities for on-the-job training, whether in the formal or informal sector. TVET teacher education is largely university-based; in-service continuous training is generally lacking. Exceptions are the dedicated Vocational Teachers Training College in Tanzania, and the Normal Schools for Teachers of Technical Education in Cameroon. There are relatively few teachers with industrial experience in public institutions, in part because of the requirements for a teaching certificate. Countries could explore more aggressive options for twinning arrangements with private firms and other countries, to upgrade the skills of TVET teachers, allowing the local recruitment of people with relevant skills but without teaching certificates. This additional support can be combined with strengthened incentives to perform, including publishing examination results.

Fostering Demand-Driven and Active Learning Approaches in Higher Education

Improving the labor market relevance of higher education will require aligning teaching and research activities at public and private universities with market signals. Governments can offer incentives to set up and strengthen industry-university links, for example by bringing in intermediaries or providing matching funds.

Adopting more active learning practices and a "careers" approach to skills development in higher education starts with the design of curricula (box 3.3). University programs need to combine academic subjects with more hands-on experiences that deliver the multiplicity of skills (technical, cognitive, and socio-emotional) that are necessary to perform jobs that youths are expected to take on upon

graduation. This task-based approach recognizes that what matters is whether workers have the skills to perform the tasks of a job and not just diplomas. Moreover, institutions need to pursue more aggressively work-based learning opportunities, through apprenticeships or internships. Many countries in the region have or are in the process of generating national apprenticeship and internship frameworks, with the view of enhancing the workplace experience of youths, including university graduates. This is to be encouraged, and the international evidence suggests that—when well designed—these frameworks can indeed improve employability.

BOX 3.3: Training in Personal Initiative

Business owners perform best with not only standard business skills, but also socio-emotional skills, such as personal initiative. In Togo, a set of microenterprise owners participated in one of two training programs—a leading business training program (on accounting, marketing, human resource management, and formalization) or a program that sought to increase personal initiative and entrepreneurial behaviors (goal-setting, planning and feedback, innovation, and self-starting behavior). Both trainings were brief: three half-day sessions over four weeks. Over the subsequent two years, profits increased by 30 percent for those participating in the personal initiative training; profits increased by a much smaller, statistically insignificant amount for those who received the traditional training.

Source: Campos et al. (2017).

Given that fast transformation of the economies of countries in Sub-Saharan Africa will require a new generation of entrepreneurs, directly and indirectly strengthening entrepreneurship education in universities must be a priority. Several universities in Africa have established incubation centers, for example, allowing and encouraging students to try out new ideas and try to take them to the market.

There is an important role for regional cooperation and international partnerships with recognized universities in the region and the world. Today's digital technologies make this easier. For example, the Massachusetts Institute of Technology and a consortium of 15 other top universities has started to offer MicroMasters programs that require only one full semester on campus in the United States. Targeted scholarship programs that include requirements for returning to the home country can also be helpful, particularly for students in STEM fields. The Partnership for Applied Science, Engineering, and Technology is a recent African-led initiative to leverage the knowledge and experiences of countries in Asia and Latin America, including Brazil, China, India, and the Republic of Korea, by bringing together governments, the private sector, and other partners to improve the capacity of universities and research centers in applied science, engineering, and technology (ASET) fields. The initiative provides regional scholarships and innovation funds, benchmarking and strategic planning in ASET fields, regional quality assurance mechanisms, large-scale data collection and research, and soon TVET Centers of Excellence.

Improving the Efficiency and Relevance of Skills Building for Out-of-School Youth and Adults

On-the-job training. There is a need to lay the basis for remedying and upgrading the skills of out-of-school youth and adults, by addressing market and coordination failures that prevent firms (especially small, informal enterprises) from offering on-the-job training and incentivizing them to do so. On-the-job training is an important channel through which workers upgrade their skills during their working life. It is

also a vehicle that can help firms adopt new technologies and new business practices. But the incidence of on-the-job training in much of the region is lower than expected for countries' income levels. It is essential to create the right incentives for firms to train their workers.

Apprenticeships. Given how ubiquitous informal apprenticeships are in the informal sector, it is important to make them more productive. Recent reforms to improve informal apprenticeships in the region usually include measures to improve training quality, such as dual training principles (that is, classroom and on-the-job training), training of master craftspersons, and technology upgrading; and measures to improve working conditions and inclusion in informal sector training (promoting gender equality and occupational health and safety), establishing mechanisms for certification of informally trained artisans, improving the recognition of existing (traditional) certification systems, and institutionalizing or improving quality assurance with the involvement of local business associations. Despite these attempts, little has been formally evaluated. In addition, attempts at giving structure to informal apprenticeships and bringing them closer to formal ones have failed to pick up scale. The objective of policy interventions should not be to make informal apprenticeships look like formal ones. The policy objective should be to improve the learning process of apprentices.

Self-employment and entrepreneurship. Given that most Sub-Saharan Africans are not in wage employment and, even when they are, they do not remain so for long, labor market training programs aimed at improving employability outside a firm and at supporting self-employment are essential. Training programs can remedy the technical or job-specific skills gaps of out-of-school youth and adults, as well as build basic cognitive and socio-emotional skills. Although such programs are growing rapidly, the global evidence from rigorous evaluations on the effectiveness of these short-term programs is mixed.

Training programs supporting self-employment and small-scale entrepreneurship are among the most widespread remedial training programs in Africa. The programs take various forms, from public works with a training component supporting entrepreneurship, to programs promoting small-scale entrepreneurship and improvements in the productivity of small-scale entrepreneurs. Recent programs in Kenya and South Africa, which have been rigorously evaluated, have shown that training in specific business skills can lead to higher profits and sustainability of businesses and gains to employers in employment and earnings.[25] In a successful program in Uganda, youth groups received grants that they could use for vocational training or to start a business; this led to substantial increases in business assets and earnings.[26]

25 McKenzie and Puerto (2017); Anderson, Chandy, and Zia (2016).
26 Blattman, Fiala, and Martinez (2014).

FACING THE SKILLS BALANCING ACT: ENACTING SYSTEMWIDE CHANGE AND MAKING SKILLS-BUILDING EVERYONE'S BUSINESS

Achieving substantial progress in skills building in Sub-Saharan Africa will require enacting systemwide change. As elaborated in the World Development Report 2017, *Governance and the Law* (World Bank 2017), many successful small-scale programs and local reforms, such as those mentioned in the preceding discussion, fail to achieve the desired impacts at scale. Achieving more equitable access, quality, relevance, and efficiency in skills-building systems cannot hinge on just scaling up "best practices." There is need to pay attention to the governance environment in which scaling up takes place. To achieve broad and sustained results, policies and reforms need to establish credible commitment, support coordination, and promote cooperation among all actors. To this end, they must tackle the politics of policies and create the incentives to align the behaviors of all stakeholders to pursue national skills development goals.

The international experience from the successful and failed attempts of governance reforms points to three broad avenues for enacting systemwide change:

1. *Use information and other metrics* of system performance to generate *commitment* and buy-in for reforms, empower stakeholders to hold governments and providers accountable for results, and guide and adapt policy decisions. This requires investing in collecting household-level data, robust national student assessments, and management information systems, and participating in international student tests.

2. *Shift incentives* to align the interests and behaviors of all stakeholders to cooperate toward the achievement of skill-building outcomes.

3. *Strengthen the capacity* of government agencies, particularly Ministries of Health, Education, Labor, and Social Development, for pursuing nationwide, coordinated, evidence-based policies.

Metrics on system performance can be used to guide policy development and identify, refine, and adapt successful local solutions. Data from national surveys and student assessments can be used to track progress in tracer indicators and final outcomes that are relevant to skills formation, from child health to learning to skills formation, and the returns to skills. Such data are ultimately the basis for building and using evidence to guide the cycle of policy design, implementation, feedback for improvement, and innovation, and to turn on the lights on whether policies are enacting systemwide change in skills formation.

Several countries have disseminated information on poor performance to mobilize public opinion and get politicians and others to commit to improving results. Information on performance standards for outcomes and service delivery can empower parents and users to hold providers accountable for results. Simple standards and goals for child development, student learning, and other skills outcomes

can allow parents to know how well their children are doing compared with the expected standard, and make them more likely to hold providers and local or even central authorities accountable for the quality of services. In Uganda, a newspaper campaign designed to inform local primary schools about their entitlements to grants that were not reaching them led to an increase in the flow of funds to schools and a faster expansion in school enrollment. These are all examples of enabling the "short route" to accountability.

There are limits, however, to how much can be achieved via the local "short route" to accountability. Important aspects of service delivery, such as teacher contracting and pay, are generally managed centrally and depend on system-level incentives. For instance, short-term contracts for teachers are often used to increase the local accountability of teachers. However, a nationwide reform of this type in Kenya was partly undermined by the power confrontation between government and teachers' unions.

Countries in Sub-Saharan Africa should also strive to build coalitions for achieving skills results at scale. In addition to tilting public opinion through system performance information, countries can create coalitions that foster cooperation and shift the balance of power in favor of good policies and reforms. Cooperation also requires recognizing the multiple, often competing, and evolving interests of stakeholders. For instance, although many health personnel, teachers, and other social service providers are generally truly devoted to serving their clientele—mothers, children, and youths—insufficient resources and lack of support can undermine morale and detract their attention from achieving results. Policies that combine resources and pedagogical support for teachers with reforms and mechanisms to improve their accountability for delivering learning, such as teacher evaluations or performance pay, may have a better chance of buy-in.

Skills development is a multisector endeavor and thus requires coordinated policies. Broadly construed, skills are "everyone's problem, but no one's responsibility," as commonly said of nutrition policies. Multiple agencies at the central and local levels are involved in skills development strategies. Lack of coordination can result in inefficiencies, duplication of efforts, or, perhaps worse yet, lack of attention to important issues. Inadequate investments and results in child development hinder the ability of schools to produce learning, regardless of the quality of teachers and infrastructure. Countries have attempted various ways to address the coordination problem, from entrusting one ministry (for example, social development) with the coordination mandate, to elevating this to a unit or team under the President or Prime Minister's watch. Others have used the national budget, for instance through results-oriented financing, as a key instrument to ensure that the required programs and interventions are well aligned. Again, on this there are no formulas that guarantee success.

Countries need to invest in building technical capacity to design, implement, and assess policies and reforms in relevant line ministries. Central government agencies, such as ministries of education and labor, face severe weaknesses in evidence-based policy formulation, budget planning and execution, information systems, management, and evaluation capacity. These capacity constraints make it very difficult to pursue the sort of policy initiatives mentioned that can foster commitment, cooperation, and coordination to enact systemwide changes that can translate into improvement of the quality of services. Resources and careful attention to long-term capacity building are also essential.

CONCLUSION

Although there is much that countries in Sub-Saharan Africa can learn from regional and global experiences to leapfrog their skills development, there are hardly any institutional shortcuts. The institutional underpinning of skills strategies in the region may find inspiration and pitfalls to avoid in other world experiences; however, the strategies must be homegrown to be attuned to the political realities of each country. Just like investment priorities, they should reflect countries' context. In most policy choices, countries will face trade-offs—often stark ones—that will have distributional impacts and a bearing on their development path. Committed leaders, reform coalitions, and well-coordinated policies are essential for facing the skills balancing act in Sub-Saharan Africa.

Appendix

I. Country Classification by Resource Abundance in Sub-Saharan Africa

Resource-rich countries		Non-resource-rich countries	
Oil	Metals & minerals		
Angola	Botswana	Benin	Malawi
Chad	Congo, Democratic Republic	Burkina Faso	Mali
Congo, Republic	Guinea	Burundi	Mauritius
Equatorial Guinea	Liberia	Cabo Verde	Mozambique
Gabon	Mauritania	Cameroon	Rwanda
Nigeria	Namibia	Central African Republic	São Tomé and Príncipe
South Sudan	Niger	Comoros	Senegal
	Sierra Leone	Côte d'Ivoire	Seychelles
	Zambia	Eritrea	Somalia
		Ethiopia	South Africa
		Gambia, The	Sudan
		Ghana	Swaziland
		Guinea-Bissau	Tanzania
		Kenya	Togo
		Lesotho	Uganda
		Madagascar	Zimbabwe

Note: Resource-rich countries are those with rents from natural resources (excluding forests) that exceed 10 percent of GDP.

II. Country Classification by Income in Sub-Saharan Africa

Low-income countries		Lower-middle-income countries	Upper-middle-income countries
Benin	Malawi	Angola	Botswana
Burkina Faso	Mali	Cabo Verde	Equatorial Guinea
Burundi	Mozambique	Cameroon	Gabon
Central African Republic	Niger	Congo, Republic	Mauritius
Chad	Rwanda	Côte d'Ivoire	Namibia
Comoros	Senegal	Kenya	South Africa
Congo, Democratic Republic	Sierra Leone	Ghana	
Eritrea	Somalia	Lesotho	
Ethiopia	South Sudan	Mauritania	
Gambia, The	Tanzania	Nigeria	
Guinea	Togo	São Tomé and Príncipe	
Guinea-Bissau	Uganda	Sudan	
Liberia	Zimbabwe	Swaziland	
Madagascar		Zambia	

Note: The list is from the World Bank list of economies, June 2017.

References

Ács, Z. J., S. Desai, and J. Hessels. 2008. "Entrepreneurship, Economic Development and Institutions." *Small Business Economics* 31: 219–34.

Anderson, Phillip R. D., Anderson Caputo Silva, and Antonio Velandia-Rubiano. 2010. "Public Debt Management in Emerging Market Economies: Has This Time Been Different?" Policy Research Working Paper 5399, World Bank, Washington, DC.

Aizenman, Joshua, and Yothin Jinjarak. 2010. "De Facto Fiscal Space and Fiscal Stimulus: Definition and Assessment." NBER Working Paper No. 16539, National Bureau of Economic Research, Cambridge, MA.

Aker, J. C., C. Ksoll, and T. J. Lybbert. 2012. "Can Mobile Phones Improve Learning? Evidence from a Field Experiment in Niger." *American Economic Journal: Applied Economics* 4 (4): 94–120.

Ali, Daniel Ayalew, Derick Bowen, and Klaus W. Deininger. 2017. "Personality Traits, Technology Adoption, and Technical Efficiency: Evidence from Smallholder Rice Farms in Ghana." Policy Research Working Paper 7959, World Bank, Washington, DC.

Anderson, Stephen J., Rajesh Chandy, and Bilal Zia. 2016. "Pathways to Profits: Identifying Separate Channels of Small Firm Growth through Business Training." Policy Research Working Paper 7774. World Bank, Washington, DC.

Araujo, M. Caridad, Pedro Carneiro, Yyannú Cruz-Aguayo, and Norbert Schady. 2016. "Teacher Quality and Learning Outcomes in Kindergarten." *Quarterly Journal of Economics* 131 (3): 1415-53.

Arias, Omar, Indhira Santos, and David K. Evans. Forthcoming. *The Skills Balancing Act in Sub-Saharan Africa: Investing in Skills for Productivity, Inclusion and Adaptability.* Washington, DC: World Bank.

Attanasio, Orazio, Sarah Cattan, Emla Fitzsimons, Costas Meghir, and Marta Rubio-Codina. 2015. "Estimating the Production Function for Human Capital: Results from a Randomized Control Trial in Colombia." NBER Working Paper 20965. National Bureau of Economic Research, Cambridge, MA.

Ayyagari, M., A. Demirgüc-Kunt, and V. Maksimovic. 2011. "Small vs. Young Firms across the World: Contribution to Employment, Job Creation, and Growth." Policy Research Working Paper 5631, World Bank, Washington, DC.

Baird, S., E. Chirwa, C. McIntosh, and B. Özler. 2010. "The Short-Term Impacts of a Schooling Conditional Cash Transfer Program on the Sexual Behavior of Young Women." *Health Economics* 19 (S1): 55–68.

Baird, Sarah, Craig McIntosh, and Berk Özler. 2011. "Cash or Condition? Evidence from a Cash Transfer Experiment." *Quarterly Journal of Economics* 126 (4): 1709–53.

Barrera-Osorio, Felipe, Pierre de Galbert, James Habyarimana, and Shwetlena Sabarwal. 2016. "Impact of Public-Private Partnerships on Private School Performance: Evidence from a Randomized Controlled Trial in Uganda." Policy Research Working Paper 7905, World Bank, Washington, DC.

Barro, Robert J. and Jong-Wha Lee. 2015. *Education Matters: Global Schooling Gains from the 19th to the 21st Century.* Oxford University Press.

Baumol, W. J. 2010. *The Microtheory of Innovative Entrepreneurship*. Princeton, NJ: Princeton University Press.

Beaman, Lori, Esther Duflo, Rohini Pande, and, Petia Topalova. 2012. "Female Leadership Raises Aspirations and Educational Attainment for Girls: A Policy Experiment in India." *Science* 335 (6068): 582-86.

Blanchard, Olivier J. 1993. "Suggestions for a New Set of Fiscal Indicators." *In The Political Economy of Government Debt*, edited by H. A. A. Verbon and F. A. A. M. van Winden, 307–25. New York: North Holland.

Blattman, Christopher, Nathan Fiala, and Sebastian Martinez. 2014. "Generating Skilled Self-Employment in Developing Countries: Experimental Evidence from Uganda." *Quarterly Journal of Economics* 129 (2): 697–752.

Blimpo, Moussa P., Pedro Carneiro, Pamela Jervis Ortiz, and Todd Pugatch. 2017. "Scaling Up Children' s School Readiness in The Gambia: Lessons from an Experimental Study." RISE Annual Conference, Washington, DC.

Bloom, N., R. Sadun, and J. Van Reenen. 2012. "The Organization of Firms across Countries." *Quarterly Journal of Economics* 127 (4): 1663–1705.

Bloom, N., and J. Van Reenen. 2007. "Measuring and Explaining Management Practices across Firms and Countries." *Quarterly Journal of Economics* 112 (4): 1351–1408.

Brooks, W., K. Donovan, and T. R. Johnson. 2017. "Mentors or Teachers? Microenterprise Training in Kenya." University of Notre Dame, manuscript.

Buehren, N., and T. Salisbury. 2017. "Female Enrollment in Male-Dominated Vocational Training Courses: Preferences and Prospects." Gender Innovation Lab Policy Brief, World Bank, Washington, DC.

Campos, F., M. Frese, M. Goldstein, L. Iacovone, J. C. Johnson, D. McKenzie, and M. Mensmann. 2017. "Teaching Personal Initiative Beats Traditional Training in Boosting Business in West Africa." *Science* 357: 1287–90.

Campos, F., M. Goldstein, L. McGorman, A. M. M. Boudet, and O. Pimhidzai. 2015. "Breaking the Metal Ceiling: Female Entrepreneurs Who Succeed in Male-Dominated Sectors." Policy Research Working Paper 7503, World Bank, Washington, DC.

Cottarelli, Carlo, and Javier Escolano. 2014. "Debt Dynamics and Fiscal Sustainability." In *Post-Crisis Fiscal Policy*, edited by C. Cottarelli, P. R. Gerson, and A. S. Senhadji, 31–47. Cambridge: MIT Press.

Croke, K., M. Goldstein, and A. Holla. 2017. "Can Job Training Decrease Women's Self-Defeating Biases? Experimental Evidence from Nigeria." Policy Research Working Paper 8141, World Bank, Washington, DC.

Duflo, Esther, Pascaline Dupas, and Michael Kremer. 2011. "Peer Effects, Teacher Incentives, and the Impact of Tracking: Evidence from a Randomized Evaluation in Kenya." *American Economic Review* 101 (5): 1739–74.

———. 2017. "The Impact of Free Secondary Education: Experimental Evidence from Ghana." Massachusetts Institute of Technology Working Paper. Cambridge, MA.

Duflo, Annie, and Jessica Kiessel. 2012. "Teacher Community Assistant Initiative (TCAI)." Policy Brief 4004, International Growth Centre, London.

Evans, David K., and Anna Popova. 2016. "What Really Works to Improve Learning in Developing Countries? An Analysis of Divergent Findings in Systematic Reviews." *World Bank Research Observer* 31 (2): 242–70.

Fox, Louise, Alun Thomas, and Cleary Haines. 2017. "Structural Transformation in Employment and Productivity: What Can Africa Hope For?" African Department, International Monetary Fund, Washington, DC.

Galasso, Emanuela, Adam Wagstaff, Sophie Naudeau, and Meera Shekar. 2016. "The Economic Costs of Stunting and How to Reduce Them." Policy Research Note. World Bank, Washington, DC.

Global Education Commission. 2017. "The Learning Generation: Investing in Education for a Changing World", The International Commission on Financing Global Education Opportunity, New York.

Gollin, D. 2008. "Nobody's Business but My Own: Self-Employment and Small Enterprise in Economic Development." *Journal of Monetary Economics* 55 (2): 219–33.

Heller, Peter S. 2005. "Understanding Fiscal Space." IMF Policy Discussion Paper PDP/05/4, International Monetary Fund, Washington, DC.

Hicks, Joan Hamory, Michael Kremer, Issac Mbiti, and Edward Miguel. 2011. "Vocational Education Voucher Delivery and Labor Market Returns: A Randomized Evaluation among Kenyan Youth." A Report for the Spanish Impact Evaluation Fund. World Bank, Washington, DC.

Huber, L. R., R. Sloof, and M. Van Praag. 2014. "The Effect of Early Entrepreneurship Education: Evidence from a Field Experiment." *European Economic Review* 72: 76–97.

Jensen, Robert. 2012. "Do Labor Market Opportunities Affect Young Women's Work and Family Decisions? Experimental Evidence from India." *Quarterly Journal of Economics* 127 (2): 753–92.

King, Robert G., and Ross Levine. 1993. "Finance and Growth: Schumpeter Might Be Right." *Quarterly Journal of Economics* 108 (3): 717–37.

Klapper, L. F., and I. Love. 2011. "Entrepreneurship and Development: The Role of Information Asymmetries." *World Bank Economic Review* 25 (3): 448–55.

Kose, M. Ayhan, Sergio Kurlat, Franziska Ohnsorge, and Naotaka Sugawara. 2017. "A Cross-Country Database of Fiscal Space." Policy Research Working Paper 8157, World Bank, Washington, DC.

Lentz, R., and D. Mortensen. 2008. "An Empirical Model of Growth through Product Innovation." *Econometrica* 76: 1317–73.

Ley, Eduardo. 2009. "Fiscal Policy for Growth." PREM Note 131, World Bank, Washington, DC. 2014. *Africa's Pulse,* volume 9. Washington, DC: World Bank, April.

Martinez, Sebastian, Sophie Naudeau, and Vitor Pereira. 2013. "The Promise of Preschool in Africa: A Randomized Impact Evaluation of Early Childhood Development in Rural Mozambique." Working Paper. World Bank and Save the Children.

McKenzie, David, and Susana Puerto. 2017. "Growing Markets through Business Training for Female Entrepreneurs: A Market-Level Randomized Experiment in Kenya." Policy Research Working Paper 7993, World Bank, Washington, DC.

Muralidharan, Karthik, and Nishith Prakash. 2017. "Cycling to School: Increasing Secondary School Enrollment for Girls in India." *American Economic Journal: Applied Economics* 9 (3): 321–50.

Naudé, W. A. 2010. "Entrepreneurship Is Not a Binding Constraint on Growth and Development in the Poorest Countries." *World Development* 39 (1): 33–44.

Nguyen, Trang. 2008. "Information, Role Models and Perceived Returns to Education: Experimental Evidence from Madagascar." Economics Department, Massachusetts Institute of Technology, Cambridge, MA.

Perotti, Valeria. 2017. "Training, Skills and Firm Productivity in Formal African Firms." Background paper. World Bank, Washington, DC.

Piper, Benjamin, Leila Schroeder, and Barbara Trudell. 2016. "Oral Reading Fluency and Comprehension in Kenya: Reading Acquisition in a Multilingual Environment." *Journal of Research in Readin*g 39 (2): 133–52.

Quartey P., E. Turkson, J. Y. Abor, and A. M. Iddrisu. 2017. "Financing the Growth of SMEs in Africa: What Are the Constraints to SME Financing within ECOWAS?" *Review of Development Finance* 7: 18–28.

Rodrik Dani 2005. "Premature Deindustrialization". Economic Working Paper Series, Paper Number 107. IAS School of Social Science. Institute for Advanced Study, Princeton, NJ.

Shekar, M., J. Kakietek, J. D. Eberwein, and D. Walters. 2016. *An Investment Framework for Nutrition: Reaching the Global Targets for Stunting, Anemia, Breastfeeding, and Wasting.* Washington, DC: World Bank.

UIS (UNESCO Institute for Statistics). 2017. Education (database). Montreal. http://data.uis.unesco.org/.

UNESCO (United Nations Educational, Scientific and Cultural Organization). 2011. "Financing Education in Sub-Saharan Africa—Meeting the Challenges of Expansion, Equity and Quality." UNESCO, Montreal, Canada.

———. 2015. "EFA Global Monitoring Report 2015. Regional Overview: Sub-Saharan Africa." UNESCO, Paris.

———. 2016. "Global Education Monitoring Report – Education for People and Planet: Creating Sustainable Futures for All." UNESCO, Paris.

United Nations, Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision, Key Findings and Advance Tables.

Valerio, Alexandria, Maria Laura Sanchez Puerta, Namrata Tognatta, and Sebastian Monroy-Taborda. 2016. "Are There Skills Payoffs in Low- and Middle-Income Countries? Empirical Evidence Using STEP Data." Policy Research Working Paper 7879, World Bank, Washington, DC.

Van Broekhuizen, H. 2016. " Graduate Unemployment and Higher Education Institutions in South Africa," Stellenbosch Economics Working Papers, No. 08/16.

Wennekers, S., A. Van Stel, R. Thurik, and P. Reynolds. 2005. "Nascent Entrepreneurship and the Level of Economic Development." *Small Business Economics* 24: 293–309.

World Bank. 2017. *World Development Report 2018: Learning to Realize Education's Promise*. Washington, DC: World Bank.

This report was prepared by a team led by Punam Chuhan-Pole and comprising Cesar Calderon, David K. Evans, Omar Arias, Gerard Kambou, Emmanuel K. K. Lartey, Vijdan Korman, Mapi M. Buitano, Luis-Diego Barrot, and Yirbehogre Modeste Some. The report was prepared under the general guidance of Albert G. Zeufack.

WWW.WORLDBANK.ORG/AFRICASPULSE