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# Sub-Saharan Africa
# Multispeed Growth

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# Abbreviations

| | |
|---|---|
| ARC | Africa Risk Capacity |
| AREAER | Annual Report on Exchange Arrangements and Exchange Restrictions |
| BDC | Bureau de Change |
| CAT-DDO | World Bank's catastrophe deferred drawdown option |
| CBN | The Central Bank of Nigeria |
| CCRT | Catastrophe Containment and Relief Trust |
| CEMAC | Economic and Monetary Community of Central Africa |
| CFA | currency zone of CEMAC and WAEMU |
| DAS | Wholesale Dutch Auction System |
| DEV | developing countries |
| ECF | Extended Credit Facility |
| EME | emerging market economies |
| EWS | early warning systems |
| FAO | Food and Agriculture Organization of the United Nations |
| FOCAC | Forum on China Africa Cooperation |
| FX | foreign exchange |
| GDDRR | Global Facility for Disaster Reduction and Recovery |
| GDP | gross domestic product |
| GRA | General Resources Account |
| ICRG | International Country Risk Guide |
| IFEM | Interbank foreign exchange market |
| IMF | International Monetary Fund |
| LEAP | Livelihoods Early Assessment Protection |
| LICs | low-income countries |
| NPLs | nonperforming loans |
| OLS | ordinary least squares |
| PCDR | Post-Catastrophe Debt Relief |
| PPP | purchasing-power parity |
| PSNP | Productive Safety Net Program |
| RCF | Rapid Credit Facility |
| REER | real effective exchange rate |
| REO | *Regional Economic Outlook* (IMF) |
| RFI | Rapid Finance Instrument |
| SDGs | Sustainable Development Goals |
| SSA | Sub-Saharan Africa |
| WAEMU | West African Economic and Monetary Union |
| WHO | World Health Organization |
| WEO | *World Economic Outlook* (IMF) |

# Acknowledgments

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Natasha Minges was responsible for document production, with production assistance from Charlotte Vazquez. The editing and production were overseen by Linda Long of the Communications Department.

The following conventions are used in this publication:

- In tables, a blank cell indicates "not applicable," ellipsis points (. . .) indicate "not available," and 0 or 0.0 indicates "zero" or "negligible." Minor discrepancies between sums of constituent figures and totals are due to rounding.

An en dash (–) between years or months (for example, 2009–10 or January–June) indicates the years or months covered, including the beginning and ending years or months; a slash or virgule (/) between years or months (for example, 2005/06) indicates a fiscal or financial year, as does the abbreviation FY (for example, FY2006).

- "Billion" means a thousand million; "trillion" means a thousand billion.
- "Basis points" refer to hundredths of 1 percentage point (for example, 25 basis points are equivalent to ¼ of 1 percentage point).

# Executive Summary

## MULTISPEED GROWTH

**Growth in sub-Saharan Africa looks set to slow to its lowest level in more than 20 years**. With lower commodity prices and a generally less supportive global economic environment, average growth in the region is foreseen to decelerate sharply to 1½ percent this year—well below population growth, and in sharp contrast to the high growth rates of the past 15 years. While the projection is for a modest recovery for next year (to nearly 3 percent), this is predicated on prompt action to address the large macroeconomic imbalances and policy uncertainty in some of the region's largest economies.

**This aggregate picture, however, belies considerable heterogeneity in economic paths across the region**.

- Most of the non–resource-intensive countries—half of the countries in the region—continue to perform well, as they benefit from lower oil import prices, an improved business environment, and continuous strong infrastructure investment. Countries such as Côte d'Ivoire, Ethiopia, Kenya, and Senegal are foreseen to continue to grow at more than 6 percent.
- In contrast, commodity exporters are under severe economic strains, including the region's three largest countries, Angola, Nigeria, and South Africa. The near-term prospects of oil exporters in particular have worsened, notwithstanding the modest uptick in oil prices, as the slowdown is becoming entrenched—activity among these countries is expected to contract by 1¼ percent this year. Among other resource-intensive countries, growth in the Democratic Republic of Congo, Ghana, South Africa, Zambia, and Zimbabwe is decelerating sharply or stuck in low gear.

**Policy adjustment among hard-hit countries needs to be enacted promptly to allow for a rebound in growth**.

- Worryingly, in the face of strong financial and economic pressures, the policy response in many of the hardest-hit countries has been slow and piecemeal, often accompanied by stopgap measures such as central bank financing and the accumulation of arrears, and leading to rapidly rising public debt. In oil-exporting countries with flexible regimes, exchange rates have been allowed to adjust only with reluctance, resulting in strong pressures on deposits and foreign exchange reserves. As a result, the delayed adjustment and ensuing policy uncertainty have been deterring investment and stifling new sources of growth—making a return to strong growth rates more difficult.
- Instead, a sustained adjustment effort is needed, based on a comprehensive and internally consistent set of policies. This implies fully allowing the exchange rate to absorb external pressures for countries outside monetary unions, reestablishing macroeconomic stability—including by tightening monetary policy where needed to tackle sharp increases in inflation—and focusing as much as possible on growth-friendly elements of fiscal consolidation. With limited buffers, the scope to ease the adjustment path will depend critically on the availability of new financing, ideally on concessional terms.

**Countries that are still growing rapidly should rebuild buffers in comparatively favorable times to stem the increase in public debt**. In an environment of tighter and more volatile financial markets, striking the right balance between much-needed developmental spending and hard-won debt sustainability remains the main challenge. While policy action is not as urgent as for the hardest-hit countries, debt has nonetheless been on an upward trend in many of these countries despite robust growth, and, going forward, some fiscal consolidation appears warranted.

## EXCHANGE RATE REGIMES IN SUB-SAHARAN AFRICA: EXPERIENCES AND LESSONS

The second chapter documents the evolution of exchange rate regimes in the region since 1980 and considers the bearing they have had on macroeconomic performance, including inflation, output growth, output volatility, and fiscal outcomes, relative to other emerging markets and developing countries.

As in other regions, there is considerable variation in regimes across sub-Saharan Africa, although the region distinguishes itself for its high prevalence of pegs, with nearly 60 percent of its countries operating under a peg in 2014. Over time, and as in other emerging markets and developing countries, some countries with more flexible regimes have tended to move toward less flexible arrangements, particularly after the 2008 global financial crisis. For sub-Saharan African countries, this appears to reflect the fact that many commodity exporters leaned against nominal appreciations in the face of significant foreign exchange inflows when commodity prices were high.

Consistent with the monetary discipline and policy credibility that pegs provide, sub-Saharan countries with fixed exchange rate regimes have enjoyed lower inflation outcomes than countries with more flexible regimes. Moreover, the pegged regimes have provided a disciplining device for fiscal policy. But their growth rates have also been 1 to 2 percentage points lower more recently relative to countries with more flexible regimes. Accompanying policies are therefore needed to maximize benefits for each regime. Those include structural reforms to strengthen growth and competitiveness in countries with pegged regimes, as well as growth-friendly fiscal adjustment in a number of countries with pegged regimes where, at this juncture, low commodity prices have sharply reduced export earnings and fiscal revenues. For the countries with more flexible regimes, putting in place monetary policy frameworks with a strong mandate on price stability can support the flexible regimes, along with appropriately tight fiscal and monetary policies to contain inflationary pressures associated with exchange rate depreciations.

## ENHANCING RESILIENCE TO NATURAL DISASTERS IN SUB-SAHARAN AFRICA

The third chapter finds that sub-Saharan Africa is highly vulnerable to natural disasters—as evidenced by the severe drought that has recently affected most of eastern and southern Africa. Structural factors—such as a high reliance on rain-fed agriculture, capacity constraints for preparedness as well as post-disaster response, and limited access to insurance—contribute significantly to these vulnerabilities. In particular, natural disasters exert long-term economic damage to the region's economies, due to their adverse effects on human capital and infrastructure. With 40 percent of the world's poor living in sub-Saharan Africa, natural disasters also have a substantial social impact through increases in food insecurity, poverty, and inequality.

Going forward, climate change will increase these vulnerabilities as rising temperatures and rainfall volatility are expected to increase the impact of droughts and floods, particularly by impairing agricultural productivity, exacerbating water shortages, and disrupting hydropower generation. Rising sea levels will contribute to coastal flooding and generate significant relocation costs.

In that context, the chapter discusses a range of risk management policies that can help enhance resilience to natural disasters in the region, including implementing early warning systems, making the agricultural sector more resilient to droughts and climate change, promoting economic diversification, adapting physical infrastructure, and increasing access to cost-effective insurance. Where the scope for risk reduction and risk transfer is limited, countries may have to rely on buffers, social safety nets, and external assistance to cushion the impact of natural disasters. The international community can help by strengthening the coordination of disaster relief efforts to make them more rapid and better targeted. The IMF has been increasingly adapting its lending and advice to help respond to natural disasters.

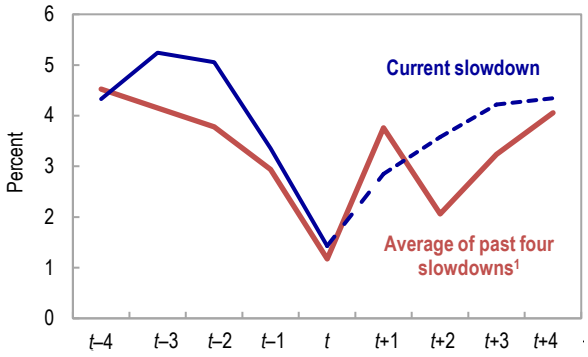
# 1. Multispeed Growth

Against the backdrop of lower commodity prices and a less-supportive global environment, economic activity in sub-Saharan Africa has decelerated sharply. The region's output is only expected to expand by 1.4 percent in 2016, the worst growth performance in more than 20 years, and the loss in momentum over the last two years has been on par with the deep slowdowns of previous decades (Figure 1.1). While a modest recovery is in the cards for next year, to slightly less than 3 percent, even this will only be feasible provided there is prompt action to address the significant macroeconomic imbalances and heightened policy uncertainty prevalent in several of the region's largest economies.

Yet, more than ever, the aggregate growth number belies considerable heterogeneity within the region. In the broadest of terms, the picture is more one of two Africas: in one camp are some 23 commodity-exporting economies, including the three largest in the region (Angola, Nigeria, South Africa), which are under severe economic strains and are depressing the overall growth figure; in the other camp are the remaining 22 economies in the region, which, for the most part, continue to sustain reasonably high growth (Figure 1.2). More specifically:

- In recent months, the near-term prospects of oil exporters in particular have worsened, notwithstanding the modest uptick in oil prices. The adverse effects of the decline in prices of 2014–15, first mainly felt within the oil-related sectors, have spread to the entire economy, leading to a more entrenched slowdown. Consequently, output among oil exporters is expected to shrink by 1.3 percent this year, weighed down by a deep contraction in Nigeria, but also in Chad, Equatorial Guinea, and South Sudan, while Angola will barely escape recession.
- Other resource-intensive countries are struggling too. In South Africa, output expansion stalled early this year, hampered by low commodity prices and poor confidence. Likewise, countries such as the Democratic Republic of Congo, Ghana, Zambia, and Zimbabwe are decelerating sharply or stuck in low gear.
- By contrast, non-resource-intensive countries continue to perform well. Growth for this group as a whole is expected at 5½ percent this year—just below the average 6 percent

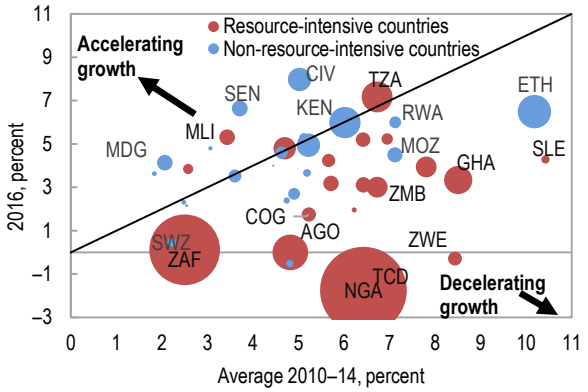
**Figure 1.1. Sub-Saharan Africa: Real GDP Growth during Current and Past Economic Slowdowns**




Source: IMF, World Economic Outlook database.

[1] GDP growth rates are averaged across corresponding years of the previous episodes of rapid slowdown centered around 1977, 1983, 1992, and 2009. The current slowdown is centered around 2016.

**Figure 1.2. Sub-Saharan Africa: Real GDP Growth**




Source: IMF, World Economic Outlook database.

Note: Size of the bubble denotes weight in regional GDP. See page 90 for country abbreviations.

This chapter was prepared by a team led by Céline Allard, comprising of Francisco Arizala, Jesus Gonzalez-Garcia, Cleary Haines, and Monique Newiak.

experienced during 2000–14—as they benefit from a lower oil import bill and an improved business environment while strong infrastructure investment continues to help sustain the growth momentum. Countries such as Côte d'Ivoire and Senegal in West Africa, or Ethiopia and Kenya in East Africa, are still foreseen to grow at a 6 to 8 percent clip in the next couple of years. However, this high growth is unlikely to have positive spillovers on the hardest-hit countries, as intraregional economic and financial linkages tend to remain limited.

Worryingly, in the face of the strong financial and economic pressures, the policy response in many commodity exporters—and especially among oil exporters—has, by and large, been slow and piecemeal. Where it has taken place, fiscal adjustment has been enforced by the lack of financing and effected mainly through across-the-board spending compression rather than targeted cuts and/or durable revenue measures. This has come with strong pressures on government deposits and foreign exchange reserves, unsustainable policies such as domestic arrears accumulation and central bank financing, as well as a rapid rise in public debt in some cases. On the external side, in oil-exporting countries with flexible regimes, exchange rates have only been allowed to adjust reluctantly and insufficiently, and the process has been accompanied by recourse to quantitative restrictions. With the overall direction of policies thus highly uncertain, the effect of the much delayed adjustment has been to deter investment and stifle new sources of growth. More broadly, the concern now is that the damage to the economy in those countries is becoming ingrained—prolonging further the effect of an already long-lasting shock and making a rebound back to strong growth rates an even more distant prospect.

Accordingly, adjustment needs to be effected in countries hardest hit, especially oil exporters, commensurately to the urgency of the situation, and based on a comprehensive and internally consistent set of policies. This implies fully allowing the exchange rate to absorb external pressures for countries outside monetary unions, reestablishing macroeconomic stability—including by tightening monetary policy where sharp increases in inflation following currency depreciation are leading to second-round effects—and focusing as much as possible on growth-friendly elements of fiscal consolidation.

Is there any scope to ease the adjustment burden among these countries? A countercyclical supportive stance would of course be ideal. But with foreign exchange reserves and public deposits limited, fiscal deficits already wide, and public debt rapidly accumulating, the scope to ease the adjustment path will critically depend on the availability of new financing, ideally on concessional terms. Coupled with a credible medium-term adjustment package, this could help ease the near-term drag on growth and reduce the uncertainty that is holding back private investment.

As for countries that are performing well, the current high growth needs to be used to rebuild buffers when times are still comparatively favorable. In particular, in an environment of tighter and more volatile financial markets, striking the right balance between much-needed developmental spending and hard-won debt sustainability remains paramount. While policy action is not as urgent as for countries hardest hit, debt has been on an upward trend in many of these countries, and, going forward, some fiscal consolidation appears warranted.

Finally, across the region, structural reforms are required to complement macroeconomic policies, so as to set growth on a sustainable footing and preserve competitiveness. In particular, measures to ensure reliable sources of fiscal revenue and efficient public spending would go a long way toward protecting against untenable increases in public debt. Domestic revenue mobilization measures should take precedence to reduce overreliance on commodity-related revenue. In addition, although some expenditure adjustments and rationalization will be needed—and have indeed happened in some countries—overly abrupt cuts to productive capital spending should be avoided to support the diversification agenda that will be a prerequisite for the growth rebound where activity has slowed most markedly. Efforts to improve spending efficiency in general and trim down untargeted subsidies in

particular should also be pursued, while preserving social safety nets directed at the most vulnerable segments of the population.

The rest of Chapter 1 first documents the powerful external and domestic headwinds still at play. It then elaborates on the growing divergence of economic paths across the region, highlighting how the deep challenges faced by the hardest-hit countries are becoming entrenched, whereas strong growth patterns remain broadly unaltered among non-resource-intensive countries. The following sections show how growing financing difficulties are forcing a delayed policy adjustment in countries under the most stress. A final section presents the near-term outlook and the risks associated with the forecasts.

Against the backdrop of the fall in commodity prices and associated decrease in the terms of trade in many countries, Chapter 2 documents the evolution of exchange rate regimes in sub-Saharan African countries during the past 35 years and considers what bearing they have had on economic performance. It finds that fixed regimes have been associated with systematically better anchored inflation, but that countries with more flexible exchange rates have experienced higher growth over time. The analysis therefore highlights the need for accompanying policies to minimize these potential trade-offs, from structural reforms to strengthen growth and competitiveness in countries with pegged currencies to monetary policy frameworks that can better support price stability for countries with flexible regimes.

Turning to longer-term issues, Chapter 3 finds that sub-Saharan Africa is highly vulnerable to natural disasters—as evidenced by the severe drought that has recently affected most of eastern and southern Africa—and suffers large long-term economic damage from these episodes, exacerbated by low income and capacity levels and a large reliance of income on agriculture in most countries. With countries in the region already starting to see the impact of climate change and expected to be disproportionally affected by it over time, the chapter discusses a range of policy measures that can be implemented to enhance resilience and mitigate the impact of natural disasters.

## STILL AN OVERALL DIFFICULT ENVIRONMENT

### Continued Weak External Conditions

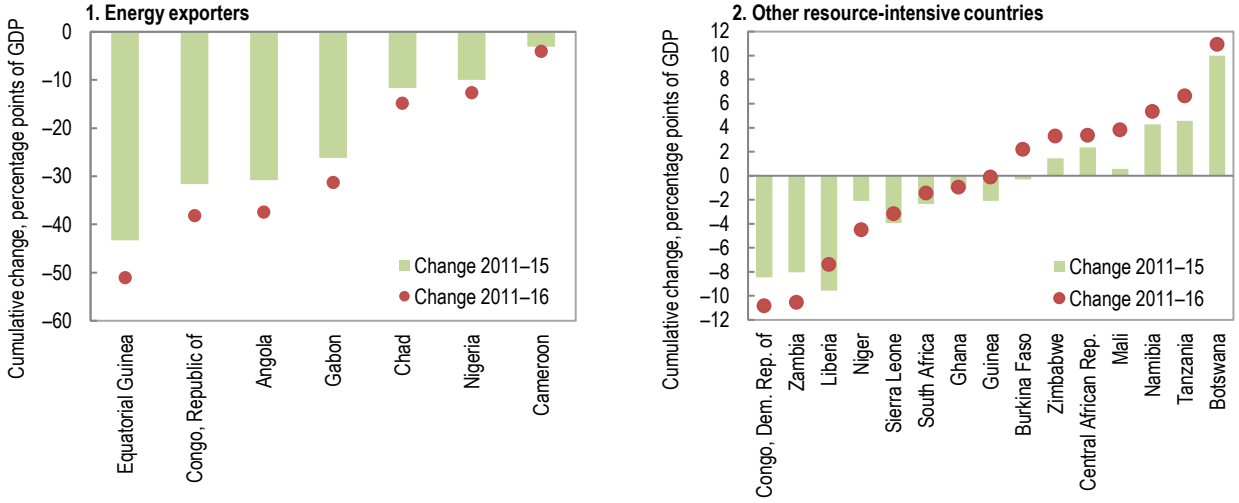
As explained in the October 2016 *World Economic Outlook*, global growth is expected to remain modest, slowing to 3.1 percent this year before recovering to 3.4 percent next year. In particular, among advanced economy trade partners, the recovery in the United States—where it had been the most robust—has lost some momentum recently, and uncertainty about the outlook in Europe has increased following the vote in the United Kingdom in favor of leaving the European Union. Meanwhile, China, while still experiencing solid expansion, is transitioning to a services- and consumption-based economy that is less intensive on commodity imports.

For sub-Saharan Africa, the main channel of transmission of this weak global environment continues to be through depressed commodity prices. As was highlighted in greater detail in the April 2016 issue of this report,[1] the realignment of commodity prices amounts to a formidable terms-of-trade shock for oil exporters in the region—cutting national income by as much as 15 to 50 percent of GDP since mid-2014—and has also severely affected other commodity exporters, such as the Democratic Republic of Congo, Liberia, and Zambia, and to a lesser extent Niger and Sierra Leone (Figure 1.3). And while these developments have been supportive for oil importers that do not rely much on nonrenewable resources for exports, especially in East and West Africa, many of these countries have also had to contend with tighter global financing conditions that have coincided with the decline in commodity prices.

Indeed, following the sharp slump that started in mid-2014, and despite a modest uptick more recently, commodity prices have stayed at low levels in an environment of muted demand, increased supply, and high inventories. With the commodity price index projected to recover only to 60 percent

[1] See Chapter 2, April 2016 *Regional Economic Outlook: Sub-Saharan Africa*, "Weathering the Commodity Price Slump."

**Figure 1.3. Sub-Saharan African Resource-Intensive Countries: Cumulative Change in Commodity Terms of Trade since 2011**



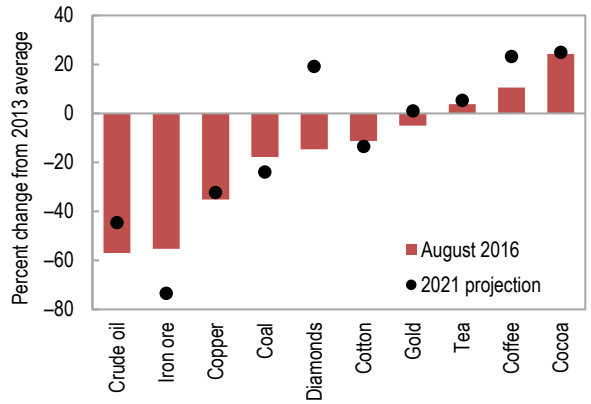

Source: IMF staff calculations.

Note: For more details on the computation of commodity terms of trade, see Chapter 2 of the April 2016 *Regional Economic Outlook: Sub-Saharan Africa*.

of its 2011 peak by 2021, prices for most natural resources produced by the region are expected to remain at relatively depressed levels for the foreseeable future (Figure 1.4).

As this new reality of low prices sinks in, the resulting sharp decline in sub-Saharan African exports to China—now the largest single-country trading partner for the region—epitomizes this realignment both in terms of price and demand for natural resources (see Kolerus, N'Diaye, and Saborowski 2016). The slump in the value of exports to that country for the 23 resource-intensive countries in the region ranged from 40 to 50 percent in 2015, following a very rapid expansion in the early 2010s on the back of China's increasing appetite for commodities at the time (Figure 1.5). The decline in commodity prices has also triggered a contraction in the value of resource-intensive countries' exports to other regions of the world, although of a lesser magnitude.

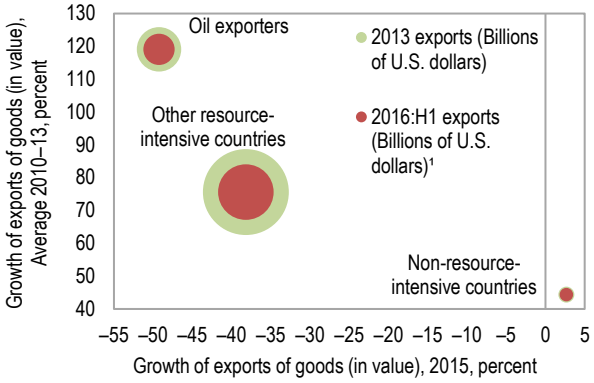
**Figure 1.4. Selected Commodity Prices, Change since 2013**




Sources: IMF Commodity Price System; IMF Global Assumptions.

Note: Besides oil, some of the main commodities exported by the region are copper (Democratic Republic of Congo and Zambia), iron ore (Liberia, Sierra Leone, and South Africa), coal (Mozambique and South Africa), gold (Burkina Faso, Ghana, Mali, South Africa, and Tanzania), and platinum (South Africa).

**Figure 1.5. Sub-Saharan Africa: Annual Growth of Exports to China, 2010–13 versus 2015**




Source: IMF, Direction of Trade Statistics.

Note: See page 86 for country groupings table.

[1] Data through May 2016.

## Domestic Headwinds as Well

Compounding these unfavorable external developments, the region has been subject to negative exogenous shocks on the domestic front:

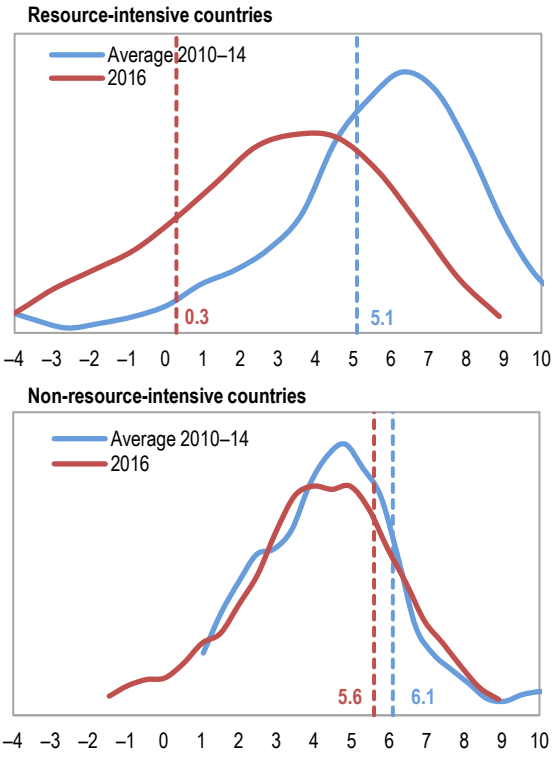
- In the wake of an unusually strong El Niño pattern, parts of eastern and southern Africa have been experiencing the worst drought in 35 years, sharply cutting agricultural production, while putting millions in a situation of food insecurity. The most affected countries include Ethiopia, Lesotho, Malawi, Mozambique, South Africa, and Zimbabwe—in some of which the ensuing macroeconomic challenges are considerable—and to a lesser extent Burundi and Rwanda. In addition, the drought significantly disrupted hydroelectric power generation in Zambia. Unfavorable weather patterns have also affected countries in other parts of the region, such as Angola and Côte d'Ivoire, while Guinea, Liberia, and Sierra Leone are facing the challenges of recovery after the Ebola pandemic. These events highlight the high vulnerability of the region to natural disasters, as elaborated in Chapter 3.
- The security situation has deteriorated in some countries. Following coordinated actions by the national authorities, attacks from Boko Haram have declined from their early 2015 peak, but still cause considerable loss of life and strains on economic activity and public finances of affected countries (Cameroon, Chad, Niger, Nigeria). Insurgent activities in the Niger Delta region have also significantly disrupted oil production in Nigeria. Meanwhile, the security situation remains fragile in Burundi and the Central African Republic; it has seriously deteriorated in South Sudan, threatening a fragile peace agreement; and the political environment is getting increasingly tense in Zimbabwe. Terrorist attacks have reemerged in Mali and now threaten a broader set of countries in West Africa, including Côte d'Ivoire—weighing on fiscal accounts. It is, however, important to keep in perspective that the incidence of civil conflict in the region remains substantially lower than in previous decades.

# A TALE OF TWO AFRICAS

## Shifting Growth Patterns

As the new external environment has affected the region's countries differently, based on the structure of their economy (namely, oil exporters versus importers and resource- versus non-resource-intensive countries), the upshot has been increasingly divergent economic paths across sub-Saharan Africa. While the positive dynamics of the 2010–14 period were generally broadly shared across various types of countries, a dichotomy of growth patterns has now emerged (Figure 1.6). On the one hand, the strong growth momentum of non–resource-intensive countries—in the likes of Côte d'Ivoire, Kenya, or Senegal, to name a few—remains undiminished. On the other, growth rates among nonrenewable commodity exporters have shifted sharply downward, with the median

**Figure 1.6. Sub-Saharan Africa: Rate of Growth, Average 2010–14 and 2016.** *(Kernel Density)*




Sources: IMF staff calculations; and IMF, World Economic Outlook database.

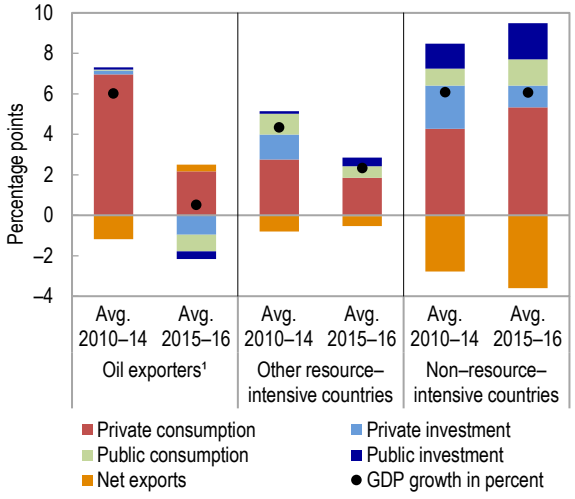
Note: There are 23 resource-intensive countries in the region and 22 non-resource-intensive countries. Dotted lines correspond to weighted average growth for each period. See page 88 for country groupings table.

country in that group seeing its growth slow from 6.2 percent on average during 2010–14 to just 3.2 percent this year.

While this contrasting pattern has been unfolding since the slump in commodity prices accelerated in the second half of 2014, it has been amplified over time as the initial shock has been transmitted to all sources of demand in the affected countries (Figure 1.7).

- Among oil exporters, the decline in oil prices and income generated substantial shortfalls in oil-related fiscal revenue and triggered cuts in public spending. These, in turn, have been a source of demand weakness, subtracting as much as 1¼ percentage points of growth in 2015–16. But the negative effects have not stopped there and have in fact been much deeper: with a contractionary fiscal stance, lower export income, and rising inflation, private consumption has been sharply impacted. Its growth contribution of close to 7 percentage points during 2010–14 will decline to 2¼ percentage points in 2015–16—accounting in fact for four-fifths of the GDP growth deceleration. The only mitigating factor has been the substantial import compression brought by the movements in exchange rates and decline in domestic demand, especially import-intensive public investment—with the drag from net exports moderating by 1½ percentage points since the oil price shock.
- Similar trends, although with less dramatic swings, are at play among other resource-intensive countries—exacerbated in some places by structural bottlenecks and policy uncertainty (South Africa) or the cooling effects of fiscal consolidation (Ghana). Notably, private investment supported growth to the tune of 1¼ percentage points up to 2014, in particular as mining facilities were being developed, but has since all but evaporated. By contrast, public spending has proved somewhat more resilient.
- Conversely, the growth patterns observed during 2010–14 among non-resource-intensive countries have been reinforced, with strong momentum from public investment (related to large infrastructure projects), buoyant private consumption, and an increasing counteracting drag from net exports (as accelerating domestic demand also boosts imports). However, it is important to bear in mind that the commodity price slump has represented a windfall for these countries as it lowered their oil import bill—without that positive impulse, it is likely that these countries would have decelerated slightly (Figure 1.8). Their growth pattern has also been accompanied by large fiscal and external deficits, as discussed further below.

**Figure 1.7. Sub-Saharan Africa: Contribution to Growth by Sources of Demand, Average 2010–14 and 2015–16**

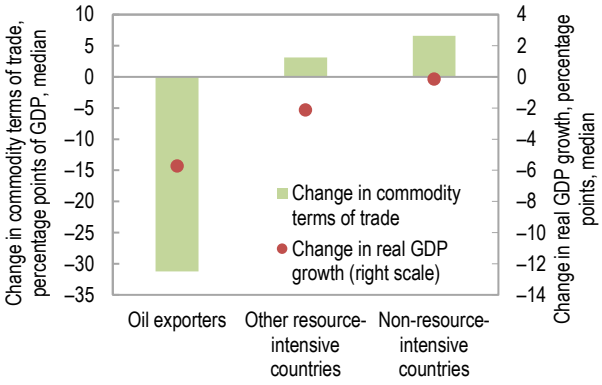



Source: MF, World Economic Outlook database.

Note: See page 88 for country groupings table.

[1] Excludes Angola, as there are no available data on the decomposition of growth by sources of demand for this country.

**Figure 1.8. Sub-Saharan Africa: Change in Commodity Terms of Trade and Real GDP Growth, 2016 versus 2013**




Sources: IMF, World Economic Outlook database; and IMF staff calculations.

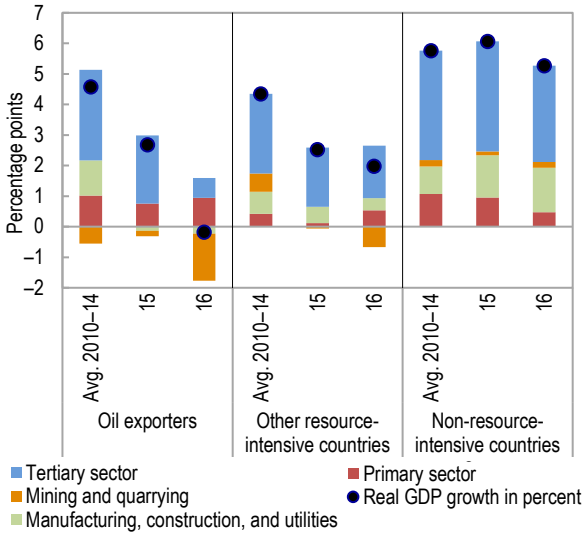
Note: See page 88 for country groupings table.

## Spreading Pains Among the Most Affected Countries

For the hardest-hit countries, no sector of activity has been spared (Figure 1.9).

- Among oil exporters, oil production had already been on a slightly declining path prior to 2014, as mature oil fields were coming to the end of their life cycle in Equatorial Guinea and Nigeria. In 2015, that trend was in fact partly mitigated by the strategy of some oil exporters, such as Cameroon, to ramp up production to offset the drop in prices. However, the historic income shock that the oil price slump represented for those countries has increasingly taken a toll on the other sectors of the economy. Hitherto booming construction sectors have collapsed under the combined effect of cuts in public projects and declining private confidence. Knock-on effects have found their way to fledgling manufacturing sectors, especially where shortages in foreign exchange have hampered imports of inputs and ramped up costs (Angola, Nigeria). Finally, declining household purchasing power and corporate profitability have fed into a sharp deceleration among services—their contribution to growth of 3 percentage points on average during 2010–14 is expected to shrink to about ½ percentage point in 2016. These developments are likely to have long-lasting effects: businesses are typically harder to restart once they have reached the point of bankruptcy—raising the specter of a protracted period of well-below-potential growth in the years to come.
- The cooling effects from lower commodity prices have also been at play throughout the economy among other resource-intensive countries. The slowdown, however, has been of a lower scale, as the industry and service sectors have proved more resilient to a shock that has been, relatively speaking, less dramatic.
- Among non-resource-intensive countries, the sharp drop in the contribution of the agricultural sector projected in 2016 is attributable to the severe effects of the drought in affected countries, in particular Ethiopia. Other sectors have remained unaffected, however, and, if anything, the manufacturing, construction, and utility sectors have been playing an increasing role in the economy, pointing to encouraging signs of diversification.

**Figure 1.9. Sub-Saharan Africa: Sectoral Contributions to Real GDP Growth, 2010–16**

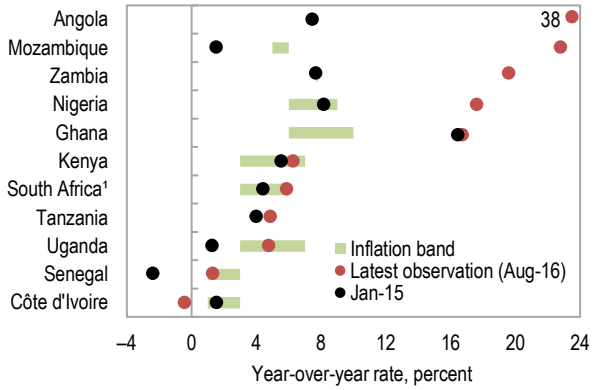



Source: IMF, African Department database.
Note: See page 88 for country groupings table.

As the effects of the shocks permeate the entire economy in the most affected countries, other, more lagging, macroeconomic indicators have also started to take a turn for the worse.

For one, rising inflation in many of the struggling countries is eroding real income, as it has reached double-digit levels not seen in some countries since the early 2000s (Figure 1.10). In many cases, the increase has reflected pass-through of large currency depreciation (Mozambique, South Sudan, Zambia), combined with foreign exchange shortages (Nigeria), higher domestic fuel prices following fuel subsidy reforms and loose monetary policy (Angola), or an increase in administrative prices and a past lax fiscal stance (Ghana). While an increase in inflation is almost inevitable as exchange rates depreciate, it is critical to avoid second-round effects leading to inflation disanchoring, especially where macroeconomic imbalances persist and where price increases have been the largest. The acceleration has been particularly steep among oil exporters. Angola's inflation has spiked to

**Figure 1.10. Selected Sub-Saharan African Countries: Inflation**




Sources: Country authorities; and IMF, International Financial Statistics.

Note: For Mozambique data are for July 2016.

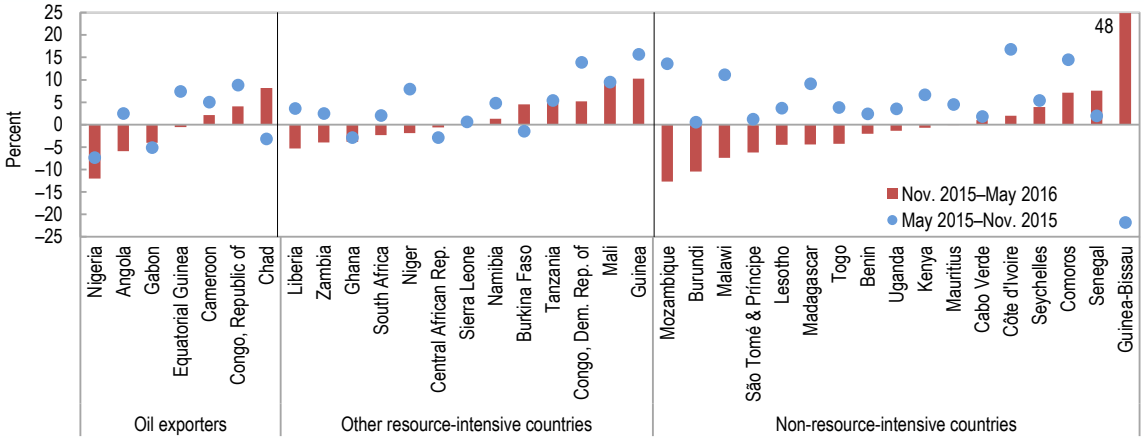
[1] Reflects Consumer Price Index inflation for all urban areas, which is the inflation that the South African Reserve Bank targets.

38 percent, almost double the rate from 6 months ago and from 7½ percent at end-2014. Similarly, in Nigeria, inflation is now above 17 percent, up from 9 percent in 2015. Conversely, in Eastern Africa, a strong monetary policy reaction to inflationary pressures last year has helped push inflation back into central banks' target ranges, and inflation remains muted in the West and Central African monetary unions (WAEMU and CEMAC).

In the context of lower growth prospects, rising inflation, and increasing challenges on banking sectors, credit to the private sector is also rapidly slowing where economic prospects have weakened the most—even contracting in real terms in countries such as Angola, Gabon, Ghana, Nigeria, and Zambia (Figure 1.11). Moreover, potential spillovers to banking sectors in the rest of the region need to be closely monitored where pan-African banks have significant operations, such as in Nigeria. Nonperforming loans have also been rising, in particular among oil exporters (Republic of Congo, Nigeria) and other resource-intensive countries (Ghana, Tanzania). Separately, and as elaborated further below, several countries, such as Angola, have seen a withdrawal in correspondent banking relationships, putting in question the stability of national financial systems in the most affected countries and seriously complicating trade.

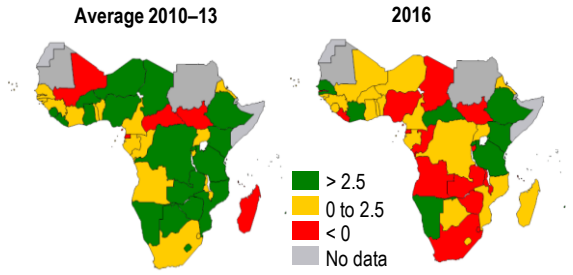
Overall, the contrast in economic realities across the region is best summed up by looking at GDP per capita developments. The median country in the region will still experience a 1¾ percent increase in GDP per capita growth this year. However, weighed down by 15 countries where per capita growth will be negative, including the three largest (Angola, Nigeria, and South Africa), the region's average per capita GDP will *contract*, by 0.9 percent, for the first time in 22 years (Figure 1.12). The weak growth outlook is also taking its toll on job creation, with unemployment stuck at more than 25 percent in South Africa and now reaching 13 percent in Nigeria, up from 7½ percent in early 2015. Beyond the deep macroeconomic implications of the slowdown, these developments will also adversely affect social outcomes, potentially reversing past improvements in living standards for a wide range of the population—further emphasizing the urgent need to tackle the current economic difficulties.

**Figure 1.11. Sub-Saharan Africa: Growth of Real Credit to the Private Sector**




Source: IMF, International Financial Statistics.

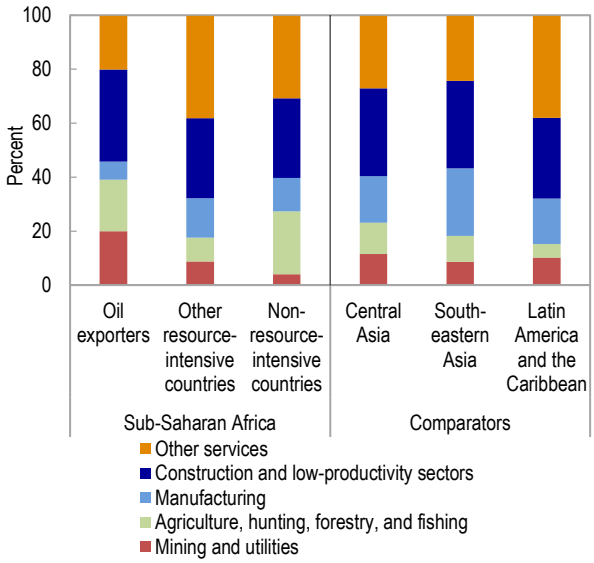
**Figure 1.12. Sub-Saharan Africa: Real GDP per Capita Growth**
*(Percent)*




Source: IMF, World Economic Outlook database.

An additional dimension to this picture of spreading economic pain among hard-hit countries is that it is occurring where diversification is least advanced. This feature is most marked among oil exporters, where the extractive and agricultural sectors combined still account for about 40 percent of GDP, the manufacturing sector remains underdeveloped, and other activities are tilted toward lower-productivity sectors such as construction, transportation, and retail sectors (Figure 1.13). Thus, in a context where all sectors of the economy are ailing, a rebound driven by new sources of growth will take even longer to materialize. That does not mean that the diversification agenda should not be reinvigorated, on the contrary—and it is indeed high on the authorities' plans in countries such as Angola and Nigeria. It should complement the comprehensive set of policies aimed at restoring macroeconomic stability—since diversification, especially when it translates into a wider variety of exports, provides the best insurance policy against negative shocks and a potent instrument to recover from them (Box 1.1).

**Figure 1.13. Sub-Saharan Africa: Sectoral Shares of Real GDP, Average 2005–14**




Sources: United Nations Statistics; and IMF staff calculations.

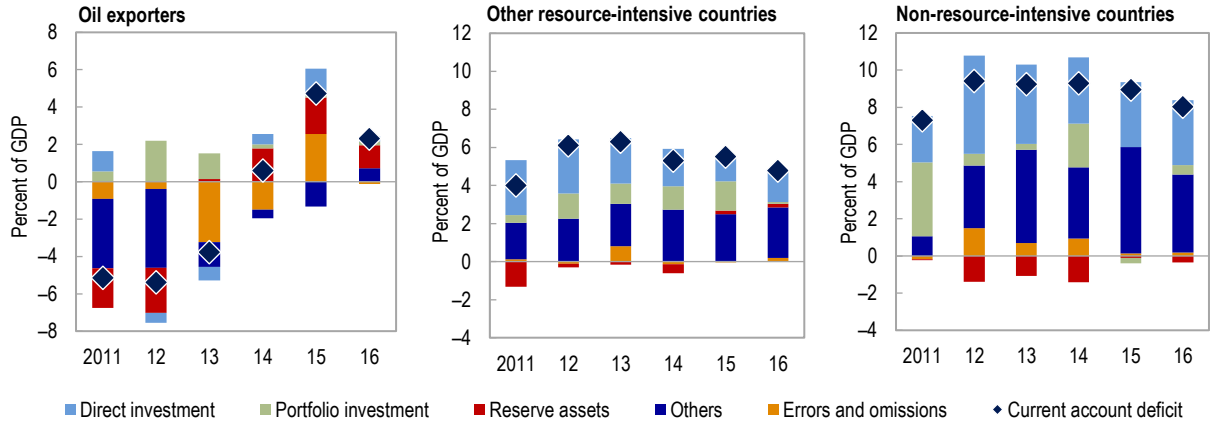
Note: Low productivity sectors include transport, storage, communication, wholesale and retail trade, and restaurants and hotels. See page 88 for country groupings table.

## IN SEARCH OF FINANCING

The consequences of this rapidly deteriorating outlook in many countries have been particularly manifest in their growing financing needs, given lower earnings from commodity exports. Indeed, the current account deficit for the region as a whole in 2015 widened to 5.9 percent, its largest level since the early 1980s and up from just 2.1 percent in 2013. Among oil exporters, it even switched from a *surplus* of 3¾ percent of GDP in 2013 to a *deficit* of 4¾ percent of GDP in 2015. At the same time, financing has been less forthcoming, and countries in most need have resorted to stopgap solutions that will not be sustainable over the longer run.

In particular, oil-exporting countries have financed almost ⅔ of their current account deficit by drawing on international reserves to the tune of 1½ percent of GDP each year since 2014 (Figure 1.14). At this stage, international reserves in the CEMAC have fallen by close to 9 percentage points of GDP between the end of 2013 and June 2016. Similarly, they have been declining in Angola and Nigeria since 2014 by, respectively, some 3 and 1¼ percent of GDP annually. They also decreased in half of the resource-intensive countries, among which are the Democratic Republic of Congo, Guinea, and South Africa. In Mozambique, reserves are down by about 40 percent since mid-2014 on the back of decelerating export receipts and foreign direct investment, heavy intervention by the central bank, and a loss of donor support following the revelation of more than 10 percent of GDP in previously undisclosed foreign borrowing. Finally, in some countries, decreasing international reserve

**Figure 1.14. Sub-Saharan Africa: Current Account Deficit and Sources of Financing, 2011–16**




Source: IMF, World Economic Outlook database.

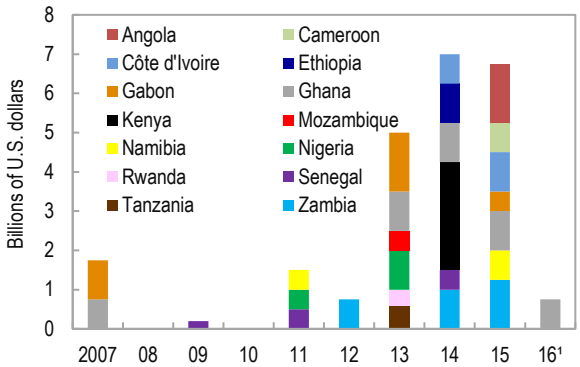
Note: Others includes items such as commercial bank financing from abroad and disbursements of loans to the government.
See page 88 for country groupings table.

buffers have been cushioned by foreign exchange swaps between central banks and commercial or bilateral partners, foreign exchange forwards, or the drawdown of foreign currency deposits held abroad.

Meanwhile, some sources of external financing that had been rising in importance since the early 2010s now seem harder to access, although remittances have proved resilient.

- In contrast to the rapidly increasing trend since the late 2000s and to record issuances of Eurobonds in the region in the last two years, only Ghana among sub-Saharan African frontier market sovereigns has tapped international markets so far this year (Figure 1.15).[2] In a general context of heightened global financial volatility, investors have generally demanded higher yields and are increasingly paying heed to worsening domestic fundamentals, making it difficult (and more expensive) for governments under the most stress to finance themselves externally (Box 1.2).[3] As a consequence, while yields have generally come down from the double-digit spikes experienced in early 2016, they remain relatively high. For example, sovereign yields on secondary markets have risen 170 basis points in Ghana, and 310 basis points in Zambia since October 2014, to settle around 9 percent in August 2016; they rose from 5½ percent to 7½ percent in Gabon during the same period. By contrast, they have remained broadly unchanged, at between 5½ and 7 percent in countries where growth prospects are perceived to be better, such as Côte d'Ivoire, Kenya, or Senegal (Figure 1.16).

**Figure 1.15. Sub-Saharan African Frontier Market Economies: International Sovereign Bond Issuances**



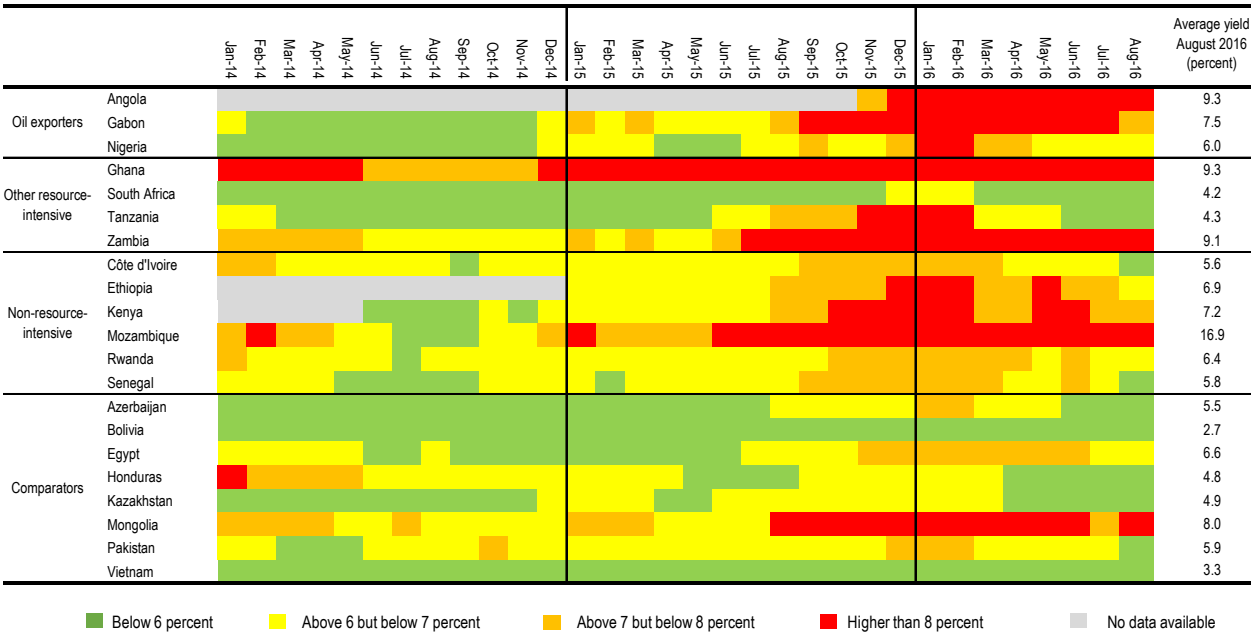

Source: Bloomberg, L.P.

[1] Up to mid-September 2016.

[2] South Africa, with emerging market status and more liquid financial markets, also issued an international 10-year bond this year at a yield of 4.9 percent. Mozambique's US$700 million Eurobond, issued in April 2016, is excluded from the computation here as it was used to restructure some of the existing debt held by the state-owned tuna-fishing company.

[3] Eurobonds now represent a nonegligible share of total public debt stock in some sub-Saharan African frontier market economies, such as Gabon (48 percent), Namibia (32 percent), Côte d'Ivoire (26 percent) Zambia (24 percent), Ghana (16 percent), Senegal (15 percent), or Rwanda (13 percent).

**Figure 1.16. Sub-Saharan African and Comparator Countries: Level of Bond Yields, 2014–16**



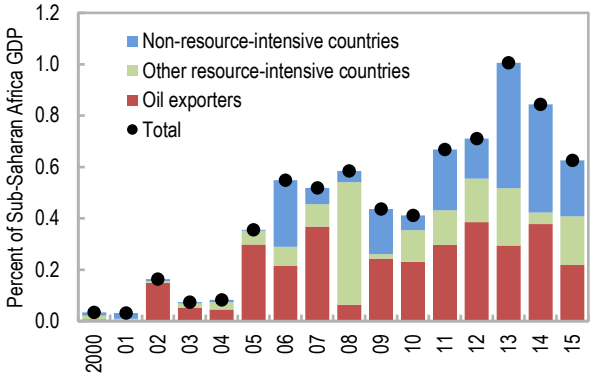

Source: J.P. Morgan.

Note: The thresholds were derived from the four quartiles of the distribution of yields over January 2014–August 2016 for sub-Saharan African countries.

- There is also preliminary evidence that loan commitments by China have decreased since their spike in 2013, and markedly so in 2015—although data for that year are still likely to be revised upward (Figure 1.17). The Republic of Congo and Mozambique saw official loans disbursed by China decrease by more than two-thirds in 2015 compared with 2014.[4] In contrast, they were expanded significantly among countries of the East African Community (Kenya, Rwanda, Tanzania). This is consistent with the reorientation toward infrastructure- and industrialization-related financing articulated at the 6th Forum on China Africa Cooperation (FOCAC) held in December 2015. If that trend were to persist, it could reinforce the challenges faced by resource-intensive countries and exacerbate the dichotomy in growth momentum currently underway in the region.

- Remittances, conversely, have provided a stable source of financing to the region. Remittances from the rest of the world have been roughly stable at around 1½ percent of sub-Saharan Africa's GDP since 2010. For countries such as Comoros, The Gambia, Lesotho, Liberia, and Senegal, overall remittances (including flows from within sub-Saharan Africa) are in fact much higher, at above 10 percent of GDP,

**Figure 1.17. Chinese Loans to Sub-Saharan Africa, 2000–15**




Sources: China Africa Research Initiative; Brautigam and Hwang 2016.

Note: Loans committed and/or disbursed as of June 2016. Upward revision to 2015 numbers is likely. See page 88 for country groupings table.

[4] For Mozambique, the decrease in 2015 came as project implementation of loans signed earlier peaked in 2014.

as these countries tend to have large diasporas (Box 1.3). Similarly, remittances reportedly rose by more than 25 percent in Ethiopia during the last fiscal year, partly as the country was grappling with a severe drought. In addition to being a source of foreign exchange, remittances help to supplement the income of relatives in home countries, smooth consumption, and allow for investments, including in small businesses and education.

- However, the recent trend in withdrawal of correspondent banking relationships—whereby large global banks provide payment and deposit-taking services on behalf of other banks—has reduced the capacity for some countries in the region, such as Angola, Guinea, and Liberia, to conduct such and other cross-border transactions (Erbenová and others forthcoming), threatening the stability of these important sources of financing.

These unfavorable developments on the external front have, in some places, also led to an increased reliance on temporary domestic financing solutions that will be difficult to carry forward.[5] In the Economic and Monetary Community of Central Africa (CEMAC), in less than one year, all member countries with the exception of Cameroon have exhausted their limit on direct advances from the regional central bank (Bank of Central African States)—even though those limits were raised in August 2015 and additional advances of 50 percent of the ceiling were approved for Chad and the Central African Republic. The stock of the Bank of Central African States financing now accounts for 7 percent of the CEMAC's GDP, and governments have been financing themselves domestically at increasingly short maturity, raising rollover risks. In the same vein, the South Sudanese government accumulated credit from the central bank of about 9 percent of GDP during the last fiscal year. In the West African Economic and Monetary Union (WAEMU), the positive spread between the key refinancing rate and rates on treasury bills and bonds has increased banks' incentives to borrow from the central bank to invest in public debt. In addition, there is now a substantial stock of domestic arrears in countries such as Chad, Equatorial Guinea, Gabon, Nigeria, and Zambia. Finally, a small number of countries have made recourse to unorthodox borrowing schemes to finance infrastructure projects and state-owned enterprises (Benin, Guinea, Togo).

[5] Increased domestic financing of the budget also leads to crowding out of private sector financing.

## DELAYED POLICY ADJUSTMENT

Against this difficult backdrop, tighter financial conditions on the back of growing financing needs are forcing a belated policy adjustment.[6] In addition, they are bringing to the fore lingering large fiscal deficits in some of the fast-growing countries.

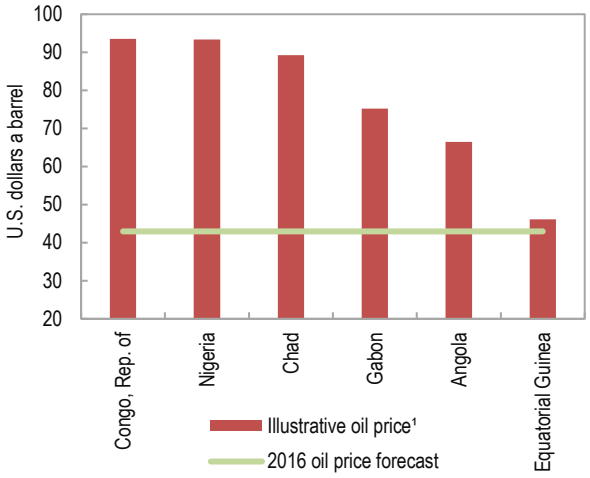
### More Fiscal Adjustment Needed among Both Hard-hit and Fast-Growing Countries

Oil exporters have had to react on the fiscal front, given their extremely high dependence on the oil sector for fiscal revenue—although the reaction has been gradual, and only partial.

- With the exception of Equatorial Guinea (where it had already worsened before), all sub-Saharan African oil exporters will have seen their fiscal balance deteriorate substantially during 2013–16, by 2⅔ percentage points of GDP in Nigeria, and by as much as 4½ to 5¾ percentage points of GDP in Angola, the Republic of Congo, and Gabon. In fact, at this stage, it would still require substantially higher oil prices than currently forecast for 2016 and over the medium term to bring these countries back to their preshock fiscal balances (Figure 1.18). While the preshock fiscal position should not necessarily be the objective for the medium term, this is, nonetheless, evidence that the adjustment on the fiscal front remains unfinished for these countries.

[6] A large body of literature, following Alesina and Drazen 1991, Alesina and others 2006, and Fernandez and Rodrik 1991, studies why policy reaction is usually delayed in the aftermath of a negative shock. This is because the costs of adjustment need to be distributed between different economic groups, with each of them typically attempting to bear the minimum cost and delaying the process—until adjustment becomes inevitable.

**Figure 1.18. Sub-Saharan African Oil Exporters: Illustrative Oil Price That Would Return the 2016 Fiscal Position to the 2011–13 Average**




Sources: IMF, World Economic Outlook database; and IMF staff calculations.

[1] The illustrative oil price is the level of oil price that would allow the 2016 fiscal balance to return to the 2011–13 average under unchanged levels of spending and non-commodity-related revenues.

- These developments, by themselves, have not been at odds with experiences elsewhere in the world.[7] That said, the nature of the adjustment has differed for sub-Saharan African oil exporters (Figure 1.19). With the exception of the Republic of Congo and unlike many oil exporters in the rest of the world, they have not been able to increase non-oil revenue sources to make up for the fiscal shortfall, relying instead on extensive expenditure cuts—especially to capital spending—with the negative consequences on overall growth described earlier. In Angola alone, the decline in oil revenue of about 20 percentage points of GDP was partially offset by a cut in current and capital spending totaling as much as 15 percentage points, underpinning a substantial adjustment in the non-oil fiscal position.

[7] In fact, many countries from the Gulf Cooperation Council that experienced a decline of a similar magnitude in commodity revenues allowed their fiscal position to deteriorate much more and, for most, even increased public spending to smooth the shock on the economy—although there have been efforts toward fiscal consolidation in most countries more recently. These countries have been able to draw on substantial fiscal buffers in sovereign wealth funds, something that, in most cases, was not available to sub-Saharan African oil exporters (see October 2016 *Regional Economic Outlook: Middle East and Central Asia*).

Other resource-intensive countries, where commodity revenues are a much smaller share of total revenue than in oil exporters, have generally better managed the fiscal fallout from the decline in commodity prices, in particular by tapping into the substantial potential for domestic revenue mobilization.[8] As a consequence, the fiscal adjustment to the shock—arguably less dramatic than for oil exporters—is generally more advanced. And the ability of these countries to tap additional fiscal revenue has also provided space for much-needed infrastructure investment, such as in the Central African Republic, Liberia, Mali, Niger, Sierra Leone, and Tanzania, thereby mitigating the fallout on growth (Figure 1.20).

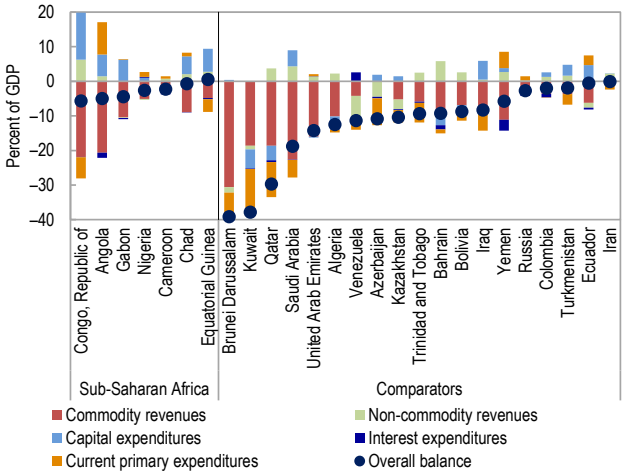
Meanwhile, non-resource-intensive countries have also seen their fiscal position worsen during the last few years, even as they continue to experience robust growth. As a result, the risk is that their fiscal stance could now be becoming procyclical, and that they would not be building sufficient buffers in good times (Figure 1.21). Among this group of countries, the median fiscal deficit will have widened from 2½ percent of GDP in 2013 to 4½ percent of GDP in 2016, even as the median growth performance remained a solid 4½ percent.

As a result, public debt has continued on its upward trend across the region (Figure 1.22). It increased sharply among oil exporters, by 20 percentage points of GDP for the median country since 2013—although from a low level in some such as Nigeria. But the increase in debt has been broadly mirrored in magnitude among other groups, including non-resource-intensive countries, where the median debt-to-GDP ratio has increased by as much as 13 percentage points since 2013. And while some countries in that latter group still have low debt levels, 16 out of 22 had a debt-to-GDP ratio above 40 percent at end-2015.

One reason has been the particular recourse to debt financing among frontier market economies in the region—arguably to a large extent to fund

[8] For more details on the potential to improve domestic revenue mobilization in the region, see Chapter 1, October 2015 *Regional Economic Outlook: Sub-Saharan Africa*.

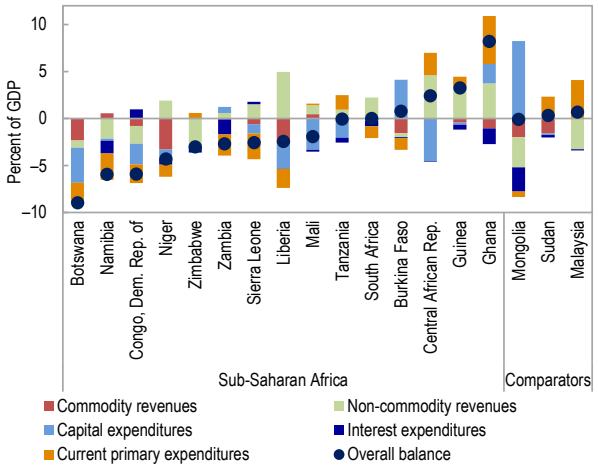
**Figure 1.19. Sub-Saharan African Oil Exporters and Comparators: Change in Overall Fiscal Balance, 2016 versus 2013**




Source: IMF, World Economic Outlook database.

Note: An increase (decrease) in revenue contributes positively (negatively) to the fiscal position. An increase (decrease) in expenditure contributes negatively (positively) to the change in fiscal position.

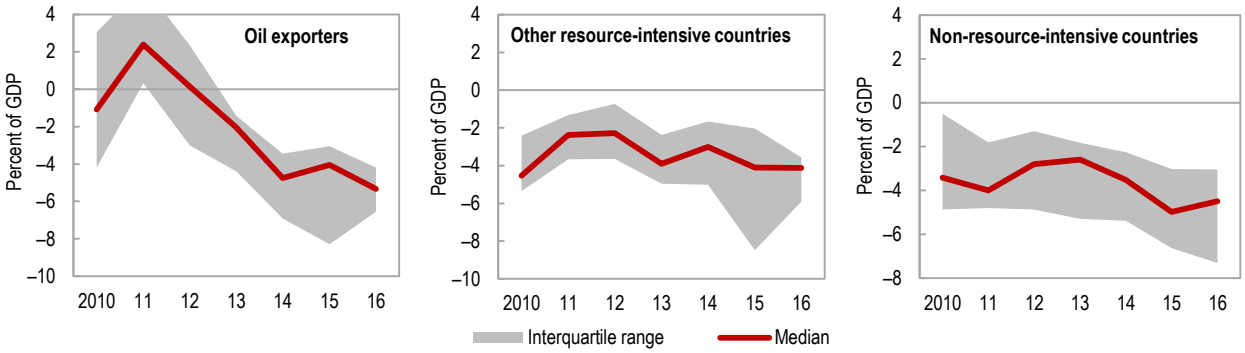
**Figure 1.20. Sub-Saharan African Other Resource-Intensive Countries and Comparators: Change in Overall Fiscal Balance, 2016 versus 2013**




Source: IMF, World Economic Outlook database.

Note: An increase (decrease) in revenue contributes positively (negatively) to the fiscal position. An increase (decrease) in expenditure contributes negatively (positively) to the change in fiscal position. For Malaysia, South Africa, Tanzania, and Zimbabwe, non-commodity revenues is equal to total revenue due to data availability.

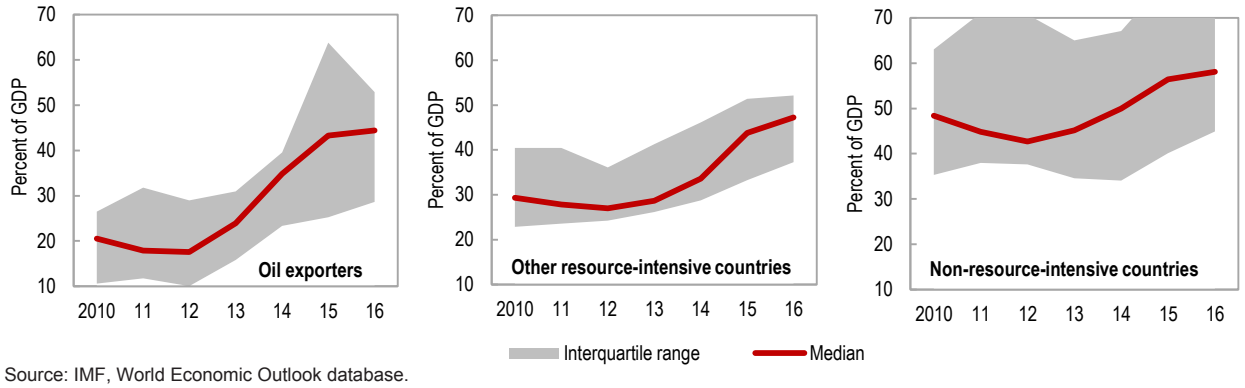
**Figure 1.21. Sub-Saharan Africa: Fiscal Balance, 2010–16**




Source: IMF, World Economic Outlook database.

Note: See page 88 for country groupings table.

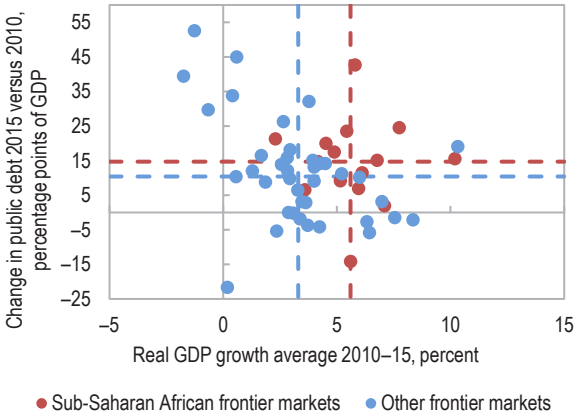
**Figure 1.22. Sub-Saharan Africa: Public Sector Debt, 2010–16**




Source: IMF, World Economic Outlook database.

Note: See page 88 for country groupings table.

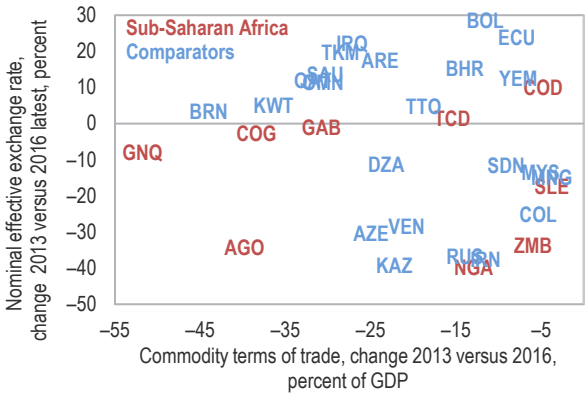
**Figure 1.23. Sub-Saharan African Frontier Market Economies and Comparators: Real GDP Growth and Public Debt**




Source: IMF, World Economic Outlook database.

Note: Red dashed lines correspond to the medians for sub-Saharan African frontier markets for each variable; blue dashed lines denote the medians for other frontier markets for each variable.

**Figure 1.24. Selected Sub-Saharan African Resource-Intensive Countries and Comparators: Change in Commodity Terms of Trade and Nominal Effective Exchange Rate, 2016 versus 2013**




Sources: IMF, Information Notice System; IMF, World Economic Outlook database; and United Nations, COMTRADE.

Note: Countries represented here have all experienced a deterioration of their commodity terms of trade during 2013–16 of 4 percent of GDP or more. See page 90 for country abbreviations.

needed infrastructure investment. But the upshot has been a faster increase in public debt than in similar economies elsewhere in the world, even as sub-Saharan African frontier market economies experienced more robust growth rates (Figure 1.23).

Some negative effects of fiscal adjustment on growth are unavoidable in the short term. However, where this adjustment is needed, policymakers should strive to resort to policies that help minimize those negative effects by making consolidation as growth friendly as possible, while preserving social programs targeted at the poor and most vulnerable segments of the population. Actions should combine better mobilizing domestic revenue both through the expansion of the revenue base and the improvement of tax administration; rationalizing spending; and improving its efficiency, in particular by strengthening public investment management (IMF 2015).

## Exchange Rate Adjustment, at Times with Reluctance

In tandem with fiscal adjustment, resource-intensive countries in the region have, at times reluctantly, allowed their currency to depreciate in response to the commodity terms-of-trade shock.

- Overall, the size of the depreciation (in effective terms) has tended to mirror the extent of the shock (Figure 1.24). In fact, compared with other commodity exporters, especially those in the Middle East, the exchange rate adjustment has been deeper for sub-Saharan African countries whose currency is not pegged.[9] For example, the depreciation in effective terms since end-2013 has now reached 30 to 40 percent in Angola, Nigeria, and Zambia.
- However, for some countries (Angola, Nigeria), these adjustments have happened with hesitation, delaying the price discovery from demand and supply and forcing central banks to use declining reserves to support the currency and to introduce administrative measures to contain dollar purchases. This and the lack of confidence in the authorities' commitment to the new, more flexible regime, in turn, have led to a detrimental backlog of unmet foreign exchange demand and to additional headwinds to the real economy. Nigeria's decision to

[9] It is also important to note that in 2014, few countries in the region had rebuilt the buffers they drew from during the global financial crisis, leaving them with less room to smooth the shock than elsewhere. For example, Chad and Nigeria had international reserves equivalent to 8–9 percent of GDP by end-2013, a third of the level in the Islamic Republic of Iran and a fifth of that in Bolivia—where the terms-of-trade shock was of similar magnitude.

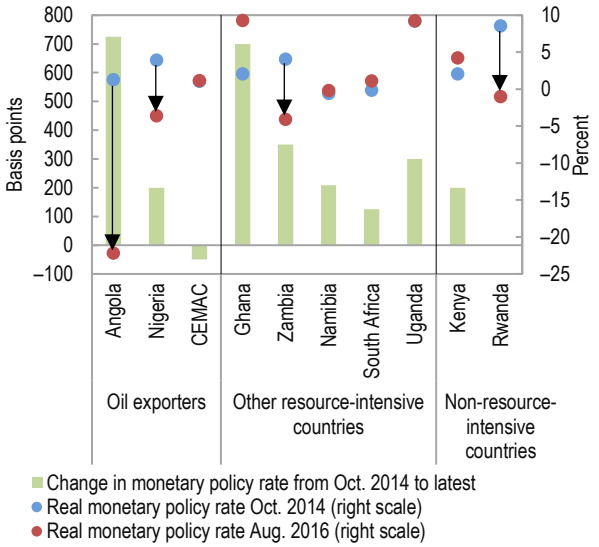
implement a flexible exchange rate in June is an important step in the right direction, but restrictions put in place in March 2015 remain on the 41 items deemed ineligible for the purchase of foreign exchange. In addition, in August 2016, a new directive was added, requiring all banks and authorized dealers to allocate 60 percent of foreign exchange sales to imports of raw material, plant, and machinery. In Angola, a priority list for access to foreign exchange at the official rate has also been introduced. Finally, the persistence of large wedges with parallel exchange rates in Angola and Nigeria, of around 240 percent and 25 percent, respectively, at the end of August 2016, suggests that the foreign exchange market in these countries remains in disequilibrium. Indeed, investors have remained wary of reentering these markets over concerns about liquidity, capital mobility, and potential policy reversal. In the CEMAC, the depreciation in effective terms has been minimal, given the peg to the euro—highlighting even more the need for adjustment on the fiscal and structural fronts.

- Elsewhere in the region, the relative stability of the currencies of a majority of other resource-intensive countries since the beginning of the year seems to indicate that most of the adjustment following the commodity price shock may have been achieved—although not everywhere, as currencies in the Democratic Republic of Congo, Guinea, Liberia, and Sierra Leone have remained under pressure.

## Monetary Policy behind the Curve in Oil-Exporting Countries

The substantial depreciation of the currency experienced in some of the commodity-exporting countries has translated into high inflation. To some extent, this is inevitable, but the risk is that, with protracted high inflation, second-round effects start to materialize and inflation expectations would become disanchored. In that context, rising inflation has generally prompted an increase in policy rates—ranging from 125 bps in South Africa since October 2014 to as much as 700 bps in Ghana and 725 bps in Angola as of end-August 2016 (Figure 1.25). That said, the adjustment remains substantially behind the curve in Angola and Nigeria. In these two countries, real policy interest rates are now in negative territory and some 7 to 20 percentage points below where they were at the onset of the shock. In the case of Zambia, real policy rates are also negative but this is mitigated by the fact that the overnight interbank rate remains some 250 basis points above the policy rate at the end of August 2016, and that reserve requirements were increased from 14 percent to 18 percent in April 2015—indeed, monthly inflation has already decelerated sharply since early 2016. Finally, accommodative monetary policy in the CEMAC—via central bank financing but also lower refinancing rates, higher government paper refinancing ceilings for commercial banks, and a cut in half of reserve requirement ratios—has likewise reached its limits and contributed to the loss of scarce reserves.

**Figure 1.25. Sub-Saharan Africa: Monetary Policy Rate Change and Real Monetary Policy Rate since October 2014**




Sources: Haver Analytics; and IMF, International Financial Statistics.

Note: Real monetary policy rate is the nominal rate adjusted for the year-over-year inflation rate. Due to data availability for the CEMAC, the policy rate is adjusted with the June 2016 year-over-year inflation rate. CEMAC = Economic and Monetary Community of Central Africa.

## PROTRACTED LOWER GROWTH, RISING RISKS

### A Modest Rebound Expected in 2017…

Against the backdrop of this gradual policy adjustment and of a shallow pickup in global activity, the region is foreseen to rebound somewhat next year, although the recovery will remain modest by recent standards. Activity in sub-Saharan Africa is expected to rebound to 2.9 percent in 2017, after 1.4 percent in 2016 (Table 1.1). At this pace, the region will barely return to positive per capita income growth next year, in sharp contrast to the past 15 years, which saw substantial improvements in living standards throughout the region.

However, these aggregate numbers will continue to mask considerably different dynamics across the region, and the picture will remain one of multispeed growth (Figure 1.26). While the largest countries, under severe strains this year, are expected to return to only very modest positive growth rates, and other resource-intensive countries to register marginal improvements in their outlook, others will continue to be propelled forward by ambitious public infrastructure plans and dynamic private sectors.

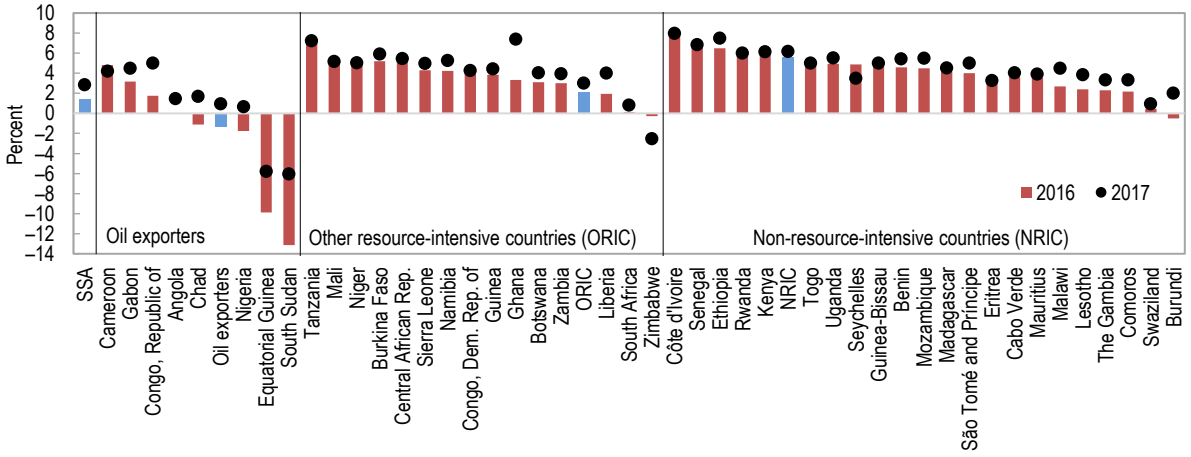
- Growth among oil exporters is expected to return to positive territory—after a contraction of –1¼ percent this year—to barely reach 1 percent in 2017, on the back of a modest improvement in the oil price. Even then, this would still be a substantially lower pace than the close to 6 percent average of 2010–14—as these countries will continue to face deep economic challenges. The rebound in Nigeria, from a sharp contraction this year, to ½ percent next year, is predicated on the authorities' ability to execute capital expenditure (in particular by making progress on near-completion infrastructure projects), the effectiveness of the recently introduced exchange rate reforms, an increase in offshore oil production capacity, and an improvement of the security situation in the Niger Delta. Likewise, after coming to a standstill this year, Angola is forecast to grow at 1½ percent in 2017, owing to slightly better oil prices and ramped-up public spending ahead of the presidential elections.
- In other resource-intensive countries, growth is projected to remain in low gear, at 3 percent—a modest upgrade from 2 percent this year. After a contraction in the first quarter of 2016, and growth projected flat for the year, South Africa is foreseen to grow at ¾ percent

**Table 1.1. Sub-Saharan Africa: Real GDP Growth**
*(Percent change)*

| | 2004–08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Sub-Saharan Africa** | **6.6** | **3.9** | **7.0** | **5.0** | **4.3** | **5.2** | **5.1** | **3.4** | **1.4** | **2.9** |
| *Of which:* | | | | | | | | | | |
| Oil-exporting countries | 8.7 | 6.7 | 9.2 | 4.7 | 3.9 | 5.7 | 5.9 | 2.6 | -1.3 | 0.9 |
| *Of which:* Nigeria | 7.7 | 8.4 | 11.3 | 4.9 | 4.3 | 5.4 | 6.3 | 2.7 | -1.7 | 0.6 |
| Middle-income countries | 6.7 | 3.6 | 6.9 | 4.6 | 4.3 | 4.7 | 4.6 | 2.7 | 0.4 | 2.0 |
| *Of which:* South Africa | 4.8 | -1.5 | 3.0 | 3.3 | 2.2 | 2.3 | 1.6 | 1.3 | 0.1 | 0.8 |
| Low-income countries | 6.2 | 5.1 | 7.0 | 6.6 | 4.5 | 7.1 | 6.6 | 5.6 | 4.7 | 5.4 |
| *Memorandum item:* | | | | | | | | | | |
| World economic growth | 4.9 | -0.1 | 5.4 | 4.2 | 3.5 | 3.3 | 3.4 | 3.2 | 3.1 | 3.4 |
| Sub-Saharan Africa other resource-intensive countries[1] | 4.9 | 0.6 | 4.8 | 5.2 | 4.1 | 4.2 | 3.4 | 2.5 | 2.1 | 3.0 |
| Sub-Saharan Africa non-resource-intensive countries[2] | 6.0 | 4.8 | 6.4 | 5.4 | 5.8 | 6.3 | 6.5 | 6.5 | 5.6 | 6.2 |
| Sub-Saharan Africa frontier and emerging market economies[3] | 6.8 | 4.2 | 7.3 | 5.1 | 4.5 | 5.1 | 5.1 | 3.6 | 1.3 | 2.8 |

Source: IMF, World Economic Outlook database.
[1] Includes Botswana, Burkina Faso, Central African Republic, Democratic Republic of Congo, Ghana, Guinea, Liberia, Mali, Namibia, Niger, Sierra Leone, South Africa, Tanzania, Zambia, and Zimbabwe.
[2] Includes Benin, Burundi, Cabo Verde, Comoros, Côte d'Ivoire, Eritrea, Ethiopia, The Gambia, Guinea-Bissau, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Rwanda, São Tomé and Príncipe, Senegal, Seychelles, Swaziland, Togo, and Uganda.
[3] Includes Angola, Cameroon, Côte d'Ivoire, Ethiopia, Gabon, Ghana, Kenya, Mauritius, Mozambique, Nigeria, Rwanda, Senegal, South Africa, Tanzania, Uganda, and Zambia.

**Figure 1.26. Sub-Saharan Africa: Real GDP Growth**




Source: IMF, World Economic Outlook database.
Note: SSA = sub-Saharan Africa. See page 88 for country groupings table.

in 2017, as the commodity and drought shocks are expected to dissipate and power supply improves. But policy uncertainty and deep structural constraints will continue to put a lid on growth. Zambia is expected to accelerate to 4 percent, from 3 percent this year, as the negative effect of the drought on electricity generation eases, new capacity comes onstream, and some mining projects are expanded. Ghana is projected to enjoy a growth fillip as a new field coming on line is expected to boost oil production by some 50 percent, increasing overall growth to 7½ percent. However, the rest of the economy will continue to expand at a much slower pace. While Guinea, Liberia, and Sierra Leone are recovering from the Ebola epidemic, their outlook will remain clouded by weak iron prices, with growth forecast between 4 and 5 percent, and generally below the rates experienced prior to the pandemic. In Zimbabwe, the political environment will limit the scope for policy adjustments and, in the absence of external financing, the economic contraction is expected to deepen in 2017.

- Non-resource-intensive countries, conversely, are expected to remain on their decade-long growth trend of above 6 percent in 2017. Large infrastructure projects are projected to continue to provide strong support to growth in Côte d'Ivoire, Ethiopia, Kenya, Rwanda, and Senegal—all slated to register growth between 6 and 8 percent next year. Other countries, such as Benin and Togo, are forecast to enjoy growth in excess of 5 percent, as they continue to benefit from low oil prices.

As affected countries continue their gradual adjustment, the region is expected to witness an equally gradual improvement in its fiscal and external positions from historically high deficits (Table 1.2). The overall fiscal balance (including grants) is projected to widen to –4½ percent this year, on the back of a deterioration among oil exporters, before narrowing to –4 percent in 2017. In particular, the fiscal deficit is expected to remain elevated in Zambia at 8¼ percent of GDP in 2017 on the back of large subsidies; in Angola at 5½ percent of GDP in an election year; and in Nigeria as the country ramps up public investment to support its diversification agenda. Some southern African countries (Lesotho, Namibia, Swaziland) will also have to face a persistently deteriorated fiscal position in a context of depressed trade revenues from the Southern African Customs Union. Elsewhere, despite some consolidation, Kenya is still foreseen to register a sizable fiscal deficit, at 6½ percent of GDP in 2017, even as it remains one of the fastest-growing countries in the region. Likewise, the external current account deficit for the region is expected to narrow gradually to 4½ percent in 2016 and 4 percent in 2017, from 6 percent last year, mostly as oil-exporting countries adjust through substantial import compression.

**Table 1.2. Sub-Saharan Africa: Other Macroeconomic Indicators**

| | 2004–08 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | (Percent change) | | | | | |
| Inflation, average | 8.8 | 12.9 | 9.8 | 8.2 | 9.4 | 9.3 | 6.6 | 6.3 | 7.0 | 11.3 | 10.8 |
| | | | | | | (Percent of GDP) | | | | | |
| Fiscal balance | 1.7 | 1.3 | –4.5 | –3.4 | –1.3 | –1.9 | –2.9 | –3.2 | –4.3 | –4.6 | –4.0 |
| *Of which:* Excluding oil exporters | –0.5 | –1.5 | –4.1 | –4.2 | –3.6 | –3.7 | –3.8 | –4.0 | –4.3 | –4.4 | –3.8 |
| Current account balance | 2.1 | 0.3 | –2.6 | –0.7 | –0.5 | –1.5 | –2.1 | –3.7 | –5.9 | –4.5 | –3.9 |
| *Of which:* Excluding oil exporters | –4.3 | –6.5 | –4.9 | –3.9 | –4.7 | –7.0 | –7.1 | –6.5 | –6.8 | –6.2 | –5.4 |
| | | | | | | (Months of imports) | | | | | |
| Reserves coverage | 5.1 | 7.0 | 5.2 | 4.2 | 4.6 | 5.3 | 4.9 | 5.3 | 5.4 | 4.6 | 4.3 |

Source: IMF, World Economic Outlook database.

Meanwhile, aggregate inflation for the region will remain at a double-digit level, but this mostly reflects sharp acceleration in a handful of large countries (Angola, Nigeria, Zambia), and median inflation is foreseen to remain contained in 2016–17 at about 5 percent, in line with past experience. Among those countries in which inflation has been high recently, it is expected to moderate to about 10 percent in 2017 in Ghana from about 17 percent currently on tight monetary policy, and in Zambia from 19 percent to 9 percent owing to base effects. By contrast, inflation would remain stuck at high levels in 2017 in Angola (38 percent) and Nigeria (above 15 percent), as depreciation pass-through and foreign exchange shortages feed into prices in a context of an overly accommodative monetary stance.

## … But with Significant Policy Implementation Risks

As elaborated earlier, policy adjustment measures among the most affected countries, especially oil exporters—which represent about half of the region's GDP—are being forced by challenging financing situations, rather than being part of a proactive and internally consistent package of policies. While the very fact that adjustment is happening is welcome, it remains incomplete. In this outlook's baseline scenario, challenging financing conditions will continue to force adjustment, but they are not assumed to take a turn for the worse.

There is clearly a risk, however, that, if the economic outlook were to deteriorate, governments could find it even more difficult to implement unpopular measures, and that a slowdown in the adjustment could ensue. Such a situation would perpetuate and, in some cases, exacerbate the economic challenges of these countries, especially as the temporary palliatives—drawing on reserves or on central bank financing—would run their course, and as foreign investors could become even less willing to finance them. Such developments could potentially create a situation of a sudden stop, trigger debt defaults, and force a much more abrupt adjustment, with dramatic growth contractions across the region and potential negative spillovers, even for the still fast-growing countries.

In some countries, political uncertainty could also complicate the implementation of needed adjustment. Contested transitions, as recently seen in Gabon, could reduce the leverage for the new government to address a difficult economic situation, while there is a risk that upcoming elections could delay plans to consolidate the fiscal position (Ghana, Kenya, Liberia, Sierra Leone) or impede adjustment (Angola, Democratic Republic of Congo).

These risks would be compounded if the global environment became even less supportive, and there are indeed several global fault lines with potentially negative ramifications for the region.

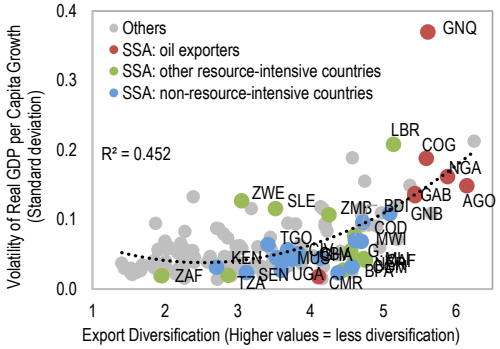
- Global growth is still subject to substantial downside risks, with the most direct implication for sub-Saharan Africa being on the outlook for commodity prices. In particular, a more rapid rebalancing, or a marked slowdown, in China would result in further depressed demand for commodity exports from the region and lower commodity prices at the global level.
- Further volatility in global financial markets—similar to the bouts of volatility experienced in January of this year—could reignite risk aversion and complicate financing for frontier market economies in the region, leading some of them to run out of options. Monetary policy decisions in advanced economies related to normalization in the United States and additional stimulus in the euro area and Japan would have particular bearing on investors' sentiment.
- An additional risk pertains to developments in the European Union, which remains a major partner and supplier of capital and aid to the region, and where the decision of the United Kingdom to leave the European Union has added another layer of uncertainty. Negative surprises on growth in Europe would directly and adversely affect the region through trade and financial channels.

## Box 1.1. Reaping the Benefits from Export Diversification

*As many economies in the region still reel from the commodity price slump, diversification—in particular of the products one country exports—is emerging as an important channel to foster growth and increase resilience. Supporting infrastructure upgrade, price competitiveness and trade openness, but also equal opportunities appear to be powerful levers to enable export diversification.*

The literature has long established that diversification and structural transformation—the continued, dynamic reallocation of resources to more productive sectors and activities—are associated with economic growth, particularly at the early stages of development (IMF 2014; Papageorgiou and Spatafora 2012). Export diversification, in particular, is associated with much smaller output volatility (Figure 1.1.1). The reverse is also true, as many sub-Saharan African resource-intensive countries are currently experiencing, with a sharp shift in their growth pattern following the slump in commodity prices and limited options to boost exports of other goods and services in the short term.

**Figure 1.1.1. Export Diversification and Output Volatility, 1990–2010**




Sources: IMF 2014; and IMF, World Economic Outlook database.
Note: See page 88 for country abbreviations.

In that context, policies to support export diversification have gained renewed interest, and this box explores the specific policies that have been connected, in sub-Saharan Africa and elsewhere, with higher degrees of export diversification. To do so, it looks at the association between export diversification, and a range of structural and policy factors, following Kazandjian and others (2016), for a global sample over 1990–2010 using annual data:

$$\begin{aligned}\text{Export Diversification}_{it} &= \beta\,\text{Structural}_{it} + \gamma\,\text{Policies}_{it} + \varphi\,\text{Cyclical}_{it} \\ &+(\beta'\text{Structural}_{it} + \gamma'\text{Policies}_{it} + \varphi'\text{Cyclical}_{it})\cdot \text{LIDC} \\ &+\mu_i + \theta_t + \varepsilon_{it}\end{aligned}$$

- in which export diversification for country *i* at time *t* is measured by the Theil index on goods exports, in which *j* is the product index and *N* the total number of products. Lower values of the Theil index indicate higher levels of export product diversification.[1]

$$Theil\ Index = \frac{1}{N}\sum_j^N \frac{Export\ Value_j}{Average\ Exp.Value} \cdot ln\frac{Export\ Value_j}{Average\ Exp.Value};$$

- structural factors capture the population size, level of economic development, and extent of resource dependence
- cyclical factors, such as terms of trade, capture the macroeconomic environment
- policies capture the level of human capital; quality of institutions, infrastructure, and business environment; degree of trade openness; gender inequality (to capture the inefficiencies in the labor market and insufficient allocation of human capital generated by the lack of access to opportunities for women); the level of the real effective exchange rate (to measure potential over/undervaluation); and other factors as robustness checks
- and $\mu_i$ and $\theta_t$ represent country and time fixed effects.

This box was prepared by Romina Kazandjian, Lisa Kolovich, and Monique Newiak.

[1] As a robustness check, the same analysis is performed with a similar index of diversification for real output, constructed using real subsectors from the United Nation's sectoral database (IMF 2014). The results of that analysis are broadly similar, but the rankings in terms of the degree of their diversification change significantly for some countries.

**Box 1.1.** *(continued)*

For all variables, except for real GDP per capita, we interact them also with a low-income and developing country dummy to allow for the possibility that the effects are different at earlier stages of development.

While structural characteristics play a strong role, the results show that there is also significant room for policy interventions to foster export diversification. Because higher Theil indices reflect lower levels of export diversification, a negative sign in the regression suggests that the factor in question is associated with better diversification outcomes (Table 1.1.1).

- *Structural and cyclical factors*—The results confirm the U-shaped relationship between export diversification and development (Dabla-Norris and others 2013), in which countries diversify until they reach a certain level of development but reconcentrate afterward. A higher share of mining in output is associated with a less diversified export base, as are positive terms-of-trade shocks, as those tend to induce Dutch disease—a process through which high commodity prices, for example, hollow out noncommodity sectors because the induced price increases make other segments of the economy unable to compete with the rest of the world. Capturing economies of scale and the presence of a larger pool of talent, population size is generally associated with higher diversification.
- *Policies*—Human capital and stronger institutions are associated with a more diversified export base in all countries, but with a weaker (stronger) effect for low-income and developing countries for the former (latter), highlighting the need for continued policies to improve these relatively slow-moving factors in the medium to long term. Likewise, stronger infrastructure, proxied by the length of the road network, are associated with higher degrees of export diversification in all countries. A higher degree of openness in international trade also expands the possible pool of trading partners and demand for exports, and the results confirm a positive and significant relationship with export diversification in particular for low-income countries.[2] Higher gender inequality, as measured by the extended version of the United Nations Gender Inequality Index, is strongly associated with lower export diversification, highlighting the role that equal access to opportunities for women can play for the economy at large, through at least two channels. First, eliminating gender gaps in education can increase overall human capital accumulation. Second, lower systematic differences in labor force participation increase the overall pool of talent in the labor market. Finally, a more appreciated real effective exchange rate is associated with lower diversification—highlighting the importance of preserving competitiveness to support diversification.

Policies to boost the creation of new more diversified sources of exports as highlighted above should also be complemented by efforts to upgrade the quality of currently exported products, in particular in the agricultural sector, especially for small countries and those with a comparative advantage in exporting commodities (IMF 2014).

[2] However, it should be kept in mind that causality could run in both directions, since higher degrees of diversification could also increase a country's openness to trade or its propensity to have better infrastructure.

**Box 1.1.** *(continued)*

**Table 1.1.1. Explaining Export Diversification**

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| **Structural Factors** | | | | | | |
| Log(Population) | –0.558 *** | –0.557 *** | –0.583 *** | –0.354 *** | –0.712 *** | 0.591 *** |
| | (0.0905) | (0.0902) | (0.0918) | (0.0884) | (0.0927) | (0.163) |
| – in LIDC | 0.379 *** | 0.0186 | –0.0285 | –0.885 *** | 0.721 *** | –2.280 *** |
| | (0.123) | (0.131) | (0.131) | (0.142) | (0.131) | (0.302) |
| Log(Real GDP per capita) | –1.947 *** | –2.773 *** | –2.59 *** | –2.416 *** | –1.908 *** | –1.765 *** |
| | (0.176) | (0.186) | (0.197) | (0.205) | (0.210) | (0.326) |
| – squared | 0.124 *** | 0.167 *** | 0.156 *** | 0.146 *** | 0.117 *** | 0.0932 *** |
| | (0.0111) | (0.0113) | (0.0119) | (0.0123) | (0.0128) | (0.0189) |
| Mining as share of GDP | 0.00362 | 0.0104 *** | 0.0118 *** | 0.00478 * | 0.0096 *** | 0.0247 *** |
| | (0.00294) | (0.00314) | (0.00332) | (0.00272) | (0.00309) | (0.00503) |
| – in LIDC | 0.0295 *** | 0.00893 ** | 0.00923 ** | 0.0364 *** | 0.0189 *** | –0.0597 *** |
| | (0.00404) | (0.00433) | (0.00444) | (0.00503) | (0.00432) | (0.0119) |
| **Human Capital** | | | | | | |
| Lag human capital index | –0.353 *** | –0.173 ** | –0.226 *** | –0.229 *** | –0.234 *** | –0.17 * |
| | (0.0832) | (0.0763) | (0.0785) | (0.0762) | (0.0817) | (0.0996) |
| – in LIDC | –0.277 * | 0.484 *** | 0.412 *** | 0.663 *** | –0.542 *** | 2.863 *** |
| | (0.153) | (0.164) | (0.155) | (0.161) | (0.164) | (0.329) |
| **Institutions** | | | | | | |
| Fraser Institute Sum. Index | | –0.0235 * | | | | –0.0035 |
| | | (0.0124) | | | | (0.0191) |
| – in LIDC | | –0.202 *** | | | | –0.128 *** |
| | | (0.0213) | | | | (0.0431) |
| **Openness** | | | | | | |
| Freedom to trade | | | –0.0324 *** | | | –0.0357 *** |
| | | | (0.00663) | | | (0.0117) |
| – in LIDC | | | –0.0593 *** | | | –0.0512 ** |
| | | | (0.0117) | | | (0.0249) |
| **Infrastructure** | | | | | | |
| Length of road network | | | | –0.0626 *** | | –0.0643 *** |
| | | | | (0.0169) | | (0.0159) |
| – in LIDC | | | | 0.058 *** | | –0.0335 |
| | | | | (0.0217) | | (0.0264) |
| **Macro/Cyclical factors** | | | | | | |
| Terms of trade | | | | | 0.0027 *** | 0.0043 *** |
| | | | | | (0.0004) | (0.0005) |
| – in LIDC | | | | | 0.000222 | 0.0038 *** |
| | | | | | (0.0005) | (0.001) |
| Log(REER) | | | | | | 0.183 *** |
| | | | | | | (0.0518) |
| – in LIDC | | | | | | 0.213 * |
| | | | | | | (0.119) |
| **Gender Inequality** | | | | | | |
| GII index | | | | | | 1.18 *** |
| | | | | | | (0.272) |
| – in LIDC | | | | | | –0.760 |
| | | | | | | (0.543) |
| Constant | 12.36 *** | 16.08 *** | 15.31 *** | 14.14 *** | 12.21 *** | 7.824 *** |
| | (0.676) | (0.739) | (0.776) | (0.852) | (0.830) | (1.453) |
| Number of observations | 3,538 | 3,059 | 3,124 | 2,999 | 3,263 | 1,583 |
| Countries | 107 | 101 | 101 | 90 | 101 | 84 |
| *R*–squared | 0.163 | 0.280 | 0.254 | 0.273 | 0.222 | 0.353 |
| Adjusted *R*–squared | 0.126 | 0.244 | 0.217 | 0.239 | 0.186 | 0.298 |

Source: IMF staff calculations.

Note: All specifications include country and time fixed effects. Standard errors in parentheses. The effect of a variable on export diversification in LIDC is the sum of the coefficient in the global sample and the coefficient on the LIDC interaction term. GII = Gender Inequality Index; LIDC = low-income developing country; REER = real effective exchange rate.*** $p<0.01$, ** $p<0.05$, * $p<0.1$

### Box 1.2. Sub-Saharan African Spreads: Changing Sentiments?

*Examining the determinants of sovereign spreads for 62 emerging and frontier market economies, this box finds evidence that investor sentiment has changed since October 2014, when oil prices started declining sharply. In particular, the oil price decline raised spreads disproportionately for the oil exporters around the world after this period, and investors appear to pay more attention to country fundamentals in their portfolio decisions—a strong reminder to governments in both commodity exporters and non-resource-intensive countries in the region that deteriorating fundamentals will continue to have a bearing on the ease with which they can raise external financing.*

We revisit here the analysis on sovereign spreads in the region and other frontier market economies conducted in the April 2015 *Regional Economic Outlook: Sub-Saharan Africa* (Box 1.3) to test whether the determinants of these spreads have changed further since October 2014, when commodity prices started declining sharply and the outlook for the region weakened. We also augment the analysis to examine the effect of non-oil commodity price movements, institutions, ratings, and IMF programs. The estimated relationship—which uses monthly data from January 2009 to June 2016 for 62 emerging and frontier economies[1]—is as follows:

$$spread_t = \alpha\ spread_{t-1} + \beta\ global_{t-1} + \gamma\ commodity_t + \varphi\ fundamentals_{t-1} + \rho\ ratings_t + (\beta' global_{t-1} + \gamma' commodity_t + \varphi' fundamentals_{t-1} + \rho' ratings_t) \cdot post2014Oct + \theta_t + \mu_t + \varepsilon_t ,$$

in which $spread_t$ is the log of the spread between the yield on sovereign emerging and frontier markets and the yield on the 10-year Treasury bond at time $t$, $global_t$ includes the one-month lag of the Chicago Board Options Exchange Volatility Index (VIX),[2] the U.S. term premium, and the London interbank offered rate-overnight indexed swap (LIBOR-OIS) as a proxy for global volatility and funding costs. $commodity_t$ captures the percentage change in the fuel price index (crude oil, natural gas, and coal) as well as that of gold and copper prices and their interactions with respective dummies for countries exporting these commodities. $fundamentals_{t-1}$ capture the country's GDP per capita growth rate and inflation rate, as well as the current account balance, gross public debt, the primary balance in percent of GDP, and institutional quality. Finally, to capture buy and sell decisions based on asset quality, we include Standard & Poor's sovereign ratings in the regressions.[3] All variables are interacted with a dummy ($post2014Oct$) that allows to test whether the sensitivity of the spreads to various determinants has changed significantly since the beginning of the oil price slump. Finally, $\theta_t$, $\mu_t$, and $\varepsilon_t$ capture time fixed effects, country fixed effects, and the error term, respectively.

The results suggest that investors have increased the weight they ascribe to domestic economic fundamentals since 2014 (Table 1.2.1):

- Results for the pre-October 2014 period confirm the findings of the April 2015 box: both global factors, including commodity price movements and country fundamentals, played a role in explaining emerging and frontier market spreads over the examined horizon. In particular, higher values of the VIX, the U.S. term premium and the LIBOR-OIS were all associated with increases in spreads, confirming that global sentiment mattered for spreads in the region. Higher oil prices resulted in lower spreads for oil exporters and oil importers alike, possible capturing strong global demand conditions. Likewise, higher gold prices were associated with higher spreads on average, likely denoting the use of gold as a safe haven asset. Positive country fundamentals—higher GDP per capita growth, current account balances, reserves, and primary

This box was prepared by Samir Jahjah, Monique Newiak, and Jing Wang.

[1] Sub-Saharan African emerging and frontier market economies included in the analysis are Angola, Côte d'Ivoire, Ethiopia, Gabon, Ghana, Kenya, Mozambique, Namibia, Nigeria, Senegal, South Africa, Tanzania, and Zambia.

[2] The lag of the VIX is instrumented with its second lag due to endogeneity concerns from including both its lagged value and fixed effects in the specification.

[3] Since both indices of institutional quality and sovereign ratings include some information on macroeconomic fundamentals, these variables are first purged from this information in a separate regression to avoid colinearity. The results are robust to other country sovereign ratings, such as the ones produced by Fitch and Moody's.

**Box 1.2.** *(continued)*

balances as well as lower levels of public debt and inflation—and the presence of an IMF-supported program were all associated with lower levels in spreads.

- After the oil price shock, the impact of several factors has changed. In particular, the role of commodity prices is now aligned with the exporter status: lower oil and copper prices result in even higher spreads for countries that export these commodities—amplifying the effect of the sizable terms-of-trade shock—while the impact on oil importers is significantly lower, as investors recognize the windfall gains for their economies that the large oil price decline has brought. In addition, investors appear to have increased their emphasis on country fundamentals as the sensitivity of higher current account balances, international reserves, and inflation on the spreads increased significantly in the post-October 2014 period—mirroring investors' rising concerns about the delayed adjustment of some countries in the region.

A decomposition exercise highlights that the deterioration of various fundamentals has driven up spreads across all groups of sub-Saharan African frontier market economies (Figure 1.2.1). Among oil exporters, the increase in spread due to weakening fundamentals has been the largest since October 2014, reflecting the combined effect of decreasing reserves, the switch from a substantial current account surplus to a deficit, and rapidly rising public debt. For other commodity exporters, increasing debt levels, lower growth prospects, and rising inflation also contributed to the higher spreads these countries have been experiencing. But non–resource-intensive countries have been affected by investors' reassessments of fundamentals too, driven both by the large widening of their current account deficit and rising public debt.

**Table 1.2.1. Determinants of Sovereign Spreads**

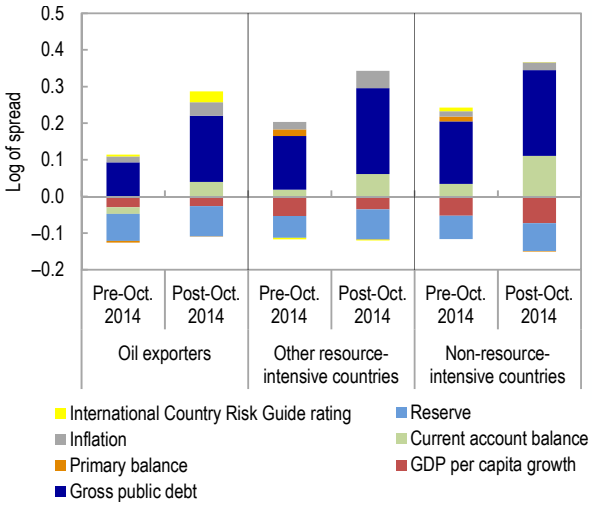
| Variables | Log of spread | Log of spread (Cont.) Determinant * Post Oct. 2014 Dummy[1] |
|---|---|---|
| Log of Spread (–1) | 0.433 ** | |
| | (0.169) | |
| VIX (–1) | 0.008 ** | –0.005 ** |
| | (0.004) | (0.002) |
| U.S. term premium (–1) | 0.035 *** | 0.140 *** |
| | (0.012) | (0.028) |
| LIBOR–OIS (–1) | 0.369 *** | –1.905 *** |
| | (0.088) | (0.410) |
| Oil price shock | –0.416 *** | 0.086 |
| | (0.078) | (0.105) |
| Oil exporter * oil price shock | –0.069 | –0.374 * |
| | (0.144) | (0.194) |
| Copper price shock | –0.263 *** | 0.319 * |
| | (0.083) | (0.178) |
| Copper exporter * copper price shock | –0.204 | –0.807 * |
| | (0.188) | (0.467) |
| Gold price shock | 0.568 *** | –0.162 |
| | (0.105) | (0.189) |
| Gold exporter * gold price shock | 0.144 | 0.515 |
| | (0.256) | (0.518) |
| GDP per capita growth (–1) | –0.016 *** | –0.002 |
| | (–0.004) | (–0.004) |
| Current account balance (–1) | –0.004 *** | –0.005 *** |
| | (–0.001) | –0.002 |
| Reserve (–1) | –0.005 *** | –0.002 ** |
| | –0.002 | –0.001 |
| Gross public debt (–1) | 0.005 *** | 0.000 |
| | (0.002) | (0.000) |
| Primary balance (–1) | –0.006 ** | 0.006 * |
| | –0.003 | (0.004) |
| Inflation (–1) | 0.002 *** | 0.003 ** |
| | (0.001) | (0.001) |
| ICRG, relative to world level | –1.855 *** | –0.180 |
| | (0.546) | (0.202) |
| Investment grade | –0.049 ** | –0.001 |
| | (0.025) | (0.022) |
| IMF arrangement announcement effect | –0.032 | 0.099 |
| | (0.029) | (0.067) |
| IMF arrangement permanent effect | –0.044 *** | 0.013 |
| | (0.015) | (0.014) |
| Countries | | 62 |
| Country fixed effects | | YES |
| Year fixed effects | | YES |
| Observations | | 4,190 |
| *R*-squared | | 0.947 |
| LM-statistics | | 16.19 |
| *F*-stat | | 16.78 |

Source: IMF staff estimates.

Note: Robust standard errors in parentheses, ***$p$< 0.01, **$p$<0.05, *$p$<0.1. ICRG = International Country Risk Guide rating; LIBOR-OIS = London interbank offered rate-overnight index; VIX= Chicago Board Options Exchange Volatility index.

[1] The impact for the period after October 2014 is the sum of the coefficients in the two columns.

**Figure 1.2.1. Sub-Saharan Africa: Contributions of Country Fundamentals to Sovereign Spreads**




Source: IMF staff calculations.

Note: See page 88 for country groupings table.

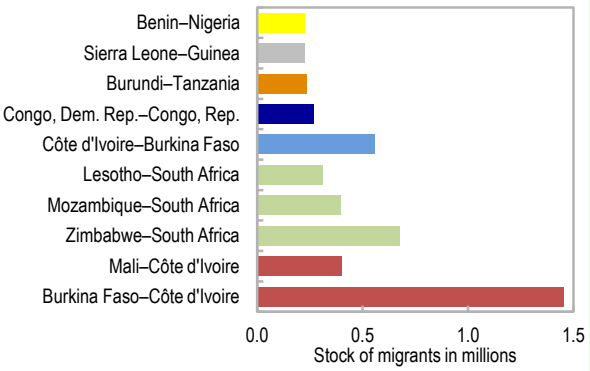
## Box 1.3. Migration and Remittance Flows in Sub-Saharan Africa[1]

### Migration happens predominantly within the region

Amid rapid population growth, migration in sub-Saharan African has increased considerably in recent decades. In 1990, 10 million sub-Saharan Africans lived outside their own country; by 2013, that number had grown to 20 million. Migration for economic reasons has risen strongly, while the proportion of refugees has fallen from half of total migration to only one-tenth during that period—owing to the sharp reduction in the number of armed conflicts in the region.

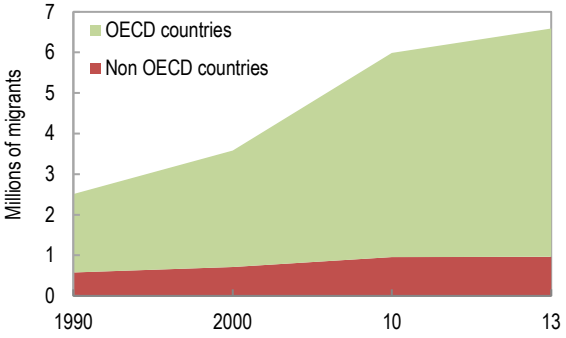
Despite misperceptions in advanced economies, migration remains predominantly within sub-Saharan Africa. Out of the 20 million sub-Saharan Africans living outside their country of origin as of 2013, 13 million resided within the region. Intraregional migration flows have been enduring, driven by the search of better economic opportunities, and helped by cultural affinities. In particular, Côte d'Ivoire and South Africa act as strong magnets for migrants from neighboring countries. For example, in 2013, Burkinabe citizens residing in Côte d'Ivoire were as numerous as 9 percent of the population in Burkina Faso, the equivalent number for Malians in Côte d'Ivoire was 3 percent, and together, these two communities accounted for 8 percent of the population in Côte d'Ivoire. Similarly, migrants from Lesotho residing in South Africa are as numerous as 16 percent of the population in their home country, 8 percent for Swaziland and 5–6 percent for Zimbabwe and Namibia (Figure 1.3.1). Meanwhile, migration outside the region is mainly directed toward advanced economies: 85 percent of migrants outside the region are located in Organisation for Economic Co-operation and Development (OECD) countries, with France, the United Kingdom, and the United States hosting half of them (Figure 1.3.2).

**Figure 1.3.1. Sub-Saharan Africa: Top Inward Migration Corridors, 2013**




Source: World Bank, Migration and Remittances database.

**Figure 1.3.2. Sub-Saharan Africa: Outward Migration by Destination**




Source: World Bank, Migration and Remittances database.

Note: OECD = Organisation for Economic Co-operation and Development.

### Remittances as powerful shock absorbers

Understanding the economic impact of migration is complex. On the one hand, in the process of migration, the labor force is reduced in the country of origin, which tends to lower potential output. Also, average productivity usually decreases as those who migrate are typically better educated and of prime working age—which is particularly the case for those migrating outside the region. Fiscal revenues are also reduced as a result of output lost. However, on the other hand, migrants send remittances back home, which supplement the income of relatives in countries of origin, contribute to poverty alleviation, and can even finance small investment projects and the education of other family members. Finally, there is evidence for a few sub-Saharan African countries that the possibility of migration tends to encourage the acquisition of human capital in the origin country.

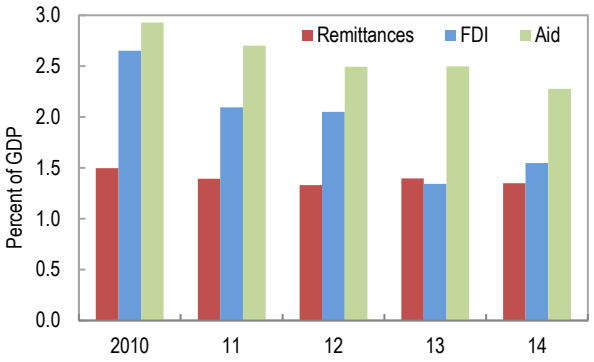
This box was prepared by Jesus Gonzalez-Garcia and Montfort Mlachila.

[1] This box draws on Gonzalez-Garcia, Hitaj, Mlachila, Viseth, and Yenice 2016.

**Box 1.3.** *(continued)*

Indeed, remittance inflows have been a relatively stable source of external earnings for sub-Saharan Africa. While both foreign direct investment and aid flows have been on a declining trend since the global financial crisis, remittance inflows from the rest of the world have been resilient, at around 1½ percent of GDP since 2010 (Figure 1.3.3). These inflows are especially important for Cabo Verde, Comoros, The Gambia, and Liberia, where remittance inflows from the rest of the world are at or above 10 percent of GDP.

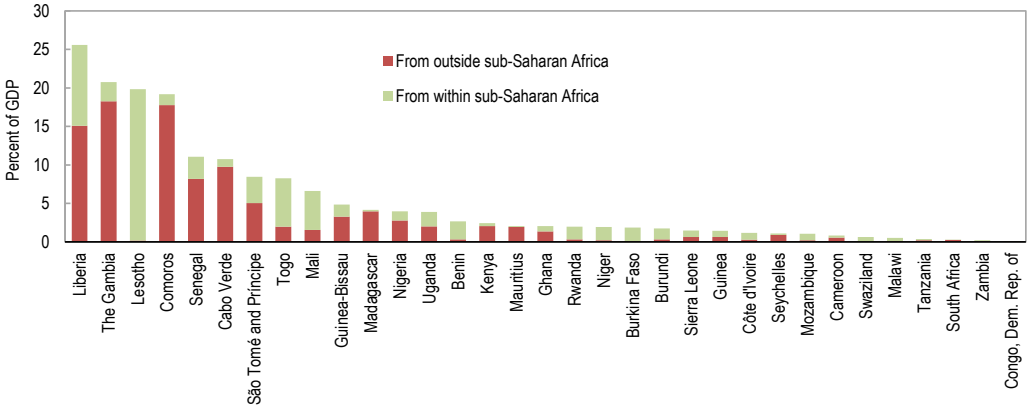
**Figure 1.3.3. Sub-Saharan Africa: Inflows, 2010–14**




Sources: World Bank data; and IMF staff calculations.
Note: FDI = foreign direct investment.

Remittance inflows from within the region are also very important for some countries and can transmit shocks from originating countries (Figure 1.3.4). For instance, Lesotho, which receives about 18 percent of its GDP in remittances from South Africa, could see a weakening of those flows due to subdued GDP growth in that country. Likewise, the ongoing economic contraction in Nigeria may take a toll on remittance flows received in Benin, The Gambia, Liberia, and Togo.

**Figure 1.3.4. Sub-Saharan Africa: Remittances Inflows, 2013–15**




Sources: World Bank data; and IMF staff calculations.

### Migration to advanced economies set to rise strongly in the context of Africa's demographic transition

To cast light on the outlook for migration in sub-Saharan Africa during the next decades, it is first necessary to identify its drivers. To that effect, we characterize in an econometric model the determinants of migration from developing to OECD countries—relating migration flows to economic development levels and other structural factors.[2] We then test whether those factors also apply to the region, and use the analysis to derive prospects for future migratory flows.

[2] More specifically, the estimates are obtained from a gravity model for migration flows estimated for 117 developing economies during 1977–2013, using a Poisson regression. The determinants of migration to OECD countries are relative per capita income and working-age population, as well as the existing diaspora in OECD countries, distance between countries, public health spending in OECD countries, and indicators for common language, previous colonial relationship, wars in sub-Saharan African countries, and landlocked countries (origin and destination). This specification is similar to those used in the literature (see, for instance, Beine, Docquier, and Ozden 2011, Flowerdew 2010, and Lewer and Van den Berg 2008).

**Box 1.3.** *(continued)*

The main drivers of migration from developing economies appear indeed to be income differentials and population pressure—as measured by the ratio of working-age population in the origin country relative to that in the destination country (Table 1.3.1). These factors seem to play a relatively similar role for sub-Saharan African migrants. On the other hand, the role of diasporas in the destination countries appear to be particularly important for sub-Saharan African migrants—as they seem to rely more on these supporting networks. Distance and the fact that many countries in the region are landlocked tend to inhibit migration flows from sub-Saharan Africa, most probably because of the very large area of the region, as well as costly and difficult transportation. Having a common language facilitates sub-Saharan African migration more than in other developing countries, but not previous colonial ties—indeed, the United States remains the main destination of outside migration for the region.

**Table 1.3.1. Determinants of Migration Flows from Developing to OECD Countries**

| | | |
|---|---|---|
| Relative income | 0.000021 | *** |
| Relative income * SSA | 0.000003 | |
| Relative WAP | 0.048 | *** |
| Relative WAP * SSA | –0.031 | ** |
| Diaspora | 0.637 | *** |
| Diaspora * SSA | 0.102 | *** |
| Distance | –0.150 | *** |
| Distance* SSA | –0.283 | *** |
| Public health exp. in dest. | –0.052 | ** |
| Public health exp. in dest.* SSA | 0.183 | *** |
| War | –0.025 | |
| War* SSA | –0.173 | |
| Common language | 0.040 | |
| Common language * SSA | 0.387 | *** |
| Colonial relationship | 0.256 | ** |
| Colonial relationship * SSA | –0.666 | *** |
| Landlocked origin country | 0.345 | *** |
| Landlocked origin country * SSA | –0.643 | *** |
| Landlocked destination country | –1.197 | *** |
| Landlocked destination country * SSA | 0.204 | |
| Number of observations | 49,108 | |

Source: IMF staff calculations.

Note: *** and ** denote significance at 5 and 1 percent levels, respectively. OECD = Organisation for Economic Co-operation and Development; SSA = sub-Saharan Africa; WAP = working-age population.

What does this analysis tell us about future migratory flows? The income differential with OECD countries will persist in the coming decades. Meanwhile, population pressure will become stronger as a result of the profound demographic transition in sub-Saharan Africa.[3] This ongoing transition implies not only strong population growth but an even stronger growth for working-age population, from which migrants typically come: sub-Saharan Africa's working-age population is projected to close to triple in the next 35 years, from 480 million currently to 1.3 billion.

In that context, migratory flows are likely to increase, especially as populations within OECD countries age during the same period. While projecting migratory flows is fraught with difficulty, we can use our model to get a sense of their order of magnitude under broadly unchanged migratory policies. Using IMF *World Economic Outlook* growth projections for both OECD and sub-Saharan African countries (extrapolated over the next decades), and population projections from the United Nations World Population Prospects, our results suggest that the number of sub-Saharan African citizens living in OECD countries could reach as much as 34 million by 2050. With such an increase, by 2050, they would correspond to 1.7 percent of the population in sub-Saharan Africa, up from 0.6 percent in 2010. The share of sub-Saharan African migrants in OECD populations would also rise to 2.4 percent by 2050, from 0.4 percent currently.

[3] For a more detailed analysis of the unfolding demographic transition in the region, see Chapter 2 of the April 2015 *Regional Economic Outlook: Sub-Saharan Africa*.

## REFERENCES


Alesina, Alberto, and Allan Drazen. 1991. "Why are Stabilizations Delayed?" *The American Economic Review* 81: 1170–88.

Alesina, Alberto, Sivlia Ardagna, and Francesco Trebbi. 2006. "Who Adjusts and When? The Political Economy of Reforms." IMF Staff Papers 53, Special Issue: 1–29, International Monetary Fund, Washington, DC.

Beine, Michel, Frederic Docquier, and Caglar Ozden. 2011. "Diasporas." *Journal of Development Economics* 95: 30–41.

Brautigam, Deborah, and Jyhjong Hwang. 2016. "Eastern Promises: New Data on Chinese Loans in Africa, 2000 to 2014," CARI Working Paper No. 4. China Africa Research Initiative, Johns Hopkins University School of Advanced International Studies, Washington

Dabla-Norris, Era, Alun Thomas, Rodrigo Garcia-Verdu, and Yingyuan Chen. 2013. "Benchmarking Structural Transformation Across the World." IMF Working Paper 13/176, International Monetary Fund, Washington, DC.

Erbenová, Michaela, Yan Liu, Nadim Kyriakos-Saad, Alejandro López-Mejía, Giancarlo Gasha, Emmanuel Mathias, Mohamed Norat, Francisca Fernando, and Yasmin Almeida. Forthcoming. "The Withdrawal of Correspondent Banking Relationships: A Case for Policy Action." IMF Staff Discussion Note, International Monetary Fund, Washington, DC.

Fernandez, Raquel and Dani Rodrik (1991). "Resistance to Reform: Status Quo Bias in the Presence of Individual-Specific Uncertainty." *The American Economic Review* 81, No. 5: 1146–55. Cambridge, MA: MIT Press.

Flowerdew, Robin. 2010. "Modelling Migration with Poisson Regression." In *Technologies for Migration and Commuting Analysis: Spatial Interaction Data Applications*, edited by John Stillwell, Oliver Duke-Williams, and Adam Dennett. Hershey, PA: IGI Global.

Gonzalez-Garcia, Jesus, Ermal Hitaj, Montfort Mlachila, Arina Viseth, and Mustafa Yenice. 2016. "Sub-Saharan Africa Migration: Patterns and Spillovers." IMF Spillover Note 9, International Monetary Fund, Washington, DC.

International Monetary Fund (IMF). 2014. "Sustaining Long-Run Growth and Macro Stability in Low-income Countries: The Role of Structural Transformation and Diversification – Background Notes." IMF Policy Paper, International Monetary Fund, Washington, DC.

_____. 2015. "Making Public Investment More Efficient," IMF Staff Report, International Monetary Fund, Washington, DC.

Jahjah, Samir, Monique Newiak, and Jing Wang. Forthcoming. "Drivers of Financing Costs in Sub-Saharan Africa—Overshooting or Fundamentals?" IMF Working Paper, International Monetary Fund, Washington, DC.

Kazandjian, Romina, Lisa Kolovich, Kalpana Kochhar, and Monique Newiak. 2016. "Gender Equality and Economic Diversification." IMF Working Paper 16/140, International Monetary Fund, Washington, DC.

Kolerus, Christina, Papa N'Diaye, and Christian Saborowski. 2016. "China's Footprint in Global Commodits Markets." IMF Spillover Note, International Monetary Fund, Washington, DC.

Lewer, Joshua, and Hendrik Van den Berg. 2008. "A Gravity Model for Migration." *Economic Letters* 99(1): 164–7.

Papageorgiou, Chris, and Nikola Spatafora. 2012. "Economic Diversification in LICs: Stylized Facts and Macroeconomic Implications." IMF Staff Discussion Note 12/13, International Monetary Fund, Washington, DC.

# 2. Exchange Rate Regimes in Sub-Saharan Africa: Experiences and Lessons

As elsewhere, exchange rate regimes in sub-Saharan African countries vary greatly, and have evolved over time. Recent IMF work on exchange rate regimes suggests that there is no single prescription, and that the appropriate regime for a country depends on the macroeconomic challenges facing the country and its particular circumstances (see Ghosh, Ostry, and Tsangarides 2010). The exchange rate regime in turn has bearing on economic outcomes, but alongside other macroeconomic policies as well as the strength and depth of institutions.

This chapter considers what bearing exchange rate regimes have had on several important macroeconomic variables in sub-Saharan African countries. Specifically, we consider the effects exchange rate regimes have had on inflation, output growth, and output growth volatility outturns, relative to other emerging market and developing economies. Relatedly, we also examine the influence exchange rate regimes have had on fiscal outcomes. And based on the findings, we discuss policy requirements to strengthen macroeconomic performance.

The main findings are as follows:

- For analytical purposes and in keeping with the literature, we classify exchange rate regimes into three groups: pegs, intermediates, and floats. As in other regions, there is considerable variation in regimes across sub-Saharan Africa and over time. One distinguishing feature relative to other developing regions is the higher prevalence of pegs: nearly 60 percent of countries in sub-Saharan Africa had a peg in 2014 compared with 47 percent in other emerging market and developing economies. Over time, as in other emerging market and developing economies, some countries with more flexible regimes tended to move toward less flexible arrangements—on an operational or de facto basis, though not always on a de jure basis, which tracks what countries announce their regime to be—particularly after the 2008 global financial crisis. For sub-Saharan African countries, this appears to reflect the tendency among many commodity exporters to lean against nominal appreciations in the face of significant foreign exchange inflows when commodity prices are high.
- Consistent with the monetary discipline and policy credibility that pegs provide, sub-Saharan African countries with pegged regimes have had lower inflation than their peers with floats or intermediate regimes. The lower-inflation benefit associated with exchange rate pegs has been greatest for the countries where the central bank de jure commits to and de facto maintains parity against an anchor currency.
- Growth performance has been mixed across regimes and over time. Our findings include the following:
  - Prior to 2000, there was not much of a per capita growth differential among countries with various types of regimes. But since around 2000, countries with more flexible exchange rate arrangements in sub-Saharan Africa have enjoyed 1–2 percentage points higher annual output per capita growth rates than pegs. Such a growth differential is not evident in other developing economies.
  - What explains this growth differential in sub-Saharan Africa? By and large, it seems attributable to some countries with pegs having had less competitive real exchange rate positions relative to countries with floating and intermediate regimes. It appears that in countries with pegs, various structural factors have kept domestic production costs and inflation higher relative to their anchor currencies,

This chapter was prepared by a team led by Dalia Hakura and coordinated by Charalambos Tsangarides, comprising of Mumtaz Hussain, Tim Willems, and Jiayi Zhang.

notwithstanding their lower inflation compared with countries with floating or intermediate regimes.

- Exposure to international capital flows among frontier market countries with de jure intermediate regimes combined with limited exchange rate adjustments appears to have led to greater output volatility compared with countries with floats.
- Floaters and peggers in sub-Saharan Africa have been associated with lower fiscal deficits than countries with intermediate regimes. For the floaters, this is consistent with the notion that fiscal indiscipline has an immediate cost in terms of exchange rate depreciations and higher inflation. For peggers, the need to subordinate macroeconomic policies to support the peg looks to have instilled more fiscal discipline. In recent years, intermediate regimes and to some extent floats in sub-Saharan Africa have been associated with less fiscal discipline than pegs, partly because of the increased availability of foreign financing that helped finance larger fiscal deficits while sustaining the exchange rate regimes. Despite this, these regimes have not been associated with a faster pace of debt accumulation than pegged regimes, which suggests that the strong growth performance of these countries helped keep debt-to-GDP ratios in check.
- The policy implications of the foregoing, particularly at the current conjuncture, are twofold:
  - For countries with less flexible exchange rate regimes, the onus is on (1) maintaining fiscal discipline and building buffers and (2) aggressive pursuit of structural reforms to improve competitiveness and facilitate economic diversification, even at times when growth is buoyant. This is all the more important given the weaker growth outcomes in countries with pegs at least since around 2000. Particularly at this juncture when low commodity prices have sharply reduced export earnings and fiscal revenues in a number of countries with pegged regimes, it is imperative to implement growth-friendly fiscal adjustment and improve the efficiency of government spending, as well as undertake comprehensive structural reforms to reduce production costs and facilitate economic diversification.
  - Countries with more flexible regimes have experienced higher inflation, and, in the case of countries with intermediate regimes, fiscal discipline has been weaker. This calls for putting in place domestic monetary policy frameworks with a strong mandate on price stability that can support the more flexible exchange rate regime. Under the current external pressures from low commodity prices and tighter external financing conditions, growth-friendly fiscal adjustment can help contain inflationary pressures associated with exchange rate depreciations.

## EVOLUTION OF EXCHANGE RATE REGIMES IN SUB-SAHARAN AFRICA

This section examines the evolution of exchange rate regimes in sub-Saharan African economies since 1980. We begin by describing broad trends in exchange rate regimes based on a three-way categorization of *pegged*, *intermediate*, and *floating* exchange rate regimes using the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) database.[1] The *pegged* exchange rate regime category comprises hard pegs (countries with a currency board or countries without a separate legal tender, including monetary unions) and conventional single-currency pegs; the *intermediate* category comprises basket pegs, pegs within bands, crawling pegs, and floats with rule-based or discretionary intervention (managed floats); and the *floating* category comprises the independent floats.

[1] The empirical analysis in this chapter relies on an extended data set of IMF exchange rate classifications obtained following the methodology in Ghosh, Qureshi, and Tsangarides 2014, using the latest available AREAER data set which ends in 2014.

We also distinguish between de jure and de facto exchange rate classifications. The de jure classification reflects what the authorities declare the exchange rate regime to be in the AREAER. By contrast, the de facto classification seeks to categorize the regime according to the behavior of the exchange rate or the behavior of the central bank based on statistical methods alongside qualitative judgment drawing on IMF country team analyses and consultations with the respective central banks.[2] Three main points can be discerned in the evolution of sub-Saharan African countries' exchange rate regimes over the past three decades or so.

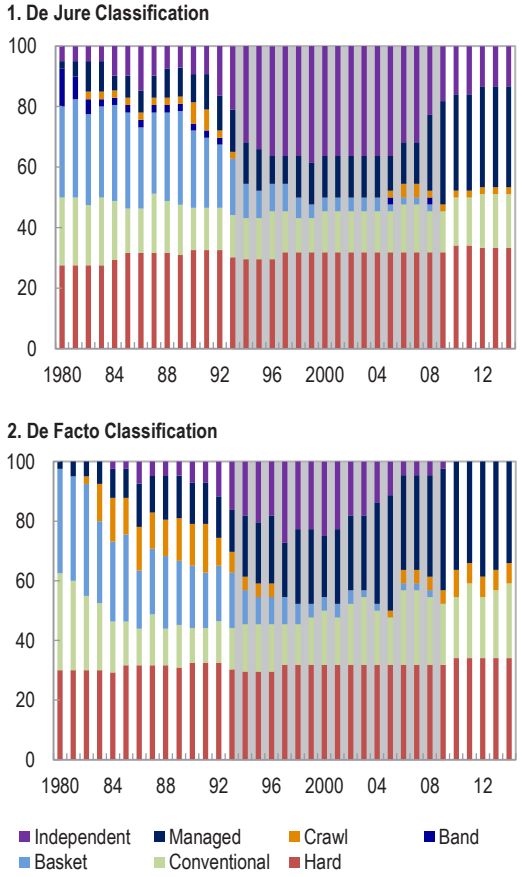
## Pegged Regimes Dominate

*More than half of all sub-Saharan African countries peg their exchange rate* (Figure 2.1). Hard pegs have been the dominant category among the sub-Saharan African pegs due to the CFA-franc zone. Conventional pegs have gained some ground, especially for the de facto classification (for example, São Tomé and Príncipe adopted a de facto peg to the euro in 2010). Among countries with pegs, the euro is the most popular anchor currency, followed by the U.S. dollar. Pegged regimes have been very resilient in sub-Saharan Africa, with more than 99 percent of all hard pegs and 87 percent of conventional pegs persisting from one year to the next. Countries in other exchange rate classifications are more likely to move to a different group over time.

*Other aspects of exchange rate regimes in sub-Saharan Africa include the following:*

- The prevalence of pegged exchange rate regimes is similar among countries that export extractive commodities (energy and metals) and those that do not. About 60 percent of commodity exporters peg to the euro—a share that is in line with nonextractive sub-Saharan African countries. All these countries are, however, part of the CFA franc zone, for which the peg was determined long before most countries in the zone became exporters of extractive commodities. Some countries outside of the zone that are reliant upon commodity exports (Angola and the Democratic Republic of the Congo) have been (de facto) pegging their currency to the U.S. dollar—at least until 2014—as do Guinea and Zimbabwe

**Figure 2.1. Sub-Saharan Africa: de Jure and de Facto Exchange Rate Regime Classifications, 1980–2014**




Sources: IMF, Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) database; and IMF staff estimates.

Note: Based on a fine classification with seven categories (1) hard pegs (exchange arrangement with no separate legal tender and currency board arrangements); (2) conventional pegs (to a single currency); (3) basket pegs; (4) pegged exchange rates within horizontal bands; (5) crawling pegs or band; (6) managed floats with no predetermined path for the exchange rate; and (7) independently floating arrangement. The shaded area represents the period during which countries moved to either a peg or to a float.

[2] De facto exchange rate classifications, including the one used here, are subject to a number of limitations. For example, in the absence of shocks to the economy, exchange rate movements could be limited and could, therefore, imply a more rigid exchange rate classification than is actually being implemented. The de facto AREAER classification partly addresses this issue because it also takes into consideration the authorities policy intentions.

(which is dollarized).[3] This may reflect that commodities are invoiced in dollars and the U.S. dollar's status as an international currency.

- Frontier market economies in sub-Saharan Africa are less likely to peg.[4] Among these economies, pegs are only observed in about 20 to 30 percent of all cases, while intermediate exchange rate arrangements are more common.

## Transitioning Away from Independent Floats

*The evolution of exchange rate regimes in sub-Saharan Africa exhibits significant transitions that have recently been characterized by a move away from independent floats.* During the mid-1990s to the mid-2000s, exchange rate regimes tended to be "bipolar"—that is, sub-Saharan African countries were moving to either a peg or to a float, thereby "hollowing out" the group of intermediate exchange rate regimes (see shaded part of Figure 2.1). During 1995–2008, about 45 and 35 percent of the countries were classified as pegs or floats, respectively, with intermediates accounting for about 20 percent.

This trend has reversed following the 2008 global financial crisis. The number of sub-Saharan African countries with an independently floating currency declined over time, while the proportion of intermediate regimes increased. In the aftermath of the global financial crisis, no fewer than eight sub-Saharan African countries (Burundi, Democratic Republic of Congo, Ghana, Guinea, Liberia, Mozambique, Rwanda, Zambia) moved away from de jure floats to adopt less flexible exchange rate regimes. In 1996, 16 countries in the region were operating a de jure independent floating exchange rate regime, and eight countries were operating a de facto independent float. By 2014, not a single sub-Saharan African country was listed as a de facto independent floater where interventions are exceptional and aim to address disorderly market conditions. However, it should be noted that South Africa's and Uganda's exchange rate regimes are de facto floating, and intervention has been rare in the past several years.[5]

Overall, the trend toward less flexible exchange rate regimes may reflect high commodity prices and the relative abundance of "liquidity searching for yield" amid unconventional monetary policies implemented in advanced economies following the global financial crisis. The resulting strength in current and capital accounts enabled many sub-Saharan African countries to lean against appreciation pressures and effect a welcome (re) building of reserves and buffers. This was associated with a higher degree of exchange rate stability. The tendency to move toward more de facto fixity was particularly prevalent among some of sub-Saharan Africa's extractive commodity exporters as oil and metal prices rose at the turn of the century (for example, Angola, the Democratic Republic of the Congo, Nigeria, and Zambia).

## Words Don't Always Match Deeds

*There is significant divergence between de jure and de facto classifications.* This divergence between de jure commitments and de facto behavior nearly always reflects cases where the central bank intervenes but does not commit to the parity—making them de jure, but not de facto, floaters (Figure 2.1 and Table 2.1). At the other end of the spectrum (pegged regimes), the consensus between de jure commitments and the de facto regime is high: in 97 percent of cases where the exchange rate regime is classified as pegged de jure, it is also pegged de facto.

Overall, developments in sub-Saharan Africa broadly mirror developments observed for the combined sample of emerging market and developing economies (Figure 2.2). Pegs are still dominant, with the strategy of pegging the exchange rate gaining popularity since the late 1990s. However, while other emerging market and developing economies also show an uptick in the number of transitions in the aftermath of the global

[3] Liberia is highly dollarized (with the U.S. dollar enjoying legal tender status), but its local currency, the Liberian dollar, floats against the U.S. dollar.

[4] We define frontier market economies as those countries that do not have emerging market status (as South Africa does), but that have issued an international sovereign bond and/or are typically featured in investment bank reports, including Angola, Cameroon, Côte d'Ivoire, Ethiopia, Gabon, Ghana, Kenya, Mauritius, Mozambique, Namibia, Nigeria, Rwanda, Senegal, Tanzania, Uganda, and Zambia.

[5] The findings of the estimations later in the chapter are robust to reclassifying South Africa and Uganda as independent floats.

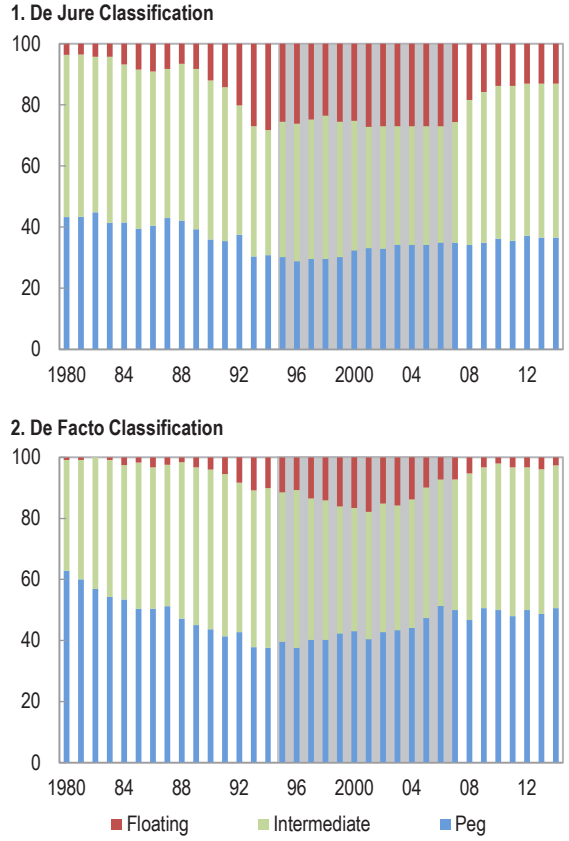
**Table 2.1. Sub-Saharan Africa: Distribution of de Jure and de Facto Exchange Rate Regime Classifications, 1980–2014**

| | De Jure classifcation | | |
|---|---|---|---|
| De Facto classification | Peg | Intermediate | Floating |
| Peg | 686 | 52 | 20 |
| Intermediate | 6 | 413 | 185 |
| Floating | 13 | 9 | 119 |
| Total | 705 | 474 | 324 |
| Percentage consensus | *97.3* | *87.1* | *36.7* |

Sources: IMF, Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) database; and IMF staff estimates.

Note: The table describes the distribution of de jure and de facto classifications. The percentage consensus shows the percentage of observations where the de jure and de facto classifications coincide.

**Figure 2.2. Emerging Market and Developing Economies: de Jure and de Facto Exchange Rate Regime Classifications, 1980–2014**




Sources: IMF, Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) database; and IMF staff estimates.

Note: Based on an aggregated three-way classification (pegs, intermediate, and floating) where pegs comprise hard pegs (countries with a currency board or countries without a separate legal tender, including monetary unions) and conventional single-currency pegs; intermediates comprise basket pegs, crawling pegs, pegs within bands, and managed floats with no predetermined path for the exchange rate; floats include the independently floating arrangements. The shaded area represents the period during which countries moved to either a peg or to a float.

financial crisis, and on balance transitioned to less flexible exchange rate regimes, individual country moves have not always been to a less flexible regime (which was the case for sub-Saharan Africa). Finally, the de facto classifications diverge significantly from the de jure classifications for the broader emerging market and developing economy sample. Similarly to the sub-Saharan Africa sample, in 98 percent of cases where the exchange rate is de jure pegged it is also de facto pegged, while in only 35 percent of cases where the exchange rate de jure floats does it also de facto float.

The distinction between de facto and de jure captures differences in "deeds versus words." While the implication may be that the de facto classification is more useful (since deeds presumably count for more than words), the de jure classification captures the central bank's commitment (for example, to a peg), and, as the policy credibility literature stresses, such commitments can affect expectations and economic outcomes. Therefore, de jure and de facto classifications inform us on different aspects of the exchange rate regime—and both are useful to capture the stated and implemented policies of the central bank. The analysis in the rest of the chapter is, therefore, performed using both classifications. Results based on the de facto classification are systematically reported, with key differences from the findings using the de jure classification highlighted.

## MACROECONOMIC PERFORMANCE UNDER ALTERNATIVE REGIMES

Although exchange rate policy is just one facet of a country's overall set of macroeconomic policies, an appropriate exchange rate regime can help a country meet particular macroeconomic goals.[6] This section conducts a comprehensive empirical analysis of how the exchange rate regime affects macroeconomic performance, particularly inflation, average growth, and output volatility in the region.

[6] The empirical literature offers no consensus on the effect of exchange rate regimes on economic performance (see Ghosh, Gulde, and Wolf 2003; Levy-Yeyati and Sturzenegger 2003; and Reinhart and Rogoff 2004).

## Inflation Performance

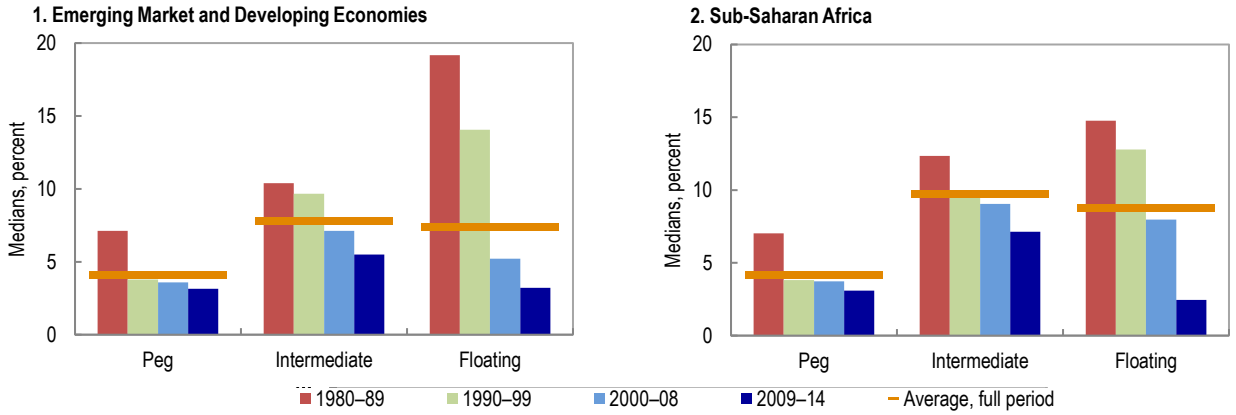
The strongest implications in the theoretical literature on the effects of the nominal exchange rate regime concern the behavior of nominal variables such as price inflation. Policy credibility models suggest that pegged exchange rates should be associated with lower inflation because they instill monetary discipline (implying a lower rate of money growth) and engender confidence in the currency (implying lower inflation expectations, higher money demand, and therefore lower inflation for a given rate of money growth (see Barro and Gordon 1983)). Under such models, pegging the exchange rate provides a pre-commitment device, allowing the central bank to import the credibility of the anchor currency.

Inflation is consistently lower among sub-Saharan African countries with pegs (Figure 2.3). Over the full period of analysis, the median country with a pegged exchange rate regime in the region has lower inflation than floats or intermediates, by about 5–6 percentage points. This implies that inflation in pegs is half as much as in nonpegs. Similar conclusions broadly hold when examining subperiods (such as 1980–89, 1990–99, and 2000–08). Even during the general disinflationary period since the late 1990s, pegs in sub-Saharan Africa have, on average, continued to exhibit considerably lower inflation than intermediates and floats. Pegs are also associated with lower inflation in the broader sample of emerging market and developing economies: on average, countries with pegged regimes have about 4 percentage points lower inflation compared with floats (and 3.5 percentage points lower compared with intermediates).

To investigate the relationship between inflation and exchange rate regimes controlling for potential determinants, we follow the approach in Ghosh, Gulde, and Wolf 2003, and Ghosh, Ostry and Tsangarides 2011. In particular, we undertake a regression analysis of the relationship between inflation and the exchange rate regimes (with the floating regime as the reference or base category), controlling for other factors that are likely to determine inflation, namely, the growth in broad money, real GDP growth, trade openness, central bank independence (proxied by the central bank governor turnover rate), the fiscal balance, and terms-of-trade shocks. The regression estimations take into account the direct "confidence" effect of exchange rate regimes reducing inflation for a given rate of money growth and the indirect "disciplining" effect of the regime from a lower rate of money growth. Details about the specification and the empirical methodology are provided in Annex 2.1.

Inflation is also found to be lower under pegs in the regression analysis. For sub-Saharan African countries, the direct (or confidence) effect, of a de facto peg is 5 percentage points lower inflation than it would be under a floating exchange rate regime,

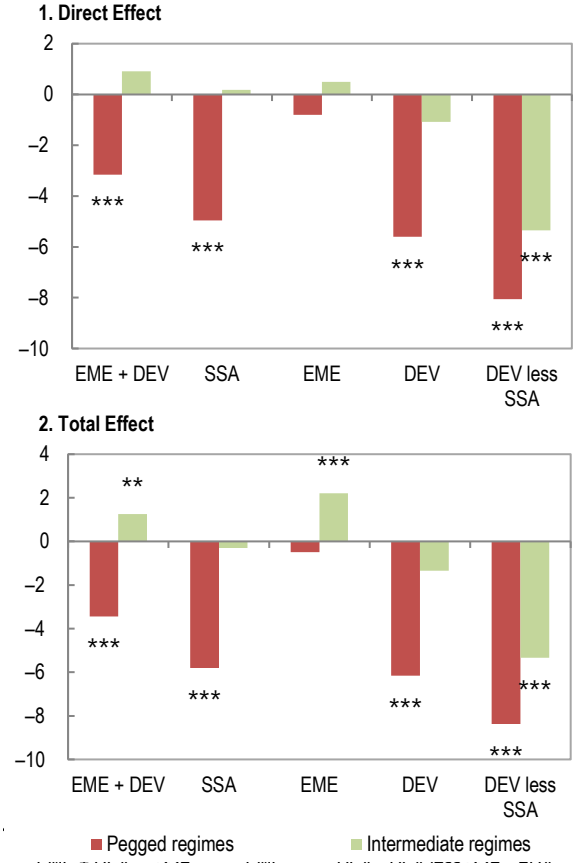
**Figure 2.3. Selected Samples: Inflation Performance**




Sources: IMF, Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) database; and IMF, World Economic Outlook database.
Note: Median estimates over indicated sample periods for the de facto classification. Inflation is transformed as inflation/(1+inflation).

while the total effect, including through lower money growth (the discipline effect), becomes 5.8 percentage points, after controlling for all of the other determinants of inflation (Figure 2.4). Under the de jure classification, the association between low inflation and regime is slightly stronger for de jure pegs than for de facto pegs, with inflation 7.2 percentage points lower in pegs than floats. This reflects the fact that the formal commitment to maintain the parity under a de jure peg is costly to break and leads to better inflation performance. Similarly, dropping the de facto pegged observations that are not classified as de jure pegs, the direct (or confidence) effect of a de facto peg for the sub-Saharan Africa sample becomes 5.2 percentage points, while the total effect, including through the impact on money growth, becomes 6.1 percentage points (compared with 5.0 and 5.8, respectively, in the baseline). Conversely, de jure intermediate regimes in sub-Saharan Africa are not associated with lower inflation when compared with floats.

**Figure 2.4. Selected Samples: Estimated Inflation Differential Compared with Floats Based on Baseline Inflation Regressions**




Source: IMF staff estimates.

Note: The bars show the inflation differential relative to floating regimes conditioning on a range of other variables, based on the de facto classification. See Annex 2.1 for further details. EME + DEV = emerging market and developing economies; SSA = sub-Saharan Africa; EME = emerging markets; DEV = developing economies; DEV less SSA = developing economies excluding SSA. The total effect includes the direct effect of exchange rate regime on inflation, plus the indirect effect through money growth. *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Findings for sub-Saharan Africa are generally consistent with the findings for the broader emerging market and developing economies sample, with the exception of de jure intermediate regimes that are also associated with lower inflation than floats (but the effect is smaller compared with de jure pegs in that sample). However, the effect is positive (and significant) under the de facto classification—implying higher inflation than under a float. In addition, the effect of de facto pegs in sub-Saharan Africa is almost twice as large compared with the broader emerging market and developing economies sample, underscoring the importance for keeping the commitment to a peg. In other words, de facto pegs in which the central bank is also making a formal commitment are indeed associated with lower inflation than floating regimes, particularly in sub-Saharan Africa.[7]

The results suggest that pegging the exchange rate has been useful for sub-Saharan African countries to achieve and maintain relatively low inflation. These findings hold strongly, even after a series of robustness tests and alternative specifications.

- Restricting the sample to observations where inflation is below 10 percent per year does not alter the basic picture; even then, pegged exchange rate regimes are associated with lower inflation than floating regimes in sub-Saharan Africa, supporting the notion that the exchange rate regime has an effect even for periods with low inflation. Alternatively, restricting

[7] There is growing cross-country evidence in the literature that inflation and income inequality are positively related (even when controlling for other factors, such as the overall level of development) with the direction of causality going from inflation to inequality (Albanesi 2007). While our analysis did not explore the association between inflation and inequality directly, our findings of lower inflation under pegs may suggest another benefit of lower inflation, that is, lower inequality.

the analysis to the period 1990–2014 (thus excluding the 1980s, when inflation rates were higher on average) also preserves the results.

- Excluding cases in which countries must float because they are in a state of economic and financial collapse—in other words, freely collapsing regimes—does not overturn the finding of lower inflation under pegged regimes: excluding those cases, pegs in sub-Saharan Africa continue to be associated with 6 percentage points lower inflation than floats.
- Although hard pegs tend to have the lowest inflation rates among pegged exchange rate regimes, they are not solely responsible for the better inflation performance of the pegged regimes in sub-Saharan Africa. Indeed, dropping the CFA franc zone countries from the sub-Saharan Africa sample still leaves an inflation differential of 3–4 percentage points in favor of pegs.
- If countries that have good inflation performance are also more inclined (or able) to peg their exchange rate, then the estimated effects of the regime may be biased (see Annex 2.1 for more details). Yet taking account of regime endogeneity using a simultaneous equation framework actually strengthens the findings; across the various samples, pegs are associated with significantly lower inflation than intermediate or floating regimes.

## Growth Performance

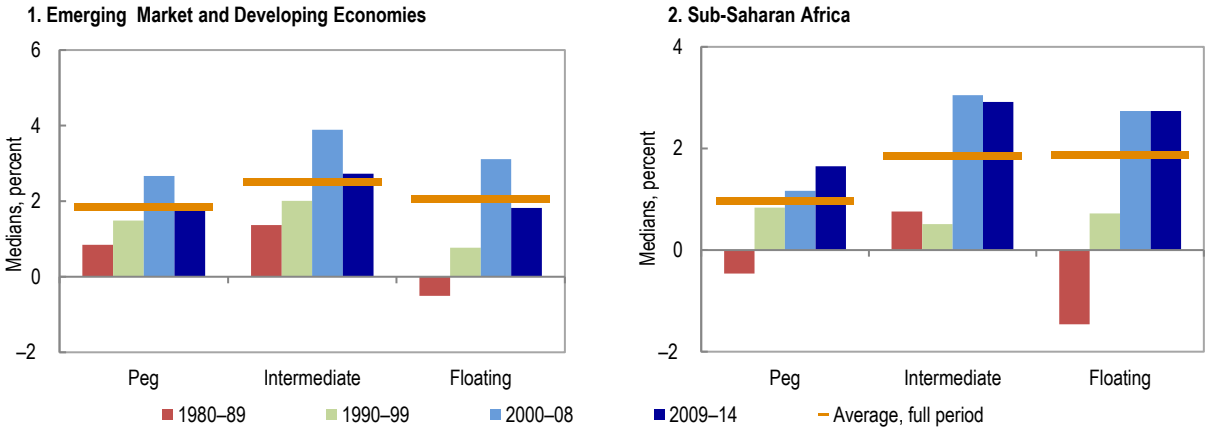
Per capita output growth performance in sub-Saharan Africa among countries with different types of exchange rate regimes has varied over time (Figure 2.5). In particular, three stylized facts are worthy of note. First, there was limited differentiation in growth outcomes between countries with pegs and countries with more flexible regimes in the 1980s and 1990s. Second, since around 2000, however, per capita growth performance among countries with pegs has been 1 to 2 percentage points lower than in countries with intermediate and floating regimes, primarily owing to weaker growth among the CFA franc zone countries. And third, among some of the CFA franc zone countries, there has been significant variation in growth outcomes, and overall, these countries' median growth was better than in the rest of sub-Saharan Africa in the 1960s and 1970s (by some 0.5 to 1.0 percentage point).

While the theoretical literature linking the nominal exchange rate regime to long-term growth is less developed, there are several possible channels. One is through the regime's impact on trade openness and low inflation—both of which are generally associated with higher growth in the empirical literature. The exchange rate regime may also affect growth volatility; if nominal or real exchange rate volatility is detrimental to growth, then floating regimes may be associated with lower growth. There is also some evidence on the importance of a competitive real exchange rate for fostering growth; if pegged exchange rates are more susceptible to overvaluation because of higher inflation than the anchor currency, it is likely to hurt competitiveness and lower growth.

To examine whether the exchange rate regime is linked to growth performance and through which channels, we investigate how these variables (which are potential channels) differ across exchange rate regimes. Five such channels are considered, namely, competitiveness (defined as the deviation of the real exchange rate from purchasing power parity, adjusted for per capita income), real and nominal volatility, inflation, and trade openness, which are shown to differ systematically by exchange rate regime (Figure 2.6). We find that pegged regimes are associated with lower real exchange rate volatility, lower inflation, and greater trade openness relative to floating regimes but also that their real exchange rate positions are less competitive; intermediate regimes have more competitive real exchange rate positions and price volatility, and greater trade openness relative to floating regimes.[8]

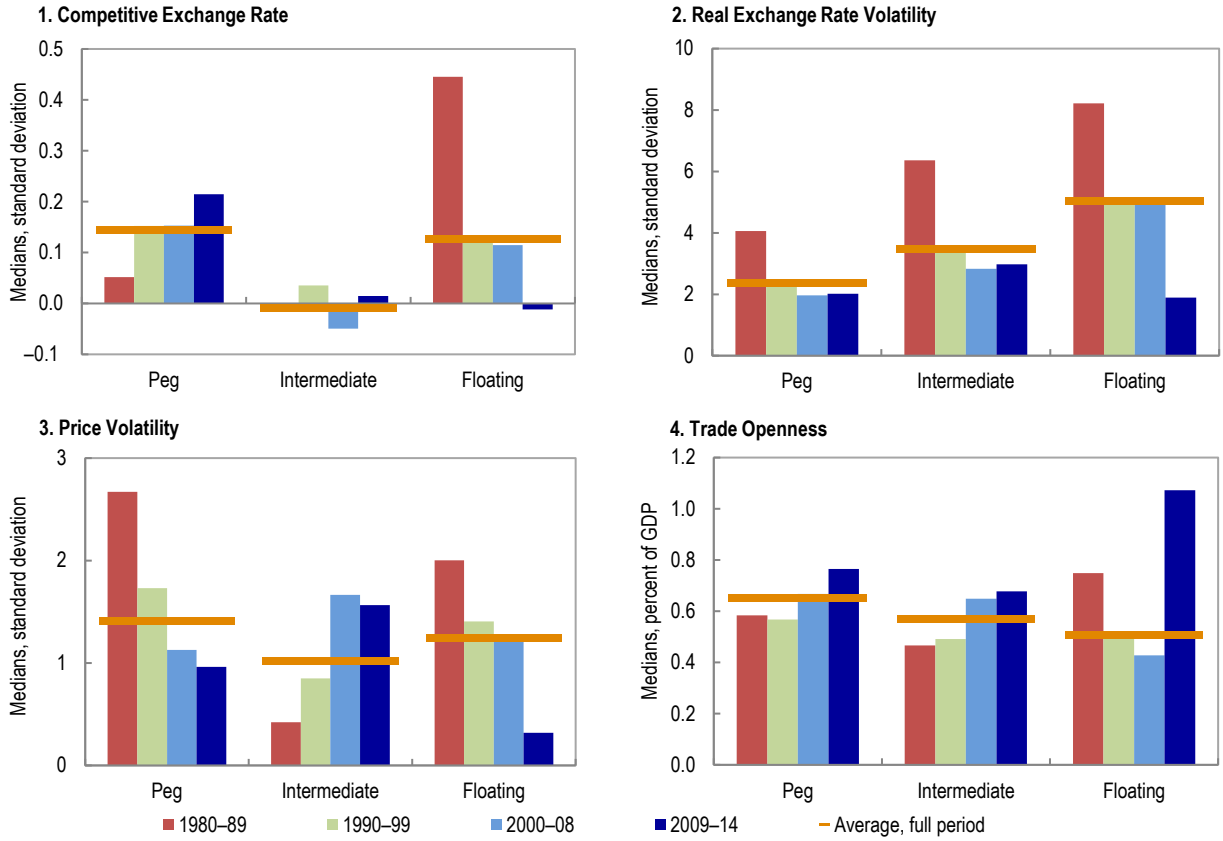
[8] These results are based on unconditional associations between the channel and the regime. In addition, regressions of each of these channels (overvaluation, real exchange rate and price volatility, inflation, and trade openness) on the exchange rate regime dummies, while controlling for all other variables in the growth regression, confirm the unconditional associations (see Table 2 in Annex 2.1).

**Figure 2.5. Selected Samples: Per Capita GDP Growth Performance**




Sources: IMF, Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) database; and IMF, World Economic Outlook database.
Note: Median estimates over indicated sample periods for the de facto classification.

**Figure 2.6. Sub-Saharan Africa: Indirect Channels of Transmission of Exchange Rate Regime to Growth**

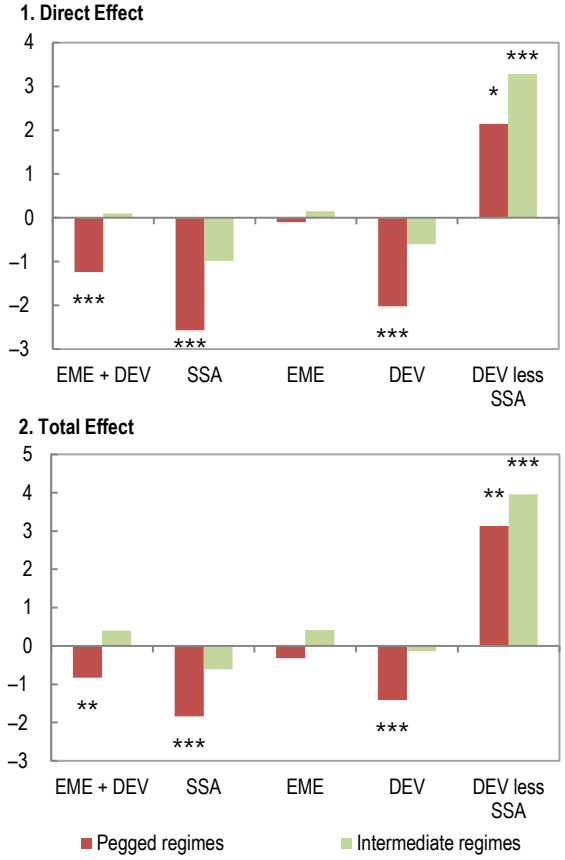



Sources: IMF, Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) database; and IMF, World Economic Outlook database.
Note: Median estimates over indicated sample periods for the de facto classification. The variable capturing the competitiveness of the exchange rate is defined as the deviation of the real exchange rate from purchasing power parity, adjusted for per capita income, where higher positive values indicate less competitive real exchange rates. Volatility measured as standard deviation of monthly growth rates. Trade openness is measured as the sum of exports and imports as a percent of GDP.

Since the channel variables differ systematically across regimes, we investigate growth regressions that also take into account the indirect effect that the exchange rate regimes have on growth through these channels. Specifically, we estimate the relationship between per capita output growth and the exchange rate regime, taking into account these various channel variables (competitiveness, real and nominal volatility, inflation, and trade openness) and controlling for other growth determinants, namely, initial income, investment ratio, population growth, human capital (proxied by average years of schooling), the fiscal balance, and government expenditure as a fraction of output. The key findings for sub-Saharan Africa are as follows:[9]

- Countries with pegs are associated with lower per capita growth directly of about 2.3 percentage points per year compared with floats (Figure 2.7). Taking into account the indirect effects of the regime operating through the various channels, per capita growth under pegs is lower by about 1.6 percentage points relative to floats. Overall, for pegs in sub-Saharan Africa, the net effect of various offsetting factors on per capita growth is negative: while the lower inflation and real exchange rate volatility promote growth, the less competitive real exchange rate hurts competitiveness and impedes growth. Pegs in the region have less competitive exchange rates primarily because inflation rates have been higher compared with their anchor currencies.[10] For sub-Saharan African countries with intermediate regimes, per capita growth is higher than pegs and about the same as floats (mainly on account of more competitive exchange rates than pegged regimes).
- Similar results are obtained when we examine per capita output growth rates over a five-year horizon. Pegs are associated with about 2 percentage points lower per capita growth per year for sub-Saharan Africa (and about 1 percentage point in the broader emerging market and developing economy sample).

**Figure 2.7. Selected Samples: Estimated per Capita Growth Differential Compared with Floats Based on Baseline Output Growth Regressions**




Source: IMF staff estimates.

Note: The bars show differences in performance relative to floating regimes conditioning on a range of other variables, based on the de facto classification. See Annex 2.1 for further details.
EME + DEV = emerging market and developing economies; SSA = sub-Saharan Africa; EME = emerging markets; DEV = developing economies; DEV less SSA = developing economies excluding SSA. The total effect includes the direct effect of exchange rate regime on growth, plus the indirect effect through the channels. *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

[9] The findings are robust to alternative specifications, including considering the possibility that the choice of regime is endogenous to the country's growth performance; excluding freely collapsing regimes; and limiting the sample to the consensus classification, that is, when de jure and de facto agree. In addition, we alter the specification to include proxies for capital flows and capital account openness, geographical characteristics (such as percentage of land in geographical tropics and an indicator variable for landlocked countries), as well as variables to proxy for institutions, conflict, and colonial ties. Results remain unchanged.

[10] All other things equal, the maintenance of long-standing pegs along with the move to greater exchange rate fixity in other sub-Saharan African countries since the global financial crisis helped these countries to (re)build reserves and buffers when commodity prices firmed and external financing became more abundantly available and may have contributed to keeping the inflation differential in these countries lower than it would have been.

What drives the finding that countries with pegs have lower output growth than floats in sub-Saharan Africa? Looking at the unconditional median growth plots in Figure 2.5, median per capita growth in pegs was about 0.9 percent during 1980–2014, substantially lower than that of intermediates and floats (2 and 1.8 percent, respectively). This growth differential between pegs and floats was even more pronounced in the later period, 1998–2014, when pegs had about 1–2 percentage points lower per capita growth than nonpegs—driven by the fact that countries with intermediate and floating exchange rate arrangements, such as Botswana, Ghana, Mauritius, Nigeria, and Tanzania, averaged per capita output growth rates of 3 percent or more during 1998–2014.

These observations are confirmed in the empirical analysis. First, as suggested by the evidence in the raw data we split the sample into two subperiods and rerun the analysis. Doing so, we find that the result that pegs are associated with lower growth is driven by the second subperiod (1998–2014); pegs are *not* associated with lower growth than floats in the first subperiod (1980–97). Second, the growth difference of pegs compared with floats disappears when hard pegs are excluded from the sample. Looking at the channels through which the exchange rate regimes affect growth shows that during the second subperiod pegs, and in particular hard pegs, were associated with less competitive (more overvalued) real exchange rates and higher relative price volatility relative to floats, which both hurt growth.[11] This effect outweighs the positive effect of lower inflation, lower real exchange rate volatility, and greater trade openness on pegs' growth relative to floats. In addition, over the second subperiod, floats have benefited from more improved terms of trade relative to pegs, which, holding other things constant, helped raise growth in floats more than pegs.[12] These observations underscore the importance for countries with pegged regimes to not only implement macroeconomic policies that help keep inflation at or below the levels of trading partners, but also to redouble efforts to improve competitiveness through better business climates and infrastructure quality.

For the broader samples of emerging market and developing economies, results are similar, with pegs associated with lower per capita growth than floats. For these samples, the effect of a peg is to lower per capita growth by about 1 to 1.5 percentage points, while intermediates' growth performance is no different from that of floats. In addition, no difference is found between the growth performance of sub-Saharan African countries with de facto peg and intermediate regimes compared with these regimes in other emerging market and developing economies.

## Growth Volatility

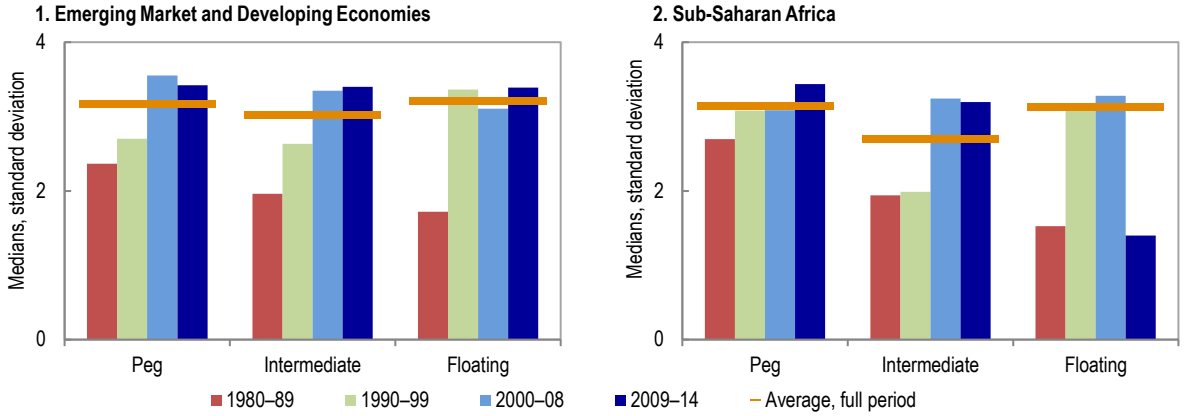
Beyond average growth performance, the volatility of real per capita output growth may be of interest. Relatedly, the nature and magnitude of shocks facing the economy is an important consideration in choosing an exchange rate regime. Theory suggests that real external shocks such as those to terms of trade are better accommodated with flexible exchange rate regimes; a fixed exchange rate regime may be more suitable when the economy faces nominal shocks, such as those originating from fluctuations in money demand. Accordingly, the relative importance of real and nominal shocks would be an important factor in determining which exchange rate regime would serve a country better.

We begin by examining the volatility of output relative to its long-term trend for different exchange rate regimes (Figure 2.8). Overall differences

[11] The fraction of pegs in the sample with overvaluation exceeding 10 percent rose from 46 percent in the first subperiod to 65 percent in the second subperiod.

[12] In addition, we evaluate the importance of each of the growth determinants in our analysis by identifying the variable's effect on growth when the variable in question increases from its sample median value to the 75th percentile (holding all others constant). Results suggest that in addition to initial income (which captures convergence effects) and proxies for physical and human capital, the channels we formally explore in the specification (particularly, competitiveness and trade openness) as well as terms-of-trade growth are important contributors in explaining growth.

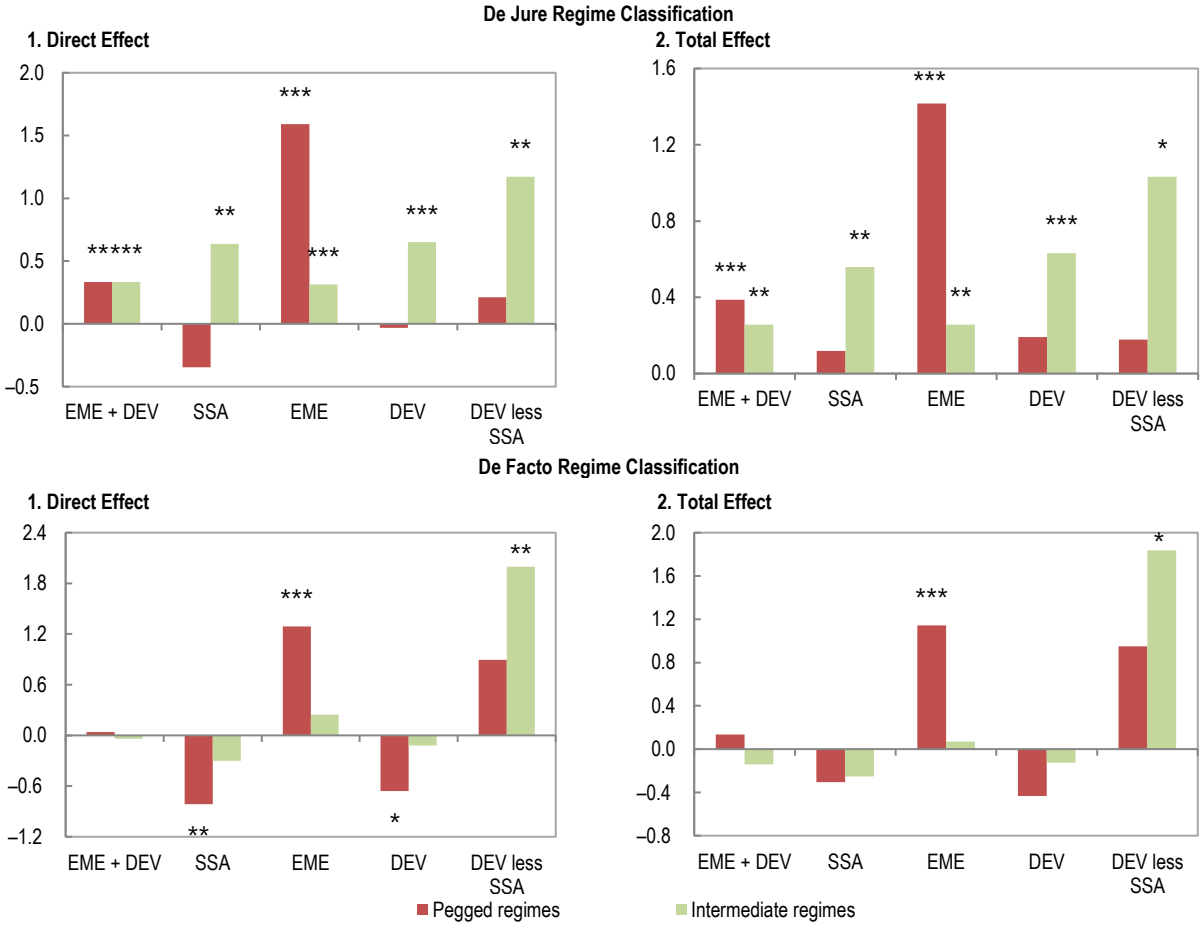
**Figure 2.8. Selected Samples: Real per Capita Output Growth Volatility**




Sources: IMF, Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) database; and IMF, World Economic Outlook database.

Note: Median estimates over indicated sample periods for the de facto classification. Volatility defined as three-year centered standard deviation of output relative to its long-term trend.

**Figure 2.9. Selected Samples: Estimated Output Volatility Differential Compared with Floats Based on Baseline Volatility Regressions**




Source: IMF staff estimates.

Note: The bars show differences in output volatility relative to floating regimes conditioning on a range of other variables. See Annex 2.1 for further details. EME + DEV = emerging market and developing economies; SSA = sub-Saharan Africa; EME = emerging markets; DEV = developing economies; DEV less SSA = developing economies excluding SSA. The total effect includes the direct effect of exchange rate regime on growth volatility, plus the indirect effect through the channels.*, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

between exchange rate regimes are very small, and no strong patterns can be identified; generally, there is some evidence of lower output volatility under floating regimes for sub-Saharan Africa and the broader sample.[13]

The main findings from an output growth volatility regression analysis that follows a similar specification as Rogoff and others 2003 and that uses the same determinants as in the growth section suggest the following:

- Sub-Saharan African countries with de jure intermediate regimes (but not de facto intermediates) tend to have higher output volatility compared with floats (Figure 2.9). This is possibly related to the greater exposure of many of the frontier markets in this group to international capital flows coupled with less scope for exchange rate adjustments to absorb shocks. Countries with pegged exchange rate regimes have not been associated with more output volatility than countries with floats, possibly because of their more limited direct exposure to cross-border capital flows.
- Commodity exporters' output volatility was, overall, about half a percentage point higher than in other countries, primarily driven by the later period of the sample. There is no differentiation among commodity exporters with pegs or intermediates. However, both effects are reduced or disappear altogether when the consensus sample is considered or the post-global financial crisis period is excluded (see also Figure 2.8).
- For the emerging market and developing economies sample, countries with both de jure pegs and intermediates experience higher output volatility than floats: compared with a float, the standard deviation of output growth increases by 0.3 percentage point under a de jure peg or intermediate. These results (which are more robust than those in the sub-Saharan Africa sample) are primarily driven by the emerging market economies sample, where both de jure and de facto pegs are associated with higher output volatility (while only de jure intermediates are associated with higher output volatility).

We further augment the specification to include proxies of nominal and real shocks, namely, the volatility of the terms of trade and the volatility of the fiscal balance as real shocks, and the volatility of broad money velocity as a nominal shock. While each of these variables contributes significantly to the volatility of output growth, controlling for these shocks does not change the results—intermediate regimes are associated with higher output volatility.

## EXCHANGE RATE REGIMES AND FISCAL DISCIPLINE

Since exchange rate arrangements are only part of the overall macroeconomic policy package, a relevant question is how the exchange rate regime affects the scope for monetary and fiscal policies. In terms of monetary policy, the "impossible trinity" implies that a country cannot have a pegged exchange rate, an open capital account, and an independent monetary policy at the same time.[14] In terms of fiscal policy, it is well known that a peg will not be sustainable when the government is money-financing the fiscal deficit, or if fiscal policy dynamics over time lead to price developments that are not consistent with the exchange rate peg. The analysis in this section focuses on the extent to which different regimes have been associated with different fiscal outcomes in sub-Saharan Africa. This can inform how policies should be calibrated to make the exchange rate regimes "work" in the face of the current low international commodity prices and tightening external financing conditions.

There is an extensive debate in the literature on which exchange rate arrangement implies more fiscal discipline. Empirical evidence from the literature is not conclusive either (Annex 2.2):

[13] Results using the three-year centered standard deviation of output growth are similar and, therefore, not reported.

[14] We do not investigate the implications of the exchange rate regime for monetary policy in this chapter. Empirically, Ghosh, Ostry, and Tsangarides (2010) find that pegged exchange rate regimes seem to constrain the ability of monetary policy to react to domestic macroeconomic conditions considerably more than either intermediate or floating regimes do.

- One view is that pegged exchange rate regimes induce fiscal discipline because lax fiscal policies can lead to a depletion of foreign reserves or excessive buildup of public debt that can ultimately result in a collapse of the peg (such as Vuletin 2013). Lax fiscal policy can also lead to higher domestic inflation, often resulting in real appreciation and a higher current account deficit.
- Another view is that flexible exchange rate regimes provide more discipline by forcing the cost of fiscal profligacy to be paid immediately (Tornell and Velasco 2000). Lax fiscal policies have political costs in terms of inflation under both regimes, but under flexible regimes, these costs manifest themselves immediately through the inflationary impact of increased spending and concomitant exchange rate depreciation.

The question therefore is, how important is the exchange rate regime as a fiscal disciplining device in practice? In terms of medians, overall balances, and primary fiscal balances (which exclude interest payments to abstract from the effects of past fiscal policy decisions) show that floating exchange rate regimes are associated with the most fiscal discipline in sub-Saharan Africa (Figure 2.10).[15]

Beyond the average size of the deficit, does the exchange rate regime hold implications for the conduct of fiscal policy? To answer this question our empirical methodology follows previous research (such as Vuletin 2013) to examine the relationship between the overall fiscal balance—and, alternatively, the primary fiscal balance—and the exchange rate regime, controlling for key determinants. Variables that control for the position in the global and country-specific business cycles are also included in the estimations. In line with the literature, this allows capture of the independent disciplining effect of the exchange rate regimes.

Annex 2.2 discusses the empirical methodology and specification used for the fiscal discipline investigation in more detail.

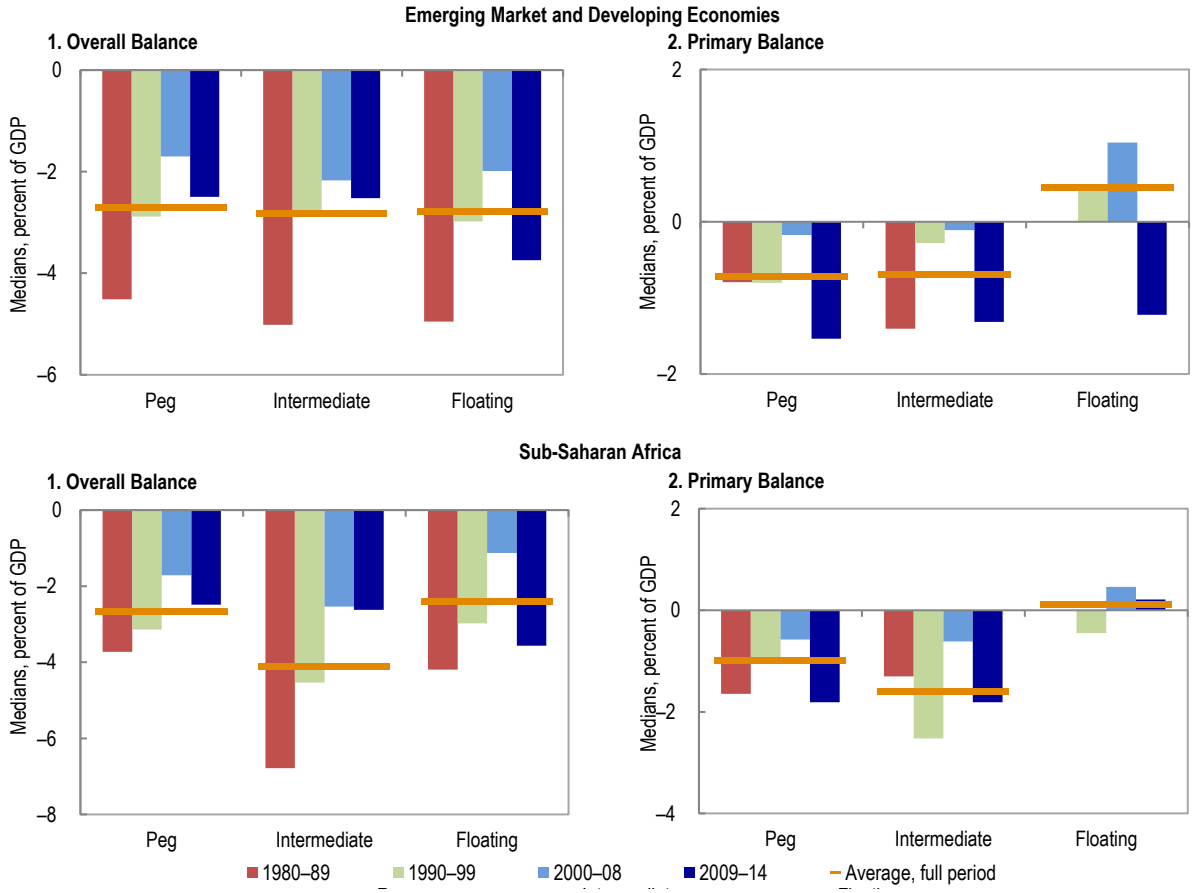
The main findings of the empirical analysis are as follows:

- For the full sample of emerging market and developing economies, extreme exchange rate regimes (hard pegs and independent floats) are more strongly associated with fiscal discipline (Figure 2.11). The findings are based on a regression of the relationship between the disaggregated classification of consensus exchange rate regimes and overall fiscal balance. Exchange rate classifications range from 1 (hard peg) to 7 (independent float). This allows for greater differentiation in the effects of regimes on fiscal balances. The regression also includes a square term to capture the possibility of a nonlinear relationship between exchange rate regimes and fiscal discipline. These results are preserved when the primary fiscal balance is used as an indicator of fiscal discipline.
- In sub-Saharan African countries, unlike in other emerging market and developing economies, intermediate regimes are strongly associated with weaker (overall and primary) fiscal balances than hard pegs or pure floats.[16] Intermediate exchange rate regimes in the region are associated with, on average, 2 percentage points of GDP weaker (primary and overall) fiscal balances relative to floats. This difference is slightly smaller with respect to pegs (Figure 2.11). While floats are generally associated with more discipline in both sub-Saharan Africa and the broader sample of countries, only the sub-Saharan African pegs help to instill more fiscal discipline. This result is partly driven by the fact that pegs in the region are mostly hard pegs (about 60 percent of all pegs). The CFA zone limits fiscal policy expansion because of reduced scope

[15] While it may be useful to also investigate nonresource fiscal balances (which exclude potentially volatile fiscal revenues), comprehensive and consistent data are not available to carry out such analysis. In any case, sub-Saharan Africa's commodity exporters are dispersed across the regimes. Also, the regression estimations reported later in this section are robust to dropping the oil exporters from the sample.

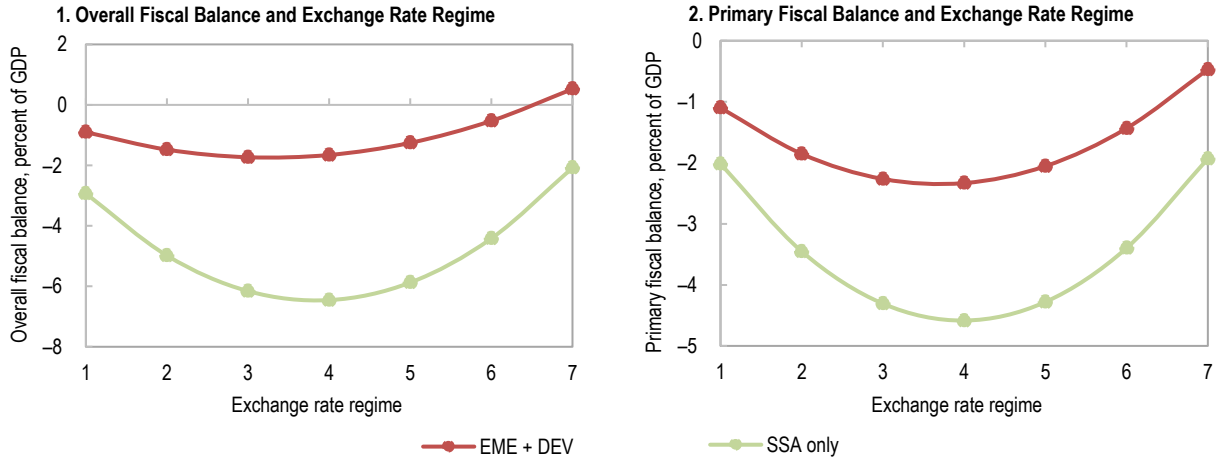
[16] In fact, when only the non-sub-Saharan Africa sample is considered, the association between fiscal discipline and exchange rate regimes is rather linear, suggesting that more flexible regimes have a stronger relationship with fiscal discipline.

**Figure 2.10. Various Samples: Fiscal Performance**




Sources: IMF, Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) database; and IMF, World Economic Outlook database.
Note: Median estimates over indicated sample periods for the de facto classification.

**Figure 2.11. Exchange Rate Regimes and Fiscal Performance**




Source: IMF staff estimates.

Note: The lines show the estimated effect of exchange rate regimes on fiscal balances, for emerging market and developing economies (EME + DEV) and sub-Saharan African (SSA) countries, conditioning on a range of other variables. The disaggregated exchange rate regime classification and the consensus sample (that is, observations where the de jure and de facto classifications agree) are used. See Annex 2.2 for further details.

for seigniorage, deficit financing, and debt monetization, and member states' fiscal policies are guided by "convergence criteria" to help keep inflation low and sustain the peg.

- Is the association between exchange rate regimes and fiscal discipline changing? While the results for the 1980–2000 subperiod preserve the finding that floats are associated with more fiscal discipline, pegs appear to be associated with more fiscal discipline since 2001. By contrast, the finding that sub-Saharan African countries with intermediate regimes exhibit the least fiscal discipline (including after controlling for the economic cycle) mainly appears in the second subperiod. The shift in the findings for the sub-Saharan African region is predominantly driven by two major developments: first, the boom in commodity prices since the 2000s led to a considerable improvement in the fiscal position of sub-Saharan African commodity exporters that maintained their (hard) peg regimes (more than 2 percentage points of GDP improvement).[17] Second, the reduction in debt levels brought about by the Heavily Indebted Poor Countries/Multilateral Debt Relief Initiative and easy global financial conditions for most of the 2000s allowed many sub-Saharan African countries with relatively more flexible exchange rate regimes to run larger deficits financed by Eurobonds, syndicated loans, and new borrowing from nontraditional donors (May 2013 *Regional Economic Outlook: Sub-Saharan Africa*). Indeed, more than half of the sub-Saharan African countries with intermediate regimes have accessed international markets and become "frontier market economies."
- Fiscal discipline can also be assessed through the pace of public debt accumulation and, over time, sustainability of debt levels. When using the change in the debt-to-GDP ratio as the measure of fiscal discipline, the evidence suggests that there have been no substantial differences in the pace of debt buildup among the three types of regimes in sub-Saharan Africa. This contrasts with the finding from the full sample of emerging market and developing economies where flexible regimes have been associated with slower accumulation of debt than the other regimes. However, to the extent that debt-financed fiscal expansions lead to sustained higher growth, debt levels may not be rising as rapidly as would otherwise be the case. This might explain why intermediate regimes in sub-Saharan Africa have not been associated with a faster pace of debt accumulation than pegged regimes, despite weaker fiscal balances.
- The findings reported here are robust to different regression specifications as well as different measures of fiscal discipline (Annex 2.2). Replacing the exchange rate regime dummies with their lagged values, which can help mitigate reverse causality concerns that fiscal performance may influence the regime, do not alter the findings.[18] Also, using the fiscal balance defined in percent of trend GDP as in Vuletin 2013, the de jure and the de facto regime classifications, respectively, and more aggregated regime classifications based on three categories (pegs, intermediate, and float) do not change the results for sub-Saharan Africa.

[17] In contrast to sub-Saharan Africa, non-sub-Saharan African commodity exporters have moved to a relatively more flexible regime (from median regime of 3 in first subperiod (1980–2000) to median regime of 6 in the second subperiod of 2001–14). The average fiscal position improved by nearly 3 percentage points for non-sub-Saharan African commodity exporters.

[18] Reverse causality concerns can arise if, for example, countries with weaker institutions, which are more prone to fiscal slippages, tend to have fixed exchange rates.

## POLICY CONSIDERATIONS AND CONCLUDING REMARKS

Sub-Saharan African countries' exchange rate regimes cover a broad spectrum and have evolved over time. While pegged regimes remain the most persistent and dominant in the region, intermediate regimes have gained importance as several countries have moved away from floats, particularly after the global financial crisis.

This chapter highlights the differences in outcomes across regimes with regard to achieving low inflation, sustained high growth, and low output growth volatility. It also shows that exchange rate regimes have been associated with different degrees of fiscal discipline.

- **Pegs**—Sub-Saharan African countries with pegged exchange rate regimes have had the best inflation performance with little apparent cost in terms of higher output volatility, presumably because of their low exposure to international capital markets. The lower inflation stems from stronger monetary discipline and greater policy credibility under a pegged exchange rate regime, where the peg serves as a nominal anchor for monetary policy. The evidence also suggests that pegs have provided a disciplining device for fiscal policy to sustain the exchange rate regime. However, the growth performance of countries with pegged regimes has, on average, been weaker than of countries with nonpegged regimes during the second half of the sample period (2000–14). This said, sub-Saharan Africa's peggers' growth experience has been quite varied, with several countries that were able to maintain competitiveness able to enjoy periods of strong growth (Box 2.1).
- **Intermediates and floats**—Sub-Saharan African countries with intermediate regimes and floats have, on average, enjoyed higher growth relative to countries with pegs, but this has come at a cost of higher inflation and, for (de jure) intermediate regimes, greater output volatility. Fiscal positions also tended to be weaker particularly during the 2001–14 period, which was characterized by easier external liquidity conditions and market access for many of these countries. But the seemingly weaker fiscal discipline has not translated into sustained higher levels of debt relative to the size of the economy.

Given these findings, how can sub-Saharan African countries maximize the benefits offered by each regime?[19] In addition, the sharp fall in international commodity prices and tightening of external financing conditions pose significant challenges to many sub-Saharan African commodity exporters where the reduction in export earnings has led to a depletion of foreign exchange reserves and fiscal buffers.[20] In that context, the following policy recommendations apply:

- Countries operating under pegs have been able to anchor inflation thanks to their stable nominal anchor for monetary policy. In such cases, fiscal and structural policies must bear the burden of adjustment. More specifically, strengthening growth performance under pegs requires priority to be given to policies that address competitiveness concerns from poor business climate, low investment efficiency, and social and infrastructure gaps (see, for example, Chapter 2 of the October 2015 *Regional Economic Outlook: Sub-Saharan Africa*.[21]) In addition, growth-friendly fiscal adjustment in the face of the recent commodity price shock remains essential to sustain the pegged regimes.

[19] The analysis in this chapter offers useful insights on some particular aspects of the role of exchange rate regime, namely macroeconomic performance and fiscal discipline. A comprehensive analysis of the role of the exchange rate regime needs to also examine its effects on other aspects including susceptibility to crises, resilience to shocks, external adjustment, trade integration, and cross-border capital flows—also in the context of the overall international monetary system.

[20] Indeed, faced with sustained pressure on their currencies, and with limited options to tap external borrowing, some highly exposed commodity exporters with long-standing pegs or stabilized regimes are allowing the exchange rate to adjust and, in some cases, are choosing to move to greater exchange rate flexibility (see Box 2.2 on Nigeria's experience).

[21] Addressing structural obstacles to competitiveness (including less deep financial markets and more cumbersome legal procedures) remains key to longer-term growth and regional integration in the CFA zone (see also IMF 2008).

- Countries with more flexible exchange rate regimes tend to experience higher growth but also higher inflation and, in the case of de jure intermediate regimes, higher output volatility. To make the best of their exchange rate regime, these countries need to strengthen their domestic monetary policy framework to ensure that its objectives are squarely centered around a price stability mandate, and that the central bank is given sufficient independence to implement that mandate (IMF 2015). Moreover, an exchange rate adjustment in response to prevailing external pressures—which can help dampen output volatility—needs to be accompanied by appropriate fiscal and monetary policies to help sustain the new more depreciated level of the exchange rate by containing upward pressure on inflation and "locking in" the real depreciation brought about by the adjustment to the nominal exchange rate. Indeed, tighter external financing conditions coupled with exchange rate adjustment will make it harder to sustain the more expansionary fiscal policies that were implemented by the sub-Saharan African countries with intermediate regimes during the 2001–14 period.

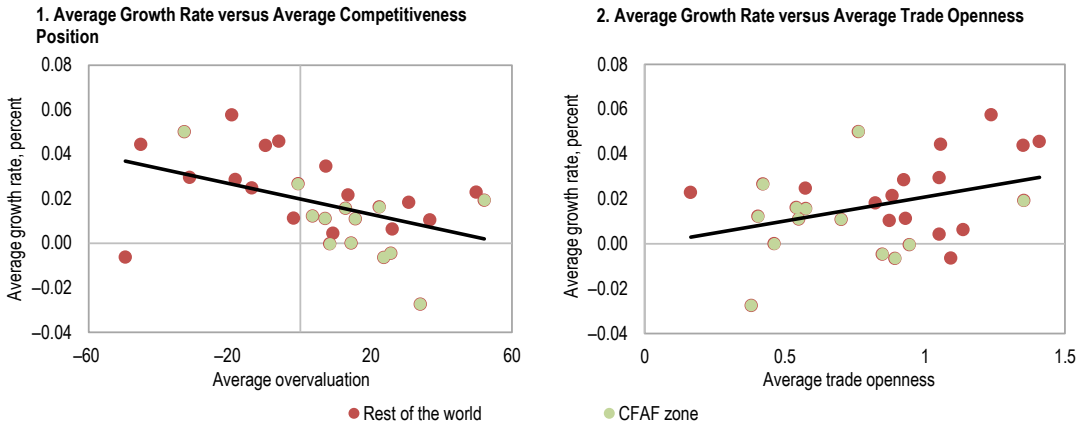
### Box 2.1. Achieving Sustained Growth in Pegged Regimes: Lessons from across the Globe

The chapter's findings point to sub-Saharan African countries with pegged exchange rate regimes having generally had slower growth since around 2000. But there is ample evidence of rapid growth with pegs both within sub-Saharan Africa and beyond.

Over the course of their hard peg to the euro (or preceding currencies), countries like Bosnia and Herzegovina, Bulgaria, Estonia, and Lithuania for example registered average real GDP per capita growth rates between 4 and 6 percent per year.[1] Similarly, real GDP per capita in Hong Kong SAR has grown at an average annual rate of more than 3.5 percent since 1983, while maintaining a currency board with the U.S. dollar. Within sub-Saharan Africa, several countries with pegs have registered real per capita growth rates close to or above 2 percent per year for fairly sizable periods (for example, during 2000–14 Burkina Faso grew at an annual rate of 2.7 percent, Chad at 5 percent, and the Republic of Congo at 1.9 percent) and even higher growth rates for shorter durations (such as the ongoing growth surge in Côte d'Ivoire).

Following the strong indications that weak competitiveness may have contributed to slower growth among peggers, we reviewed to what extent growth outcomes correlate with the competitiveness positions of countries with hard pegs within and outside sub-Saharan Africa. By and large, the results suggest that the countries with stronger competitiveness positions grew faster (Figure 2.1.1.). Countries that were more open to trade also recorded higher growth rates (Figure 2.1.2). Although the correlations shown here do not control for other potential variables that could also affect growth, they buttress the evidence in the rest of the chapter of the need to enhance competitiveness through reforms to contain the domestic costs of production and improve business climates (IMF 2016a, 2016b).

**Figure 2.1.1. Correlation of Average Growth Rates with Measures of Competitiveness and Trade Openness, 1980–2014**




Source: IMF staff estimates.

Note: Averages are calculated over the 2000–14-period or the subsample of years during which the respective country operated a hard peg. The sub-Saharan African sample includes all CFA franc zone countries, with the exception of Equatorial Guinea, which is a clear outlier along the overvaluation dimension (+69 percent). This group is augmented by all countries (with the required data) that had a hard peg in place during (a subsample of) our 2000–14 sample period. The list of countries consists of Antigua and Barbuda, Argentina, Bosnia and Herzegovina, Brunei Darussalam, Bulgaria, Hong Kong SAR, Djibouti, Ecuador, Estonia, Grenada, Lithuania, Montenegro, Panama, St Kitts and Nevis, St Lucia, and St Vincent and the Grenadines. The variable capturing the competitiveness of the exchange rate is defined as the deviation of the real exchange rate from purchasing power parity, adjusted for per capita income, where higher positive values indicate less competitive real exchange rates. Trade openness is measured as the sum of exports and imports as a percent of GDP.

[1] Bosnia and Herzegovina and Bulgaria have had hard pegs since 1997 (first with the Deutsche mark, then with the euro), Estonia since 1992 (first with the Deutsche mark, then with the euro), and Lithuania since 1994 (first with the U.S. dollar until 2002, then with the euro).

## Box 2.2. The Evolution of Nigeria's Foreign Exchange Arrangements, 2006–16

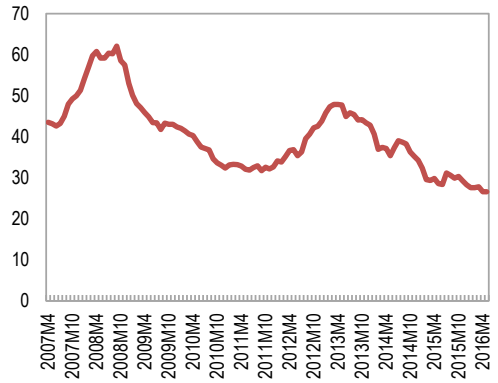
Over the past 10 years, as the country faced varying external and domestic economic conditions, Nigeria's de facto exchange arrangement evolved from a managed float to a stabilized one. In June, against the backdrop of a contraction in the first quarter of 2016 and with reserves at an 11-year low, the authorities announced the adoption of a "purely market-driven system," but the initial implementation is facing challenges.

Nigeria implemented a major reform of monetary and exchange rate policy in early 2006. The Central Bank of Nigeria (CBN) introduced the wholesale Dutch auction system (DAS) on February 20, 2006, to facilitate price discovery and to promote transparency and efficiency in the provision of foreign exchange (FX) by the CBN, the largest single FX supplier. Meanwhile other segments of the FX markets, interbank FX market (IFEM), and as the cash segment of the FX market, the Bureau de Change (BDC), were allowed to gradually develop.

In mid-2013, a wedge emerged between the official exchange rate—which continued to be tightly managed—and the BDC rate as the "taper tantrum," as well as domestic factors, affected the supply and demand for foreign exchange and put pressure on the naira.[1] Nigeria had received significant capital inflows in the aftermath of the global financial crisis. Following the taper tantrum, the CBN managed the resulting pressure on the exchange rate through interventions, which kept the official exchange rate stable but at the cost of a decline in gross international reserves. Moreover, limits on foreign exchange sales by the CBN to the BDC segment (introduced in fall 2013 as part of the CBN's anti-money-laundering measures) contributed to the spread between the official and the BDC rates increasing from less than 1 percent to about 5 percent by the end of 2013.

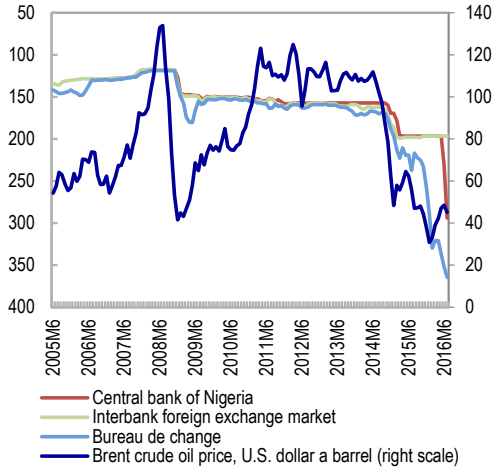
In response to the well-documented slide in international oil prices since mid-2014, two step devaluations were effected, for a cumulative 27 percent, but from March 2015 on, the official exchange rate was kept mostly fixed until the IFEM was liberalized in June 2016. With oil prices falling steeply beginning in mid-2014, the CBN effected a first devaluation of 8 percent in November 2014. It was supported by a tightening of monetary and fiscal policy and led to a narrowing of exchange rate spreads. However, the further decline in oil prices put renewed pressure on the naira. The second devaluation of 18 percent (to N197/U.S. dollar) took place in February 2015 when the CBN closed the DAS window

**Figure 2.2.1. Nigeria: Central Bank Reserves, 2007–16**
*(Billions, U.S. dollars)*




Sources: Central Bank of Nigeria; and IMF staff estimates.

**Figure 2.2.2. Nigeria: Exchange Rates, 2005–16**
*(Naira per U.S. dollar)*




Sources: Central Bank of Nigeria; and IMF staff estimates.

This box was prepared by Mika Saito.

[1] Taper tantrum refers to the May 2013 announcement by the U.S. Federal Reserve System that its unconventional monetary policy support would be scaled back over time, which caused a change in investor sentiment that triggered a reversal of capital flows.

**(Box 2.2** *continued***)**

and started selling FX directly in the IFEM only to meet "legitimate" demand (such as, what can be backed by import bills). This change resulted in a significant decline in the size of transactions in the IFEM—which had developed significantly by this point—as FX traders were no longer able to take long or short positions. No market making also meant that the rate at which the CBN intervened in the IFEM became the de facto pegged rate. For the next 16 months, the CBN supplied the IFEM at about N197/U.S. dollar—until June 20, 2016, when the CBN liberalized the IFEM where newly appointed primary dealers could take limited positions.

The shortage of foreign exchange from mid-2015 contributed to a sharp slowdown in economic activity. As central bank international reserves continued to fall, foreign exchange sales were restricted and credit lines cut back or stopped. The prohibition to access foreign exchange at the Nigerian foreign exchange markets for the payment of imports of 40 categories of items, introduced in June 2015, disrupted economic activities further. The absence of a coherent policy response, compounded by political uncertainty, affected confidence, reduced investment, and increased net capital outflows, contributing to the widening of the spread to 30 percent by end-2015. In January 2016, the CBN announced that it would no longer sell foreign exchange to the BDC segment, widening the spread even further. With more foreign exchange transactions being conducted at the sharply depreciated BDC rate, inflationary pressure picked up significantly.

On June 20, 2016, the IFEM was liberalized, but trading volumes have remained low and the spread to BDC substantial. The CBN released revised guidelines for the operation of the Nigerian IFEM, which is expected to be market-driven and with the CBN role limited to periodic interventions. Available hedging products were expanded to moderate volatility in the market, but restrictions on access to foreign exchange for prohibited items have remained. Initial market reaction has been positive, but trading volumes have been low (from a lack of foreign exchange supplies and lack of means for price discovery) and exchange rate spreads have remained, although significantly narrowed from 80 percent to about 25–30 percent.

## REFERENCES


Albanesi, Stefania. 2007. "Inflation and Inequality." *Journal of Monetary Economics* 54 4: 1088–114.

Barro, Robert, and David Gordon. 1983. "Rules, Discretion, and Reputation in a Model of Monetary Policy." *Journal of Monetary Economics* 12 1: 101–21.

Duttagupta, Rupa, and Guillermo Tolosa 2007. "Fiscal Discipline and Exchange Rate Arrangements: Evidence from the Caribbean." *Emerging Markets Finance and Trade* 43 6: 87–112.

Ghosh, Atish R., Anne-Marie Gulde, and Holger C. Wolf. 2000. "Currency Boards: More than a Quick Fix?" *Economic Policy* (October).

Ghosh, Atish R., Anne-Marie Gulde, and Holger C. Wolf. 2003. *Exchange Rate Regimes: Choices and Consequences*. Cambridge, Massachusetts: MIT Press.

Ghosh, Atish R., Jonathan D. Ostry, and Charalambos G. Tsangarides. 2010. "Exchange Rate Regimes and the Stability of the International Monetary System." IMF Occasional Paper 270, International Monetary Fund, Washington, DC.

Ghosh, Atish R., Mahvash S. Qureshi, and Charalambos G. Tsangarides. 2014. "On the Value of Words: Inflation and Fixed Exchange Rate Regimes." *IMF Economic Review* 62 2: 288–322.

International Monetary Fund (IMF). 2008. *The CFA Franc Zone: Common Currency, Uncommon Challenges*. Washington, DC.

_____. 2015. "Evolving Monetary Policy Frameworks in Low-Income and Other Developing Countries." Staff Report, Washington, DC.

_____. 2016a. "Central African Economic and Monetary Community: Staff Report on the Common Policies of Member Countries." IMF Country Report 16/277, Washington. DC.

_____. 2016b. "West African Economic and Monetary Union: Staff Report on the Common Policies of Member Countries." IMF Country Report 16/96, Washington, DC.

Kim, Woochan. 2003. "Does Capital Account Liberalization Discipline Budget Deficit?" *Review of International Economics* 115: 830–44.

Levy-Yeyati, Eduardo, and Federico Sturzenegger. 2003. "To Float or to Trail: Evidence on the Impact of Exchange Rate Regimes." *American Economic Review* 93: 1173–93.

Reinhart, Carmen, and Kenneth Rogoff. 2004. "The Modern History of Exchange Rate Arrangements: A Reinterpretation." *Quarterly Journal of Economics* 119 1: 1–48.

Rogoff, Kenneth, Aasim M. Husain, Ashoka Mody, Robin Brooks, and Nienke Oomes. 2003. "Evolution and Performance of Exchange Rate Regimes." IMF Working Paper 03/243, International Monetary Fund, Washington, DC.

Tornell, Aaron, and Andres Velasco. 2000. "Fixed versus Flexible Exchange Rates: Which Provides More Fiscal Discipline?" *Journal of Monetary Economics* 45 2: 399–436.

Vuletin, Guillermo. 2013. "Exchange Rate Regimes and Fiscal Discipline: The Role of Capital Controls." *Economic Enquiry* 51 4: 2096–109.

## Annex 2.1. Empirical Specification and Estimation for Inflation, Growth, and Growth Volatility

We estimate the relationship between inflation and exchange rate regimes, controlling for other factors that are likely to determine inflation:

$$\pi_{it} = \beta_0 + \beta_1 X_{it} + \beta_{Peg} Peg_{it} + \beta_{Int} Int_{it} + \beta_{Mon} \Delta m_{it} + v_t + \varepsilon_{it} \qquad (1)$$

in which $\pi_{it}$ is the inflation rate for country *i* at time *t*;[1] *Peg* and *Int* are dummy variables for pegged and intermediate exchange rate regimes, respectively (with the floating regime as the excluded category); $\Delta m$ is the growth in broad money; *X* includes the other likely determinants of inflation performance (real GDP growth, trade openness, central bank independence (proxied by the central bank governor turnover rate), fiscal balance, and terms-of-trade shocks);[2] *v* are year effects to capture the effect of shocks over time that are common to all countries; and ε is a random error term.

In equation (1)—which constitutes our benchmark inflation specification—the estimates of $\beta_{\text{Peg}}$ and $\beta_{\text{Int}}$ are the *direct* effects of exchange rate regimes on inflation that are obtained after controlling for all other possible determinants. However, as money growth itself may vary systematically by regime, the exchange rate regime could also affect inflation *indirectly* through its effect on money growth:

$$\Delta m_{it} = \alpha_0 + \alpha_1 X_{it} + \alpha_{Peg} Peg_{it} + \alpha_{Int} Int_{it} + \upsilon_t + \eta_{it} \qquad (2)$$

Taking into account the possibility that money growth is endogenous to the exchange rate regime as in equation (2), we also estimate the total *effect* of pegs and intermediate regimes, which considers both the direct and indirect effects. Specifically, the total effect of pegs ($\gamma_{\text{Peg}}$) is given by $\beta_{\text{Peg}} + \beta_{\text{Mon}} \alpha_{\text{Peg}}$, and that of intermediate regimes ($\gamma_{\text{Int}}$) is given by $\beta_{\text{Int}} + \beta_{\text{Mon}} \alpha_{\text{Int}}$.

Similarly, we estimate the relationship between growth and exchange rate regimes using potential determinants. Thus a higher investment ratio, more human capital (average years of schooling), greater trade openness, and a stronger fiscal balance tend to raise growth, while population growth, a larger share of government (expenditure as a fraction of output), inflation, price volatility, real exchange rate volatility, an overvalued real exchange rate, and lower initial income convergence term are all associated with lower growth.[3] Similarly to the inflation regressions, we consider the *direct* effect of the exchange rate regime on growth (obtained after controlling for all other possible determinants) and the *indirect* effects of the exchange rate regime through its effect on each of these possible channels.

[1] To reduce the effect of hyperinflation observations, the inflation rate is transformed to $\pi/(1+\pi)$.

[2] Specifically, real GDP growth and trade openness are expected to lower inflation by raising money demand and increasing the costs of monetary expansions, respectively; central bank independence (lower turnover rate) is likely to be associated with lower inflation; the fiscal deficit–with direct monetization or increased aggregate demand pressures–is expected to increase inflation; and the effect of terms-of-trade shocks is likely to depend on how the aggregate supply and cost structure of the economy is affected (see, for example, Ghosh, Gulde, and Wolf 2003; and Rogoff and others 2003).

[3] Price volatility is measured as the monthly standard deviation of the growth of the consumer price index relative to trading partners; real exchange rate volatility is measured as the monthly standard deviation of the growth of the trade-weighted real exchange rate; real exchange rate competitiveness is measured as the deviation of the price level (in international prices) from its predicted value based on per capita income; the income convergence term is per capita income in 1980, expressed in international prices.

The baseline regressions for inflation, growth, and growth volatility are estimated using ordinary least squares with annual fixed effects and robust standard errors.[4] We also attempt to address regime endogeneity. If countries that have good inflation performance—perhaps because of strong national consensus on the need for price stability—are also more inclined (or able) to peg their exchange rate, then the estimated effects of the regime may be upward biased. To address this, we employ a simultaneous equation framework that allows explicitly for endogeneity of the regime. A probit is estimated on the decision to peg the exchange rate, and the predicted value from the probit is then used in the second-stage regression.[5]

[4] We do not include country fixed effects as that would imply identifying the effect of exchange rate regimes solely through the time variation of the regime (so that, even if pegged exchange rates were associated with lower inflation, but no country changed its regime over time, no effect would be identified). Country fixed effects are considered in the robustness analysis. Recognizing the possible endogeneity between the control variables and inflation and/or growth, we estimate all regressions using instrumental variables. For the inflation analysis we use lagged values for real GDP growth, fiscal balance, and money growth as instruments; for the growth analysis, we instrument inflation, fiscal balance, government spending, investment, and trade openness. Finally, to prevent "contamination" across regimes the empirical analysis excludes the year of, and the year following, a change in exchange rate regime.

[5] The probit and the "second-stage" regression are actually estimated simultaneously to allow for the appropriate correction of the standard errors, including the cross-equation correlation. The literature on regime choice suggests that smaller countries with geographically concentrated exports are more likely to adopt a peg (but there is no reason to believe that this would otherwise affect inflation). These variables (population size and the geographic concentration ratio of the country's top-three exports) enter the regime choice probit significantly and with the expected signs but are excluded from the second-stage inflation regression.

**Annex Table 2.1.1. Inflation Regression: Baseline**[1]

| | De Jure classification | | | | De Facto classification | | | |
|---|---|---|---|---|---|---|---|---|
| | Direct effect | | Total effect[2] | | Direct effect | | Total effect[2] | |
| | coefficient | *t*-statistics | coefficient | *t*-statistics | coefficient | *t*-statistics | coefficient | *t*-statistics |
| **Emerging market and developing economies** | | | | | | | | |
| Constant | 0.003 | 0.2 | 0.003 | 0.2 | 0.092 | 13.5 *** | 0.092 | 13.5 *** |
| Pegged regimes | –0.042 | –9.9 *** | –0.080 | –11.2 *** | –0.032 | –6.1 *** | –0.034 | –6.5 *** |
| Intermediate regimes | –0.002 | –0.4 | –0.015 | –3.1 *** | 0.009 | 1.0 | 0.013 | 2.4 ** |
| Money growth | 0.382 | 5.6 *** | 0.382 | 5.6 *** | 0.093 | 4.3 *** | 0.093 | 4.3 *** |
| GDP growth | –0.736 | –5.1 *** | –0.736 | –5.1 *** | –0.599 | –4.5 *** | –0.599 | –4.5 *** |
| Openness | –0.013 | –3.2 *** | –0.013 | –3.2 *** | –0.008 | –2.1 ** | –0.008 | –2.1 ** |
| Central bank turnover rate | 0.035 | 4.2 *** | 0.035 | 4.2 *** | 0.038 | 4.6 *** | 0.038 | 4.6 *** |
| Terms-of-trade growth | 0.001 | 0.1 | 0.001 | 0.1 | 0.009 | 0.6 | 0.009 | 0.6 |
| Fiscal balance (percent of GDP) | –0.409 | –2.2 ** | –0.409 | –2.2 ** | 0.395 | 5.3 *** | 0.395 | 5.3 *** |
| Number of observations, *R*-squared | 2,248 | 0.42 | 2,248 | 0.42 | 2,093 | 0.40 | 2,093 | 0.40 |
| **Sub-Saharan Africa** | | | | | | | | |
| Constant | 0.044 | 4.3 *** | 0.044 | 4.3 *** | 0.078 | 5.9 *** | 0.078 | 5.9 *** |
| Pegged regimes | –0.052 | –8.0 *** | –0.072 | –10.5 *** | –0.050 | –4.3 *** | –0.058 | –5.4 *** |
| Intermediate regimes | 0.006 | 0.7 | –0.001 | –0.1 | 0.002 | 0.2 | –0.003 | –0.3 |
| Money growth | 0.165 | 5.8 *** | 0.165 | 5.8 *** | 0.068 | 4.6 *** | 0.068 | 4.6 *** |
| GDP growth | –0.365 | –1.5 | –0.365 | –1.5 | –0.272 | –1.0 | –0.272 | –1.0 |
| Openness | 0.012 | 2.0 ** | 0.012 | 2.0 ** | 0.014 | 2.4 ** | 0.014 | 2.4 ** |
| Central bank turnover rate | 0.017 | 1.1 | 0.017 | 1.1 | 0.021 | 1.4 | 0.021 | 1.4 |
| Terms-of-trade growth | 0.011 | 0.7 | 0.011 | 0.7 | 0.008 | 0.5 | 0.008 | 0.5 |
| Fiscal balance (percent of GDP) | 0.744 | 1.8 * | 0.744 | 1.8 * | 0.123 | 1.4 | 0.123 | 1.4 |
| Number of observations, *R*-squared | 830 | 0.47 | 830 | 0.47 | 793 | 0.38 | 793 | 0.38 |
| **Emerging markets** | | | | | | | | |
| Constant | 0.049 | 6.0 *** | 0.049 | 6.0 *** | 0.047 | 5.8 *** | 0.047 | 5.8 *** |
| Pegged regimes | –0.003 | –0.3 | –0.038 | –3.8 *** | –0.008 | –1.1 | –0.005 | –0.7 |
| Intermediate regimes | –0.000 | –0.1 | –0.020 | –3.9 *** | 0.005 | 1.0 | 0.022 | 4.5 *** |
| Number of observations, *R*-squared | 904 | 0.62 | 904 | 0.62 | 796 | 0.62 | 796 | 0.62 |
| **Developing economies** | | | | | | | | |
| Constant | 0.049 | 3.3 *** | 0.049 | 3.3 *** | 0.113 | 10.3 *** | 0.113 | 10.3 *** |
| Pegged regimes | –0.048 | –9.4 *** | –0.076 | –12.1 *** | –0.056 | –6.1 *** | –0.062 | –7.0 *** |
| Intermediate regimes | –0.001 | –0.1 | –0.009 | –1.5 | –0.011 | –1.2 | –0.014 | –1.5 |
| Number of observations, *R*-squared | 1,344 | 0.41 | 1,344 | 0.41 | 1,297 | 0.34 | 1,297 | 0.34 |
| **Developing economies less SSA** | | | | | | | | |
| Constant | 0.004 | 0.2 | 0.004 | 0.2 | 0.181 | 13.0 *** | 0.181 | 13.0 *** |
| Pegged regimes | –0.054 | –7.6 *** | –0.086 | –9.8 *** | –0.081 | –6.7 *** | –0.084 | –7.2 *** |
| Intermediate regimes | –0.025 | –3.1 *** | –0.021 | –2.8 *** | –0.053 | –4.5 *** | –0.053 | –4.5 *** |
| Number of observations, *R*-squared | 514 | 0.49 | 514 | 0.49 | 514 | 0.49 | 514 | 0.49 |

Source: IMF staff estimates.

[1] Regression of inflation (decimal fraction, per year) on regime dummy variables and other control variables. Estimates obtained from instrumental variable estimation controlling for the endogeneity of real GDP growth, fiscal balance, and money growth, where lagged values are used as instruments. All specifications include time effects. *t*-statistics based on robust standard errors. Negative coefficient on pegged or intermediate exchange rate regime dummies indicates lower inflation under that regime relative to inflation under floating exchange rate regimes (the omitted category). *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

[2] Direct effect of exchange rate regime on inflation, plus indirect effect through money growth.

**Annex Table 2.1.2. Indirect Effects of Regime on Output Growth[1]**

| | De Jure | | De Facto | |
|---|---|---|---|---|
| | Peg | Intermediate | Peg | Intermediate |
| **Emerging market and developing economies** | | | | |
| Less competitive exchange rate | 0.117 *** | –0.083 *** | 0.064 *** | –0.096 *** |
| Real exchange rate volatility | –0.855 *** | 0.469 ** | –1.382 *** | –0.961 *** |
| Price volatility | 0.600 *** | –0.174 ** | 0.401 *** | –0.111 |
| Inflation | –0.048 *** | –0.027 ** | –0.011 | 0.025 *** |
| Trade openness | 0.311 *** | 0.075 *** | 0.325 *** | 0.110 *** |
| **Sub-Saharan Africa** | | | | |
| Less competitive exchange rate | 0.108 *** | –0.034 | 0.048 | –0.088 * |
| Real exchange rate volatility | –0.836 | 1.348 ** | –0.580 | –0.289 |
| Price volatility | 0.705 *** | –0.651 *** | 0.636 ** | –0.232 |
| Inflation | –0.057 *** | –0.002 | –0.052 *** | 0.007 |
| Trade openness | 0.395 *** | 0.028 | 0.358 *** | 0.021 |

Source: IMF staff estimates.

Note: Higher value indicates less competitive (more overvalued) real exchange rate. Volatility measured as standard deviation of monthly growth rates.

[1] Relative to floating regimes; includes other controls from growth regression.

**Annex Table 2.1.3. Growth Regression: Baseline[1]**

| | De Jure classification | | | | De Facto classification | | | |
|---|---|---|---|---|---|---|---|---|
| | Direct effect | | Total effect[2] | | Direct effect | | Total effect[2] | |
| | coefficient | *t*-statistics | coefficient | *t*-statistics | coefficient | *t*-statistics | coefficient | *t*-statistics |
| **Emerging market and developing economies** | | | | | | | | |
| Constant | 0.001 | 0.0 | 0.046 | 1.8 * | 0.017 | 0.7 | 0.040 | 1.5 |
| Pegged regimes | –0.013 | –4.2 *** | –0.007 | –2.5 ** | –0.012 | –3.4 *** | –0.008 | –2.4 ** |
| Intermediate regimes | 0.003 | 1.3 | 0.006 | 2.8 *** | 0.001 | 0.3 | 0.004 | 1.3 |
| Initial per capita income | –0.010 | –5.9 *** | –0.010 | –5.9 *** | –0.009 | –5.4 *** | –0.009 | –5.4 *** |
| Population growth (percent per year) | –0.031 | –4.3 *** | –0.031 | –4.3 *** | –0.026 | –3.8 *** | –0.026 | –3.8 *** |
| Average years schooling (years) | 0.002 | 3.5 *** | 0.002 | 3.5 *** | 0.003 | 4.7 *** | 0.003 | 4.7 *** |
| Terms-of-trade growth | 0.022 | 2.5 ** | 0.022 | 2.5 ** | 0.019 | 2.1 ** | 0.019 | 2.1 ** |
| Real exchange rate vol. (percent per year) | –0.001 | –2.2 ** | –0.001 | –2.2 ** | –0.001 | –1.6 | –0.001 | –1.6 |
| Price volatility (percent per year) | –0.001 | –0.6 | –0.001 | –0.6 | –0.000 | –0.0 | –0.000 | –0.0 |
| Competitiveness | –0.008 | –1.9 * | –0.008 | –1.9 * | –0.012 | –2.8 *** | –0.012 | –2.8 *** |
| Investment (percent of GDP) | 0.008 | 2.2 ** | 0.008 | 2.2 ** | 0.010 | 2.9 *** | 0.010 | 2.9 *** |
| Inflation (percent per year) | –0.042 | –3.1 *** | –0.042 | –3.1 *** | –0.052 | –4.3 *** | –0.052 | –4.3 *** |
| Fiscal balance (percent of GDP) | –0.248 | –2.1 ** | –0.248 | –2.1 ** | –0.050 | –0.8 | –0.050 | –0.8 |
| Government spending (percent of GDP) | –0.005 | –1.6 | –0.005 | –1.6 | –0.005 | –1.6 | –0.005 | –1.6 |
| Trade openness | 0.010 | 3.6 *** | 0.010 | 3.6 *** | 0.005 | 1.9 * | 0.005 | 1.9 * |
| Number of observations, *R*-squared | 1,726 | 0.25 | 1,726 | 0.25 | 1,585 | 0.23 | 1,585 | 0.23 |
| **Sub-Saharan Africa** | | | | | | | | |
| Constant | 0.070 | 1.5 | 0.080 | 1.7 * | 0.064 | 1.4 | 0.062 | 1.3 |
| Pegged regimes | –0.020 | –4.0 *** | –0.014 | –3.4 *** | –0.026 | –4.5 *** | –0.018 | –3.2 *** |
| Intermediate regimes | –0.001 | –0.2 | 0.002 | 0.3 | –0.010 | –1.6 | –0.006 | –1.1 |
| Initial per capita income | –0.010 | –2.9 *** | –0.010 | –2.9 *** | –0.010 | –2.8 *** | –0.010 | –2.8 *** |
| Population growth (percent per year) | –0.007 | –0.4 | –0.007 | –0.4 | –0.005 | –0.3 | –0.005 | –0.3 |
| Average years schooling (years) | 0.001 | 0.8 | 0.001 | 0.8 | 0.002 | 1.4 | 0.002 | 1.4 |
| Terms-of-trade growth | 0.017 | 1.5 | 0.017 | 1.5 | 0.016 | 1.3 | 0.016 | 1.3 |
| Real exchange rate vol. (percent per year) | 0.000 | 0.5 | 0.000 | 0.5 | 0.000 | 0.4 | 0.000 | 0.4 |
| Price volatility (percent per year) | 0.000 | 0.3 | 0.000 | 0.3 | 0.001 | 0.4 | 0.001 | 0.4 |
| Competitiveness | –0.008 | –1.0 | –0.008 | –1.0 | –0.010 | –1.1 | –0.010 | –1.1 |
| Investment (percent of GDP) | 0.004 | 0.7 | 0.004 | 0.7 | 0.003 | 0.6 | 0.003 | 0.6 |
| Inflation (percent per year) | –0.015 | –0.3 | –0.015 | –0.3 | –0.012 | –0.3 | –0.012 | –0.3 |
| Fiscal balance (percent of GDP) | –0.638 | –1.4 | –0.638 | –1.4 | –0.108 | –1.1 | –0.108 | –1.1 |
| Government spending (percent of GDP) | –0.001 | –0.1 | –0.001 | –0.1 | –0.001 | –0.2 | –0.001 | –0.2 |
| Trade openness | 0.017 | 3.0 *** | 0.017 | 3.0 *** | 0.016 | 2.9 *** | 0.016 | 2.9 *** |
| Number of observations, *R*-squared | 597 | 0.23 | 597 | 0.23 | 597 | 0.24 | 597 | 0.24 |
| **Emerging markets** | | | | | | | | |
| Constant | 0.014 | 0.4 | 0.078 | 1.7 * | 0.065 | 1.6 | 0.140 | 2.6 *** |
| Pegged regimes | –0.002 | –0.4 | –0.004 | –0.6 | –0.001 | –0.2 | –0.003 | –0.6 |
| Intermediate regimes | 0.006 | 2.3 ** | 0.008 | 3.1 *** | 0.002 | 0.4 | 0.004 | 1.1 |
| Number of observations, *R*-squared | 849 | 0.38 | 849 | 0.38 | 741 | 0.37 | 741 | 0.37 |
| **Developing economies** | | | | | | | | |
| Constant | 0.022 | 0.7 | 0.046 | 1.6 | 0.032 | 1.1 | 0.042 | 1.5 |
| Pegged regimes | –0.020 | –5.2 *** | –0.012 | –3.5 *** | –0.020 | –3.8 *** | –0.014 | –2.8 *** |
| Intermediate regimes | –0.004 | –1.0 | 0.002 | 0.5 | –0.006 | –1.1 | –0.001 | –0.3 |
| Number of observations, *R*-squared | 877 | 0.18 | 877 | 0.18 | 844 | 0.17 | 844 | 0.17 |
| **Developing economies less SSA** | | | | | | | | |
| Constant | 0.027 | 0.5 | 0.045 | 1.0 | 0.009 | 0.2 | 0.020 | 0.4 |
| Pegged regimes | –0.029 | –2.5 ** | –0.022 | –1.9 * | 0.021 | 1.7 * | 0.031 | 2.3 ** |
| Intermediate regimes | –0.013 | –1.3 | –0.014 | –1.4 | 0.033 | 2.8 *** | 0.040 | 3.1 *** |
| Number of observations, *R*-squared | 280 | 0.32 | 280 | 0.32 | 265 | 0.30 | 265 | 0.30 |

Source: IMF staff estimates.

[1] Regression of real GDP per capita growth rate on regime dummy variables, and other control variables. Estimates obtained from instrumental variable estimation controlling for the endogeneity of investment, inflation, fiscal balance, government spending, and trade openness where lagged values are used as instruments. All specifications include time effects. *t*-statistics based on robust standard errors. Negative coefficient on pegged or intermediate exchange rate regime dummies indicates lower growth under that regime relative to growth under floating exchange rate regimes (the omitted category). *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

[2] Direct effect of exchange rate regime on growth, plus indirect effect through competitiveness, real exchange rate volatility, inflation, price volatility, and openness.

**Annex Table 2.1.4. Growth Volatility Regression[1]**

| | De Jure classification | | | | De Facto classification | | | |
|---|---|---|---|---|---|---|---|---|
| | Direct effect | | Total effect[2] | | Direct effect | | Total effect[2] | |
| | coefficient | *t*-statistics | coefficient | *t*-statistics | coefficient | *t*-statistics | coefficient | *t*-statistics |
| **Emerging market and developing economies** | | | | | | | | |
| Constant | –0.033 | –2.9 *** | 0.012 | –2.2 ** | –0.041 | –3.5 *** | –0.027 | –2.3 ** |
| Pegged regimes | 0.003 | 2.2 ** | 0.001 | 2.8 *** | 0.000 | 0.2 | 0.001 | 0.7 |
| Intermediate regimes | 0.003 | 3.1 *** | 0.001 | 2.5 ** | –0.000 | –0.2 | –0.001 | –0.9 |
| Initial per capita income | 0.004 | 4.9 *** | 0.001 | 4.9 *** | 0.004 | 5.1 *** | 0.004 | 5.1 *** |
| Population growth (percent per year) | –0.008 | –2.4 ** | 0.004 | –2.4 ** | –0.010 | –3.0 *** | –0.010 | –3.0 *** |
| Average years schooling (years) | –0.001 | –2.3 ** | 0.000 | –2.3 ** | –0.001 | –3.1 *** | –0.001 | –3.1 *** |
| Terms-of-trade growth | 0.000 | 0.1 | 0.005 | 0.1 | –0.000 | –0.1 | –0.000 | –0.1 |
| Real exchange rate vol. (percent per year) | 0.000 | 2.7 *** | 0.000 | 2.7 *** | 0.000 | 2.4 ** | 0.000 | 2.4 ** |
| Price volatility (percent per year) | 0.002 | 3.4 *** | 0.000 | 3.4 *** | 0.001 | 2.5 ** | 0.001 | 2.5 ** |
| Competitiveness | 0.003 | 1.8 * | 0.002 | 1.8 * | 0.004 | 2.0 ** | 0.004 | 2.0 ** |
| Investment (percent of GDP) | –0.006 | –2.7 *** | 0.002 | –2.7 *** | –0.007 | –3.1 *** | –0.007 | –3.1 *** |
| Inflation (percent per year) | 0.003 | 0.6 | 0.005 | 0.6 | 0.003 | 0.8 | 0.003 | 0.8 |
| Fiscal balance (percent of GDP) | 0.012 | 0.2 | 0.057 | 0.2 | –0.039 | –1.2 | –0.039 | –1.2 |
| Government spending (percent of GDP) | 0.001 | 0.8 | 0.001 | 0.8 | –0.000 | –0.1 | –0.000 | –0.1 |
| Trade openness | 0.003 | 1.7 * | 0.002 | 1.7 * | 0.004 | 2.7 *** | 0.004 | 2.7 *** |
| Number of observations, *R*-squared | 1,721 | 0.28 | | 0.28 | 1,581 | 0.29 | 1,581 | 0.29 |
| **Sub-Saharan Africa** | | | | | | | | |
| Constant | –0.041 | –1.8 * | 0.020 | –1.8 * | –0.034 | –1.5 | –0.032 | –1.5 |
| Pegged regimes | –0.003 | –1.4 | 0.002 | 0.6 | –0.008 | –2.1 ** | –0.003 | –0.9 |
| Intermediate regimes | 0.006 | 2.5 ** | 0.002 | 2.4 ** | –0.003 | –0.8 | –0.003 | –0.7 |
| Initial per capita income | 0.003 | 1.5 | 0.002 | 1.5 | 0.002 | 1.0 | 0.002 | 1.0 |
| Population growth (percent per year) | –0.014 | –1.8 * | 0.007 | –1.8 * | –0.013 | –1.7 * | –0.013 | –1.7 * |
| Average years schooling (years) | –0.003 | –3.6 *** | 0.001 | –3.6 *** | –0.002 | –3.0 *** | –0.002 | –3.0 *** |
| Terms-of-trade growth | 0.007 | 1.3 | 0.005 | 1.3 | 0.006 | 1.1 | 0.006 | 1.1 |
| Real exchange rate vol. (percent per year) | –0.000 | –1.5 | 0.000 | –1.5 | –0.000 | –1.1 | –0.000 | –1.1 |
| Price volatility (percent per year) | 0.002 | 3.1 *** | 0.001 | 3.1 *** | 0.002 | 2.8 *** | 0.002 | 2.8 *** |
| Competitiveness | 0.003 | 1.0 | 0.003 | 1.0 | 0.003 | 1.0 | 0.003 | 1.0 |
| Investment (percent of GDP) | –0.008 | –2.4 ** | 0.003 | –2.4 ** | –0.008 | –2.4 ** | –0.008 | –2.4 ** |
| Inflation (percent per year) | –0.003 | –0.2 | 0.018 | –0.2 | –0.006 | –0.5 | –0.006 | –0.5 |
| Fiscal balance (percent of GDP) | –0.159 | –0.8 | 0.211 | –0.8 | –0.050 | –1.1 | –0.050 | –1.1 |
| Government spending (percent of GDP) | –0.005 | –2.1 ** | 0.002 | –2.1 ** | –0.005 | –2.3 ** | –0.005 | –2.3 ** |
| Trade openness | 0.006 | 2.0 * | 0.003 | 2.0 * | 0.007 | 2.1 ** | 0.007 | 2.1 ** |
| Number of observations, *R*-squared | 596 | 0.37 | | 0.37 | 578 | 0.36 | 578 | 0.36 |
| **Emerging markets** | | | | | | | | |
| Constant | –0.036 | –2.3 ** | 0.018 | –3.1 *** | –0.073 | –4.0 *** | –0.080 | –3.9 *** |
| Pegged regimes | 0.016 | 5.8 *** | 0.003 | 5.1 *** | 0.013 | 4.9 *** | 0.011 | 4.6 *** |
| Intermediate regimes | 0.003 | 2.7 *** | 0.001 | 2.2 ** | 0.002 | 1.4 | 0.001 | 0.4 |
| Number of observations, *R*-squared | 842 | 0.46 | | 0.46 | 734 | 0.47 | 734 | 0.47 |
| **Developing economies** | | | | | | | | |
| Constant | –0.025 | –1.7 * | 0.013 | –1.0 | –0.029 | –2.0 ** | –0.014 | –1.1 |
| Pegged regimes | –0.000 | –0.2 | 0.002 | 1.1 | –0.007 | –1.8 * | –0.004 | –1.3 |
| Intermediate regimes | 0.007 | 3.1 *** | 0.002 | 3.4 *** | –0.001 | –0.3 | –0.001 | –0.4 |
| Number of observations, *R*-squared | 879 | 0.30 | | 0.30 | 847 | 0.30 | 847 | 0.30 |
| **Developing economies less SSA** | | | | | | | | |
| Constant | 0.048 | 1.8 * | 0.022 | 4.2 *** | 0.050 | 1.9 * | 0.084 | 3.7 *** |
| Pegged regimes | 0.002 | 0.3 | 0.006 | 0.3 | 0.009 | 0.9 | 0.010 | 0.9 |
| Intermediate regimes | 0.012 | 2.0 ** | 0.006 | 1.8 * | 0.020 | 2.2 ** | 0.018 | 1.9 * |
| Number of observations, *R*-squared | 283 | 0.48 | | 0.48 | 269 | 0.51 | 269 | 0.51 |

Source: IMF staff estimates.

[1] Regression of the three-year centered standard deviation of the Hedrick-Prescott-filtered real GDP on regime dummy variables, and other control variables. Estimates obtained from instrumental variable estimation controlling for the endogeneity of investment, inflation, fiscal balance, government spending, and trade openness where lagged values are used as instruments. All specifications include time effects. *t*-statistics based on robust standard errors. Negative coefficient on pegged or intermediate exchange rate regime dummies indicates lower growth volatility under that regime relative to growth volatility under floating exchange rate regimes (the omitted category). *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

[2] Direct effect of exchange rate regime on volatility, plus indirect effect through competitiveness, real exchange rate volatility, inflation, price volatility, and openness.

## Annex 2.2. Empirical Specification and Estimation for Fiscal Discipline

This annex explores links between exchange rate regimes and fiscal policy discipline. The analysis primarily focuses on sub-Saharan African countries, though a broad sample of emerging market and developing economies is also considered for comparison. The dynamics of exchange rate regimes in sub-Saharan Africa discussed in the chapter, particularly the CFA zone arrangements that are stable and broadly exogenous to fiscal policy, provide an excellent case to study the fiscal performance across exchange rate regimes among countries otherwise at similar levels of development.

However, there is no consensus on how to define fiscal discipline. In general, a government is considered as fiscally disciplined if its fiscal policy and its public debt are sustainable. Thus, indicators of overall fiscal balance and primary fiscal balance (to exclude interest payments that are the effects of past fiscal policy decisions) are used for assessing fiscal discipline. We estimated the relationship between these indicators of fiscal discipline (FD) and exchange rate regimes (ERR), controlling for other factors that are likely to impact fiscal discipline ($X_i$), which are drawn from past research (for example,Tornell and Velasco 2000, and Vuletin 2013).

$$FD_{it} = \alpha_0 + \beta_1 ERR_{it} + \beta_2 \Delta ToT_{it} + \beta_4 ERR_{it} * \Delta ToT_{it} + \delta X_{it} + \varepsilon_{it} \qquad (1)$$

Key control variables include economic cycles and shocks (terms-of-trade shocks, economic growth in trading partners, and election cycles are used as proxies), level of income per capita to capture level of development, and strength of fiscal institutions and a measure of past fiscal policies—initial debt level and related debt relief. It is expected that terms-of-trade shocks ($\Delta TOT$)are likely to have a differential impact on fiscal position depending on the type of exchange rate regime. Therefore, the interaction of terms-of-trade shocks with the exchange rate regimes (ERR*$\Delta TOT$) is included to capture potential differential regime effects.

Past empirical work is not conclusive on the links between fiscal discipline and exchange rate regimes. For example, Ghosh, Gulde, and Wolf 2000 conclude that currency board arrangements are associated with smaller fiscal deficits than regular pegs. Kim 2003 also finds that fixed regimes have a stronger disciplinary effect on fiscal policy, especially when the capital account is liberalized. In contrast, Tornell and Velasco 2000 conclude that countries in the CFA zone were slow in undertaking fiscal adjustment during the 1980s compared with other sub-Saharan African countries operating under flexible exchange rate regimes. Duttagupta and Tolosa 2007 find that hard and conventional pegs are associated with worse fiscal balances compared with more flexible regimes. Similarly, Vuletin 2013 concludes that flexible regimes are more disciplinary than fixed regimes, while the dual (a combination of fixed and flexible) exchange rate system has the worst disciplinary effect.

The empirical results for overall fiscal balance and primary fiscal balance indicators are reported in Table 2.2.1.[1] Both (overall and primary) fiscal balances are measured as ratios to GDP, though an overall balance-to-trend-GDP measure was also used to test robustness. In the baseline (models 1–4), exchange rate regimes are treated as continuous variables with values ranging from 1 (hard peg) to 7 (independent float). Moreover, only observations with regime consensus (that is, when de facto regime is the same as the de jure) are included; but we tested for other classifications (de jure and de facto, separately) and formulation (for example using three broad regime categories: pegs, intermediate, and float). The baseline findings are robust to these changes in specifications (see Table 2.2.1). The findings are also robust to alternative specifications (not shown in Table 2.2.1) where we (1) use the lagged exchange rate regimes as explanatory variables in the regressions in place of current exchange rate regimes (which helps mitigate the possibility that the fiscal performance may influence the choice of regime and lead to reverse causality); and (2) add trade openness as a control variable in the regressions to capture that countries that are more open typically experience larger and more frequent external shocks, which can translate into higher fiscal deficits.

[1] The analysis is based on an annual data set covering 1980–2014. As in the rest of the analysis in this chapter, to prevent contamination accross regimes, we exclude the year of, and the year following a change in exchange rate regime. In models with aggregate regimes, the "pegs" are treated as the baseline exchange rate regime, and the reported dummy variables (for intermediate and floating groups) capture their impact on fiscal discipline relative to the pegs.

**Annex Table 2.2.1. Regressions of the Relationship Between Various Fiscal Discipline Indicators and Exchange Rate Regimes**

| Variables | (1) Overall balance (% of GDP) | (2) | (3) Primary balance (% of GDP) | (4) | (5) Change in debt-to-GDP ratio | (6) | (7) OB % of trend GDP | (8) | (9) | (10) | (11) | (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | All[1] | SSA | All[1] | SSA | All[1] | SSA | SSA | SSA only: Overall balance (% of GDP) Various measures of exchange rate regimes | | | 1982–2000 | 2001–2014 |
| Consensus exchange rate regime (fine)[2] | –1.066 * | –3.370 *** | –1.271 ** | –2.306 *** | | | –2.830 *** | | | | | |
| | (0.639) | (0.957) | (0.571) | (0.873) | | | (0.878) | | | | | |
| Consensus exchange rate regime squared (fine)[2] | 0.163 ** | 0.439 *** | 0.172 ** | 0.290 *** | | | 0.371 *** | | | | | |
| | (0.080) | (0.123) | (0.073) | (0.111) | | | (0.114) | | | | | |
| De facto exchange rate regime (fine)[2] | | | | | | | | –2.875 *** | | | | |
| | | | | | | | | (0.832) | | | | |
| De facto exchange rate regime squared (fine)[2] | | | | | | | | 0.375 *** | | | | |
| | | | | | | | | (0.105) | | | | |
| De jure exchange rate regime (fine)[2] | | | | | | | | | –2.679 *** | | | |
| | | | | | | | | | (0.748) | | | |
| De jure exchange rate regime squared (fine)[2] | | | | | | | | | 0.330 *** | | | |
| | | | | | | | | | (0.091) | | | |
| Consensus intermediate ERR (dummy)[3] | | | | | –0.992 | 1.126 | | | | –1.365 ** | –0.518 | –2.556 *** |
| | | | | | (0.991) | (1.931) | | | | (0.677) | (0.808) | (0.892) |
| Consensus floating ERR (dummy)[3] | | | | | –2.316 * | –2.311 | | | | 1.121 | 2.652 *** | –1.324 |
| | | | | | (1.297) | (1.920) | | | | (0.924) | (1.001) | (0.938) |
| Commodity TOT shock | –0.366 *** | –0.339 *** | –0.481 *** | –0.424 *** | 0.483 ** | 0.705 ** | –0.348 *** | –0.346 *** | –0.347 *** | –0.345 *** | –0.196 *** | –0.386 *** |
| | (0.054) | (0.027) | (0.075) | (0.071) | (0.192) | (0.312) | (0.026) | (0.023) | (0.023) | (0.028) | (0.072) | (0.061) |
| CTOT shock * intermediate ERR dummy | 0.244 *** | 0.188 | 0.077 | 0.107 | 0.116 | 0.345 | 0.159 | 0.198 ** | 0.191 * | 0.167 *** | 0.073 | 0.185 * |
| | (0.076) | (0.136) | (0.099) | (0.668) | (0.273) | (0.506) | (0.139) | (0.097) | (0.099) | (0.064) | (0.098) | (0.112) |
| CTOT shock * float ERR dummy | 0.210 *** | 0.238 *** | 0.304 *** | 0.304 *** | –1.420 | –3.038 | 0.182 ** | 0.236 *** | 0.228 *** | 0.174 * | 0.087 | 0.184 |
| | (0.068) | (0.070) | (0.097) | (0.108) | (1.148) | (2.180) | (0.075) | (0.062) | (0.066) | (0.105) | (0.153) | (0.242) |
| Growth in trading partners | 0.270 *** | 0.397 *** | 0.167 | 0.563 *** | –0.602 *** | –0.298 | 0.42 *** | 0.377 *** | 0.356 *** | 0.341 *** | 0.146 | 0.566 *** |
| | (0.099) | (0.122) | (0.104) | (0.147) | (0.184) | (0.408) | (0.125) | (0.097) | (0.102) | (0.124) | (0.163) | (0.165) |
| Initial level of public debt (% of GDP) | –0.021 *** | –0.016 ** | | | | | –0.017 ** | –0.015 ** | –0.015 ** | –0.015 * | –0.000 | –0.003 |
| | (0.008) | (0.007) | | | | | (0.008) | (0.007) | (0.006) | (0.008) | (0.007) | (0.006) |
| Three-year lagged GDP per capita (log) | 1.239 *** | 0.744 * | 0.97 *** | 1.531 *** | 0.643 * | 1.487 | 0.919 ** | 0.466 | 0.409 | 0.844 ** | 0.293 | 1.305 *** |
| | (0.328) | (0.443) | (0.270) | (0.412) | (0.389) | (1.059) | (0.427) | (0.572) | (0.615) | (0.415) | (0.413) | (0.492) |
| HIPC completion point dummy | 3.287 ** | 3.097 ** | 1.787 | 1.672 | –20.433 *** | –22.003 *** | 3.121 ** | 3.392 *** | 3.345 *** | 3.329 ** | –0.893 ** | –0.426 |
| | (1.329) | (1.453) | (1.271) | (1.282) | (5.020) | (5.366) | (1.447) | (1.184) | (1.151) | (1.394) | (0.368) | (0.811) |
| Election cycle dummy | –0.422 ** | –0.616 | –0.549 ** | –0.698 | | | –0.667 * | –0.284 | –0.311 | –0.487 | 1.939 *** | 1.975 |
| | (0.214) | (0.406) | (0.230) | (0.471) | | | (0.395) | (0.337) | (0.332) | (0.381) | (0.471) | (1.411) |
| Constant | –11.600 *** | –5.037 | –7.285 *** | –10.918 *** | –2.691 | –9.640 | –6.904 ** | –3.831 | –3.409 | –8.950 *** | –6.820 ** | –12.056 *** |
| | (2.621) | (3.447) | (2.027) | (3.029) | (3.421) | (8.045) | (3.281) | (4.239) | (4.506) | (2.847) | (2.953) | (4.219) |
| Number of observations | 2,161 | 797 | 1,612 | 536 | 2,321 | 814 | 781 | 995 | 995 | 823 | 477 | 346 |
| Number of countries | 119 | 37 | 117 | 36 | 120 | 37 | 37 | 37 | 37 | 37 | 36 | 37 |

Source: IMF staff estimates.

[1] The sample "All" includes emerging market and developing economies; period covered is 1982–2014, except when specified.

[2] "fine" refers to a fine classification with seven categories (1) hard pegs (exchange arrangement with no separate legal tender and currency board arrangements); (2) conventional pegs (to a single currency); (3) basket pegs; (4) pegged exchange rates within horizontal bands; (5) crawling pegs or band; (6) managed floats with no predetermined path for the exchange rate; and (7) independently floating arrangement. The shaded area represents the period during which countries moved to either a peg or to a float.

[3] Three broad categories of exchange rate regimes (ERRs) are considered: pegged (categories 1 and 2), floating (category 7) and all other regimes classified as intermediate.

Note: Regression of overall and primary fiscal balance on regime dummy variables and other control variables. All specifications include time effects. *t*-statistics based on robust standard errors. *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively. CTOT = commodity terms-of-trade; ERR = exchange rate regime; HIPC = heavily indebted poor country; OB = overall balance; TOT = terms-of-trade.

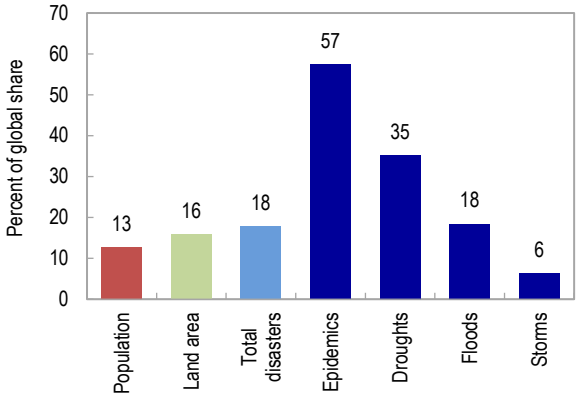
# 3. Enhancing Resilience to Natural Disasters in Sub-Saharan Africa

The 2014–15 Ebola epidemic in West Africa and the 2016 droughts induced by El Niño in parts of Eastern and Southern Africa have brought to the fore the economic and social costs posed by natural disasters in sub-Saharan Africa. Policymakers have struggled to manage the impact of these crises, which have had adverse effects on macroeconomic performance. The significant international spillovers and scale of humanitarian relief needs drive home the point that these challenges are a concern of global as well as regional scale.

In this context, this chapter analyzes the economic and social implications of natural disasters for sub-Saharan Africa and assesses policy responses.[1] Natural disasters are defined as events of natural causes that lead to damage, dislocation, or loss of life. These events can be weather-related (flood, drought, storm), geophysical (earthquake, volcano), or biological (epidemic). Sub-Saharan Africa is impacted disproportionately by certain types of natural disasters compared with other regions; in particular, it is far more prone to droughts and epidemics (Figure 3.1). However, the region's relative exposure to disasters overall appears to be broadly in line with its share of global population and land area.

Our analysis finds that the impact of natural disasters in sub-Saharan Africa is magnified by structural factors that limit countries' capacity to respond adequately and develop resilience over time. In particular, the impact of weather-related disasters is amplified by, for example, a heavy reliance on rain-fed agriculture in output and employment. Moreover, with 40 percent of the world's poor living in sub-Saharan Africa, natural disasters have a substantial social impact, leading to strong increases in food insecurity, poverty, and inequality. The combined effect of the natural disasters and structural factors results in a large part of sub-Saharan African countries being considered among the most vulnerable to natural disasters in the world (World Risk Report 2016; Figure 3.2).[2]

Figure 3.1. Sub-Saharan Africa: Share in Selected Indicators, 2014




Sources: Incidence of Natural Disasters database, EM–DAT; World Bank, World Development Indicators; and IMF staff calculations.

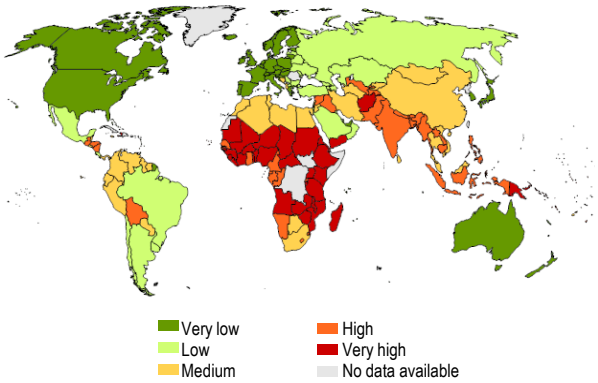
Climate change will compound these challenges with more extreme weather events, as well as rising temperatures and sea levels (IPCC 2012). Agriculture is expected to suffer from declining yields and reduced arable land, while hydropower generation could also be disrupted. Rising sea levels and environmental degradation will likely generate significant relocation costs and hamper tourism. The region's challenges will intensify with a population projected to double by 2050, accompanied by accelerating urbanization (IMF 2015a).

This chapter was prepared by a team led by Marshall Mills and Vimal Thakoor under the guidance of David Owen. The main authors are Mounir Bari, Marlon Francisco, Ermal Hitaj, Tobias Rasmussen, and Arina Viseth, with contributions from Luisa Charry, Kerstin Gerling, Farayi Gwenhamo, Mumtaz Hussain, Yun Liu, Fan Yang, and Mustafa Yenice.

[1] The chapter relies on the EM–DAT disaster database (http://www.emdat.be), including for the definitions of events. The database includes all disasters meeting one of the following criteria: 10 people killed, 100 people affected (injured, homeless, or requiring immediate assistance such as food, water, sanitation, and medical assistance), a declaration of a state of emergency, or a call for international assistance.

[2] The World Risk Index measures the vulnerability of a country to natural disasters as a function of its susceptibility (public infrastructure, housing conditions, nutrition, poverty, economic capacity, and income distribution), its coping capacities (governance and perception of corruption, disaster preparedness, early warning systems, medical services, and social networks), and its adaptive capacities (education and research, gender equity, environmental status, ecosystem protection, and adaptation strategies and investments).

**Figure 3.2. Sub-Saharan Africa: Vulnerability to Natural Disasters**




Sources: United Nations University Institute for Environment and Human Security, World Risk Report 2016.

Given the economic and social ramifications, building resilience to natural disasters and climate change is receiving increasing attention and plays a central role in the Sustainable Development Goals (SDGs). In particular, the goals include making infrastructure and cities more resilient to natural disasters and combating the impact of climate change.[3]

The chapter starts by surveying the types of disasters affecting the region before turning to the structural factors that magnify their impact. It then assesses the economic and social impacts by combining several approaches (stylized facts, event studies, and empirical estimates). The implications of climate change for resilience are then examined, including potential impacts of rising temperatures. The chapter concludes by looking at policies that countries with varying capacities and vulnerabilities can put in place to enhance resilience.[4]

The main findings are as follows:

- Natural disasters in sub-Saharan Africa tend to have an uneven impact on macroeconomic conditions in the short run. On average, the impact on short-term growth is mixed, except for the clear adverse effect of droughts in small states. The overall impact on fiscal positions points to increased current spending and a deterioration in the fiscal balance. There is also a substantial negative impact on external balances, as well as a small impact on financial sector soundness. These results reflect the uneven impact of the disasters, initial conditions, and policy responses, the latter often offsetting to a large extent the negative impact on growth performance in the short run. Natural disasters can easily spill over beyond borders, as highlighted by the 2014 Ebola crisis.
- In contrast, there is a clear negative effect on long-term growth and social indicators in sub-Saharan Africa, particularly from major disasters. This impact largely reflects the damage to infrastructure and human capital.
- Climate change will increase vulnerabilities, with potentially severe effects on growth and social indicators without effective adaptation. Rising temperatures and rainfall volatility are expected to increase the frequency and severity of droughts and floods, thereby impairing agricultural productivity. Growth in the region has historically been sensitive to increases in temperature.
- To protect against the negative impact of natural disasters, in the near term, resource-constrained economies in sub-Saharan Africa should begin by implementing cost-effective adaptation measures to reduce risk. Indeed, while they should pursue "first-best" solutions in the long-run that aim to transfer risk and build buffers, most countries have limited resources and capacity to pursue these solutions effectively in the short run.
- The international community can help develop risk reduction and transfer mechanisms for sub-Saharan Africa, as well as provide support to cope with disasters' effects. Development partners can better coordinate disaster relief efforts to make them more rapid and better targeted. The IMF has been increasingly adapting its lending and advice to help respond to natural disasters.

[3] More generally, countering the effects of natural disasters and climate change feature prominently in targets for numerous SDGs, including building the resilience of the poor to climate-related events and other disasters; ending a number of epidemics common in Africa; strengthening public health capacity; and strengthening resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.

[4] It complements work underway through the IMF's "Small States Resilience to Natural Disasters and Climate Change: Role of the IMF" (IMF 2016c forthcoming), which focuses at this stage on small states.

## NATURAL DISASTERS IN SUB-SAHARAN AFRICA

This section surveys natural disasters in sub-Saharan Africa, looking at the frequency, location, type, and proportion of the population affected.

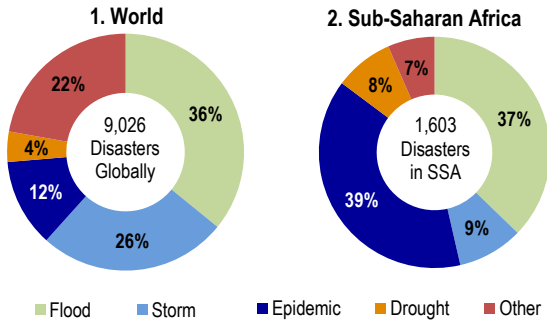
Sub-Saharan Africa experienced 1,603 reported disasters, about 18 percent of the global total (Figure 3.3). Epidemics and floods accounted for the bulk of disasters, at 39 percent and 37 percent, respectively.[5] Droughts accounted for 8 percent of disasters, twice the share globally.

Countries across sub-Saharan Africa exhibit different levels of vulnerability to droughts, epidemics, floods, and storms. Figure 3.4 shows the frequency with which countries were affected by droughts and epidemics and the share of population affected. The human cost varies, but there is a strong correlation between frequency and population affected in most cases.

- **Droughts** are more frequent in the Sahel region and eastern and southern Africa. About a dozen countries reported six or more droughts since 1990, with Ethiopia, Kenya, and Mozambique experiencing frequent droughts. Droughts are strongly correlated with El Niño. Reflecting the high frequency of droughts, the Sahel region and eastern and southern Africa have the highest percentage of population affected. While not affected as frequently, Lesotho and Swaziland have a high share of population impacted. Epidemics tend to be concentrated around the equator. Ten countries reported more than one epidemic a year. The most common of these are transmitted by mosquitoes or are waterborne.
- **Floods** occur throughout the continent, with nine countries averaging more than one event per year. Countries with the highest human cost are evenly dispersed throughout the continent.
- **Storms** are more common in the southeastern part of the continent, reflecting the prevalence of tropical cyclones in that part of the Indian Ocean. Seven countries reported six or more storms.

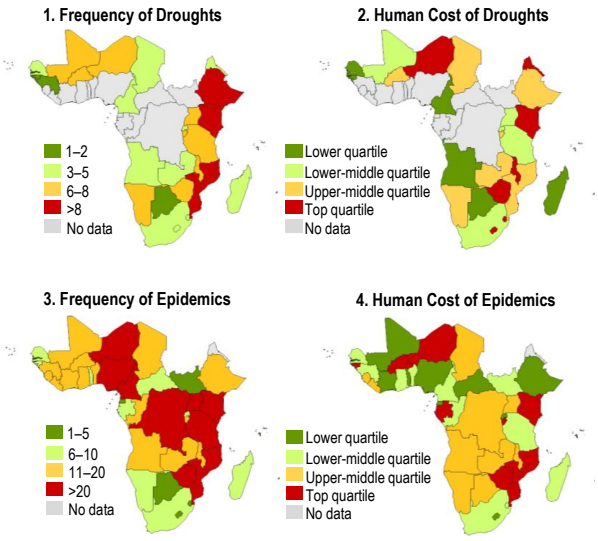
Some countries are affected by multiple disasters. For instance, Mozambique stands out as being vulnerable to all four types of disasters. Kenya shows high vulnerability to both frequency and human cost of droughts and epidemics. Comoros and Seychelles have historically been impacted by both storms and epidemics. Different disasters are more often correlated in sub-Saharan Africa

**Figure 3.3. World and Sub-Saharan Africa: Frequency of Disasters, 1990–2014**




Sources: Incidence of Natural Disasters database, EM–DAT; and IMF staff calculations.

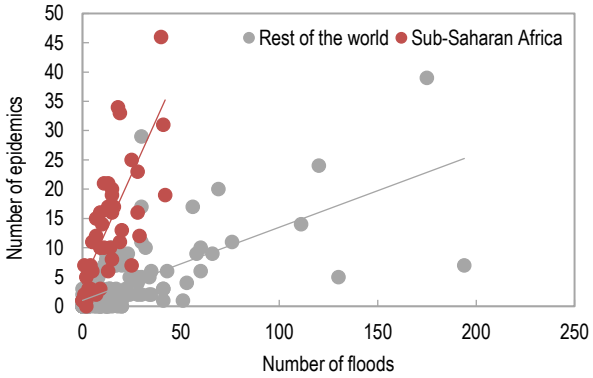
**Figure 3.4. Sub-Saharan Africa: Frequency and Human Cost of Droughts and Epidemics, 1990–2014**




Sources: Incidence of Natural Disasters database, EM–DAT; and IMF staff calculations.

[5] This chapter focuses on natural disasters starting from 1990 in light of considerations on the comparability of the data. The chapter relies on the number of people affected as the primary measure of severity of a disaster.

**Figure 3.5. Sub-Saharan Africa: Floods and Epidemics by Country, 1990–2014**




Sources: Incidence of Natural Disasters database, EM–DAT; and IMF staff calculations.

than elsewhere. For example, there is a stronger correlation between floods and epidemics in sub-Saharan Africa relative to the rest of the world (Figure 3.5).

The impact of disasters can be amplified in the presence of structural weaknesses. We look at the ones most relevant for sub-Saharan Africa in the next section.

## STRUCTURAL FACTORS AFFECTING THE IMPACT OF NATURAL DISASTERS

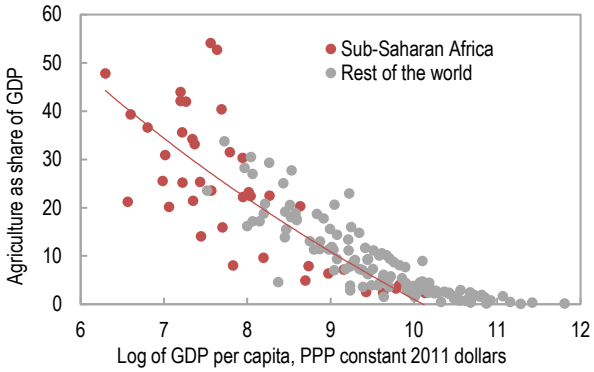
The impact of natural disasters is determined by the interaction between their severity, frequency, and duration on the one hand and the country's initial conditions on the other (such as for example the size of land area and population exposed, as well as the extent to which a country is prepared and able to cope with disasters). The postdisaster response also plays a major role in determining the net impact.

Indeed, the type of disaster interacts with structural factors to determine the magnitude of the impact. Floods and storms tend to be short lived but cause significant immediate damage to output as well as physical and human capital. In contrast, epidemics and droughts tend to last longer; while the damage to physical capital tends to be mitigated, the impact is felt in terms of lost output and human capital over time. Droughts result in reduced food supplies, possibly leading to malnutrition and poverty (with long-lasting implications), as well as disruptions in hydroelectric power generation.

Sub-Saharan Africa exhibits structural characteristics that exacerbate vulnerabilities, in four main areas:

- **Weak adaptation capacity**—Sub-Saharan African countries have shown limited financial and institutional capacity for effective adaptation to reduce exposure and vulnerability. As a result, many are among the most exposed and vulnerable in the world (see Figure 3.2). Noy (2009) finds that higher literacy rate, better institutions, higher per capita income, higher degree of openness to trade, and higher levels of government spending all increase the ability of governments and the private sector to mobilize resources for reconstruction and contain the spillovers on the macro economy. Economic diversification and fiscal space to conduct counter-cyclical policy can also impact the response and overall economic cost.
- **High share of rain-fed agriculture in GDP**—A large share of agriculture in GDP (Figure 3.6) and employment adds to vulnerability, as do other weather-sensitive activities, such as herding and fishing. Sub-Saharan Africa has the highest share of rain-fed agriculture globally at 95 percent (Figure 3.7). These vulnerabilities contribute to short term income losses and increased food insecurity.

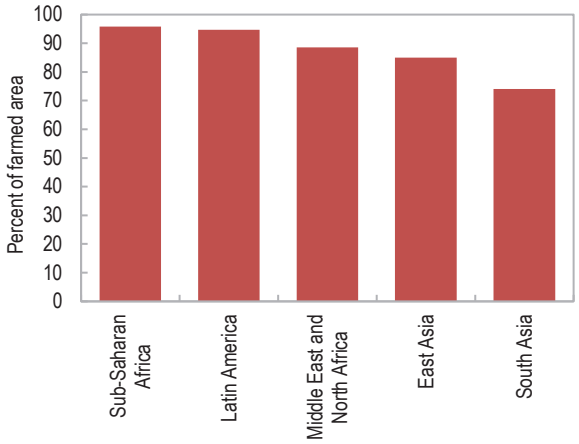
**Figure 3.6. Sub-Saharan Africa: Share of Agriculture and GDP per Capita, 2014**




Sources: World Bank, World Development Indicators; and IMF staff calculations.

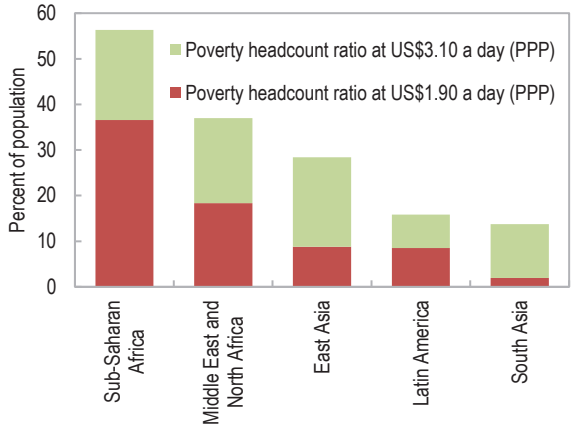
Note: PPP = purchasing power parity.

**Figure 3.7. Selected Regions: Percent of Rain-fed Farmed Area, Average 2005–13**




Sources: United Nations, Food and Agriculture Organization statistics database; and IMF staff calculations.

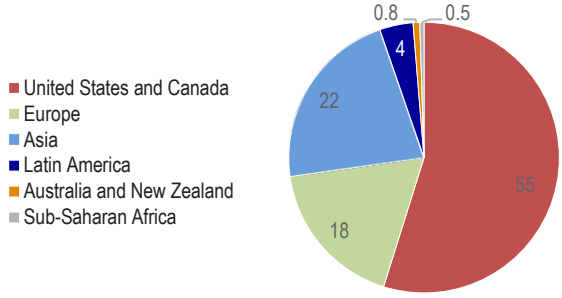
**Figure 3.8. Selected Regions: Poverty Headcount Ratios, 2012**




Sources: World Bank, World Development Indicators; and IMF staff calculations.

Note: PPP = purchasing power parity.

**Figure 3.9. Selected Regions: Agricultural Insurance Premium, 2011**
*(Percent of total)*




Source: Swiss Re. 2013.

- **High levels of absolute poverty**—Sub-Saharan Africa has the world's largest shares of population living under US$1.90 and US$3.10 a day (Figure 3.8). These segments tend to be among the most vulnerable, as a small shock can often result in an increase in the number of people living below the poverty line and unable to meet their basic needs.
- **Limited financial sector development**—Low levels of access to credit and especially insurance, both domestically and for sovereigns, reduce the scope both for risk transfer and for financing for postdisaster relief and reconstruction. Agricultural insurance coverage in sub-Saharan Africa is lagging compared with other regions, with only 0.5 percent of the total agricultural insurance premiums in the world paid in the region (Figure 3.9). The trend also applies to private insurance. In more developed economies, private sector insurance can significantly offset the macroeconomic impact of even severe disasters (Goetz, von Dahlen, and Saxena 2012).

Put together, these vulnerabilities exacerbate the impact of natural disasters in sub-Saharan Africa relative to other regions. The next section looks at the economic and social costs of these disasters.

## THE ECONOMIC AND SOCIAL IMPACTS OF NATURAL DISASTERS

To develop policy responses to these vulnerabilities, it is important to identify the economic and social impacts of natural disasters. In this section, we examine the channels for these impacts and their magnitude by sector, looking at both the near-term macroeconomic effects as well as longer-term impacts on growth and social indicators. Notwithstanding some challenges in disentangling complex effects, we find that the near-term macroeconomic effects tend to be mixed, depending on the types of disasters and sectors affected—often they are not substantial overall. On the other hand, the effects on long-term growth and social indicators are more evident and substantial.

## Channels of Impact

To examine the economic and social impacts of natural disasters, we start by identifying the channels of transmission:

- First, damage to capital—both physical and human—and disruption to economic activities are likely to adversely impact output and growth in both the short and long term. This negative impact can however be offset to some degree in the near term by policy responses, for example, increased activity for reconstruction. In the longer run, the quantity and quality of both infrastructure and human capital will suffer.
- Second, reduced export capacity and increased import demand can weaken external balances. Damage to production capacity and infrastructure reduces exports, while reconstruction needs and production shortfalls lead to a higher demand for imports. Evidence points to agricultural exports being the most vulnerable to droughts, floods, and storms.
- Third, lower tax revenue and increased public spending needs can worsen fiscal indicators, as the tax base weakens and relief efforts and reconstruction increase spending needs. However, lags in effects (for example, corporate taxes levied on previous years' profits) and expenditure switching—both from current to capital items and from planned capital spending to reconstruction—can mitigate or obscure these effects.
- Fourth, losses at enterprises and households can worsen financial sector indicators.
- Finally, the poor tend to be disproportionately impacted as they tend to live in vulnerable areas and have fewer resources to cope with disasters. Falls in agricultural production can lead to reduced employment opportunities. This can aggravate food insecurity, poverty, and inequality, thereby reducing human capital accumulation and growth potential in the long term.

## Assessing the Impact

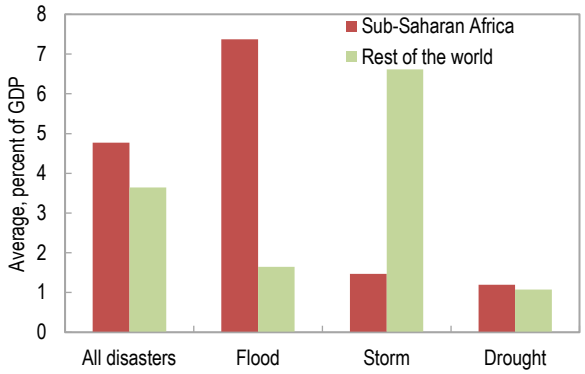
It can be challenging to quantify the impact of disasters, since it can be mixed in some cases, obscured by other factors, or offset by responses. Moreover, while the macroeconomic data used for analysis in low-income countries tend to be reported on an annual basis, natural disasters tend to be more localized and have widely varying durations—days for storms and floods and sometimes months for droughts and epidemics. For this reason, we use a combination of methods to analyze the short-term and long-term effects. First, we use event studies to identify stylized facts on the evolution of some important economic and social variables following disasters. The event analysis is focused on the major disasters (top 20 percent of disasters, based on the percentage of population affected). We also conduct case studies of major disasters, the 2014–15 Ebola epidemic and the drought in southern Africa that started in 2014 (Boxes 3.1 and 3.2). Second, to better control for other contemporaneous factors, we complement the event studies with empirical estimates using different methodologies adapted to the questions being asked. Since the impact can vary according to the types of disasters, where data allows, we look at the four most common ones separately: droughts, epidemics, floods, and storms which account for nearly 90 percent of all disasters in the region.

## Short-Term Macroeconomic Effects

### *Significant damage reported*

The economic costs of the top 20 percent of disasters in sub-Saharan Africa show significant costs, particularly relative to other regions (Figure 3.10). The average reported economic costs are higher in sub-Saharan Africa, except for storms. Similarly, except for storms, the average number of people reported to have been affected is broadly the same or higher in sub-Saharan Africa (Figure 3.11). Storms typically cause more damage in more affluent countries, where valuable assets are concentrated on coasts and around rivers. Major droughts affect 35 percent of a country's population on average, while the proportion of the population in sub-Saharan Africa impacted by epidemics is nearly twice as high as elsewhere.

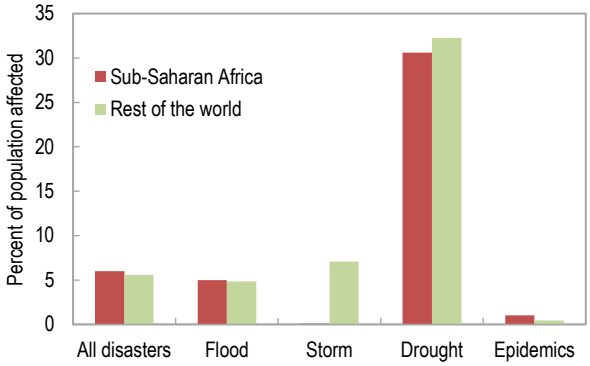
**Figure 3.10. Sub-Saharan Africa: Average Economic Cost of Selected Disasters,[1] 1990–2014**




Sources: Incidence of Natural Disasters database, EM–DAT; and IMF staff calculations.

[1] Selected disasters are those in the top 20 percent most damaging disasters in terms of human lives affected.

**Figure 3.11. Average Human Cost of Selected Disasters,[1] 1990–2014**




Sources: Incidence of Natural Disasters database, EM–DAT; and IMF staff calculations.

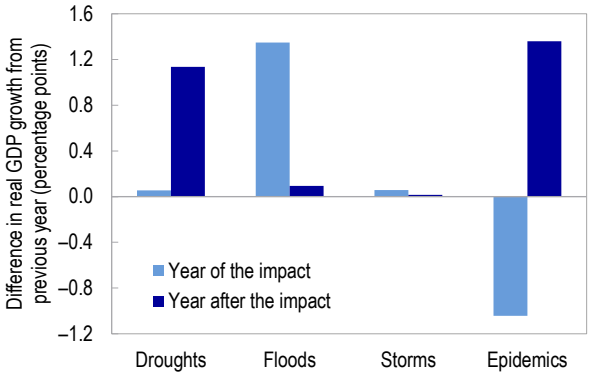
[1] Selected disasters are those in the top 20 percent most damaging disasters in terms of human lives affected.

## *Muted near-term growth impact*

The near-term growth impact of natural disasters is mixed in sub-Saharan Africa. This could be explained in part by policy measures that offset the negative impact and a small positive impact of some disasters in net terms.

- Event analysis—Figure 3.12 shows the mixed evolution of GDP growth during and after major (top 20 percent) disasters over the period 1990–2014. Only epidemics are associated with a marked slowdown in growth compared with the year directly preceding the event, and this is reversed in the following year. There is little overall measured impact on GDP during the year of a drought, and an acceleration in the following year (perhaps due to the rebound in the agricultural sector or higher aid flows). The impact of storms on growth is marginal in both years. Floods are associated with higher growth (possibly reflecting the benefits of associated rainfall). One of the reasons the event analysis does not yield conclusive results could have to do with the fact that the approach does not control for other factors.

**Figure 3.12. Sub-Saharan Africa: Event Analysis, Impact of Selected Disasters[1] on Real GDP Growth, 1990–2014**




Sources: Incidence of Natural Disasters database, EM–DAT; and IMF staff calculations.

[1] Selected disasters are those in the top 20 percent most damaging disasters in terms of human lives affected.

- Empirical analysis—To overcome this deficiency, an empirical approach relating growth in GDP per capita to various natural disasters is undertaken controlling for commonly used growth determinants.[6] To account for potential spillovers of the growth impact, we look at both the impact in the year of the disaster and the following year. The results (summarized in Table 3.1) are mixed and at times counterintuitive. Small states in sub-Saharan Africa tend to be more vulnerable, with droughts associated with a contraction of about 0.4 percentage point in income per capita growth. In low-income countries, there is a positive impact in the

[6] We extend the model by Barro (2003) by including natural disasters as a determinant of growth. Using yearly data for a panel of 136 countries during the period 1984–2014, we apply the three-stage least squares method to assess the short-term effect of disasters on growth. The other variables in the model include initial GDP, trade openness, life expectancy, fertility, public consumption, public investment, educational attainment, quality of institutions, and inflation.

**Table 3.1. Selected Groups: Econometric Estimates, Average Impact of Selected Disasters on Income per Capita Growth in the Short Term, 1990–2014**

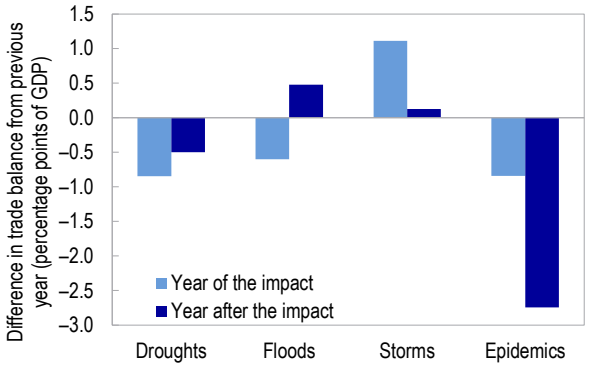
| | Overall | SSA | | SSA LIC | | Small State | | Small State SSA | |
|---|---|---|---|---|---|---|---|---|---|
| | | Overall | Interaction | Overall | Interaction | Overall | Interaction | Overall | Interaction |
| **Drought** | | | | | | | | | |
| Year of impact | 0.048 | 0.000 | 0.068 | –0.045 | 0.159* | 0.071 | –0.23 | 0.064 | –0.366*** |
| Year after impact | –0.011 | –0.094 | 0.114 | –0.084 | 0.124 | 0.013 | –0.250* | 0.006 | –0.404* |
| **Epidemic** | | | | | | | | | |
| Year of impact | 0.040 | 0.105* | –0.1 | 0.144*** | –0.197*** | 0.042 | –0.084 | 0.042 | –0.084 |
| Year after impact | 0.038 | 0.079 | –0.064 | 0.112** | –0.148** | 0.036 | 0.049 | 0.036 | 0.049 |
| **Flood** | | | | | | | | | |
| Year of impact | 0.044* | 0.059** | –0.047 | 0.063** | –0.078 | 0.046* | –0.055 | 0.045* | –0.065 |
| Year after impact | 0.033 | 0.036 | –0.01 | 0.041 | –0.033 | 0.034 | –0.118 | 0.033 | … |
| **Storm** | | | | | | | | | |
| Year of impact | –0.015 | –0.021 | 0.045 | –0.027 | 0.104 | –0.01 | –0.074 | –0.009 | –0.195 |
| Year after impact | 0.002 | –0.003 | 0.033 | 0.001 | 0.002 | 0.001 | 0.013 | –0.002 | 0.239 |

Source: IMF staff calculations.

Note: LIC = low-income country; SSA = sub-Saharan Africa.*** $p$<0.01, ** $p$<0.05, *$p$<0.1.

year of the disaster. Floods on the other hand tend to have a marginally positive impact on growth. This could be due to the fact that floods tend to benefit rain-fed agriculture in the surrounding areas. While epidemics lead to an overall marginal but positive impact in sub-Saharan Africa, there is a negative impact in low-income countries. Storms do not seem to have a significant impact in the short-term. The positive impact of disasters could reflect the stimulus that follows some of these disasters.

**Figure 3.13. Sub-Saharan Africa: Event Analysis, Impact of Selected Disasters[1] on Trade Balance, 1990–2014**




Sources: Incidence of Natural Disasters database, EM–DAT; and IMF staff calculations.

[1] Selected disasters are those in the top 20 percent most damaging disasters in terms of human lives affected.

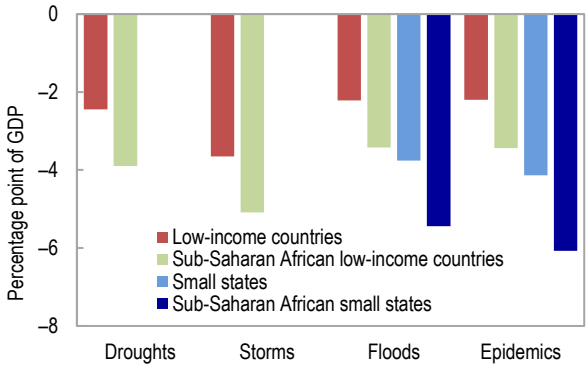
## *Weaker external balances*

Conversely, there are clear indications of a marked deterioration in external balances following most types of disasters, which can contribute to external vulnerabilities.

- Event analysis points to a sustained and substantial deterioration in the trade balance associated with droughts and epidemics (Figure 3.13). The trade balance weakens the year of a flood and recovers the next year. Storms are associated with an improvement in the trade balance.
- The empirical results looking at the current account and controlling for other factors[7] also support the finding that external balances are substantially weakened by disasters in sub-Saharan Africa. The current account is more severely impacted in low-income countries, small states, and especially small states in sub-Saharan Africa, relative to other regions (Figure 3.14).

[7] We extend the model by Chinn and Prasad (2003) by including natural disasters as a determinant of the current account. We apply a simple ordinary least squares and use a panel of 177 countries during the period 1990–2014. The other variables in the model include: the government fiscal balance, real effect exchange rate, broad money, direct investment, and international reserves, as well as a dummy if a country is resource rich.

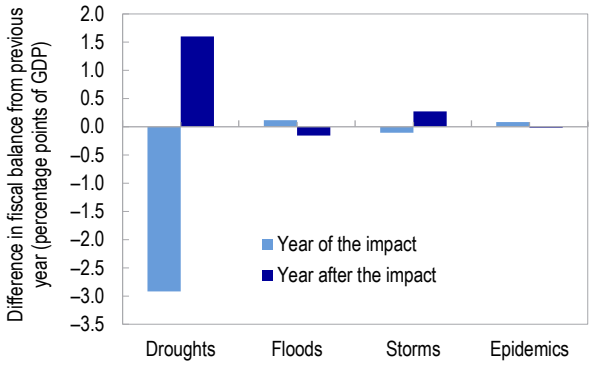
**Figure 3.14. Sub-Saharan Africa: Econometric Estimates, Impact of Selected Disasters[1] on Current Account Balance**




Sources: Incidence of Natural Disasters database, EM–DAT; and IMF staff calculations.

Note: Only statistically significiant results are shown.
[1] Selected disasters are those in the top 20 percent most damaging disasters in terms of human lives affected.

**Figure 3.15. Sub-Saharan Africa: Event Analysis, Impact of Selected Disasters[1] on the Fiscal Balance Excluding Grants, 1990–2014**




Sources: Incidence of Natural Disasters database, EM–DAT; and IMF staff calculations.

[1] Selected disasters are those in the top 20 percent most damaging disasters in terms of human lives affected.

### *Weaker fiscal positions in some cases*

Disasters do not tend to be associated with clear impacts on fiscal variables on average. As noted above, some effects may occur with lags (such as revenue or reconstruction), be obscured by expenditure switching, or be offset by external budget support (in the form of grants and/or financing). Often, these immediate policy responses can come at the expense of rapid recovery (such as delayed reconstruction) or long-term development (such as cutting previously planned capital spending). This is broadly consistent with findings by Gerling, Moreno, and Toffano (forthcoming).

- The event analysis points to a significant deterioration in the fiscal balance in the year of a disaster only in the case of droughts, followed by a partial recovery (Figure 3.15). Other effects are marginal.
- The empirical analysis[8] that tries to control for other factors yields few statistically significant results regarding the impact. Depending on the model specification, current expenditures tend to increase by 0.2 percent of GDP and the primary balance deteriorates by 0.7 percent of GDP following disasters. There was no discernible impact on debt dynamics, although this could be due to official debt relief in many of the sub-Saharan African countries during the period under consideration.

### *Heightened financial sector fragility*

Financial sector soundness tends to deteriorate moderately in the sub-Saharan African countries following a disaster, as nonperforming loans (NPLs) tend to increase.

The event analysis point to an increase in NPLs in sub-Saharan African countries affected by disasters, in contrast to all other country groups, where NPLs tend to decline (Figure 3.16).

- The empirical results confirm that natural disasters contribute to a deterioration in NPLs across all disaster types for the region.[9] The deterioration in NPLs is highest for storms,

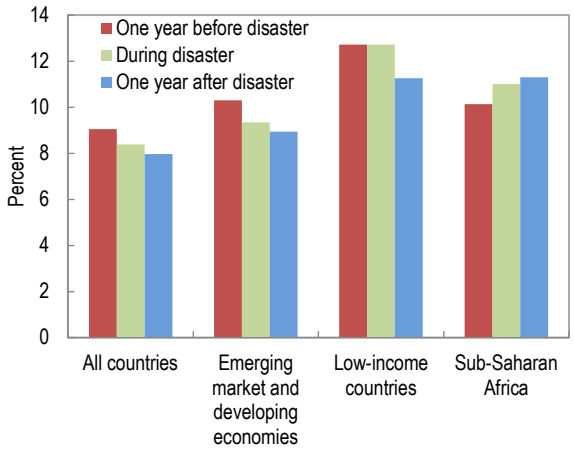
[8] We use a modified version of Cabezon and others 2015 to assess the impact of natural disasters on key fiscal variables. We estimate a panel VAR covering 45 countries over the period 1990–2014. The basic specification controls for the primary fiscal balance, tax revenue, government current expenditure, real GDP growth, and the intensity of natural disasters. An alternative specification controls for the primary fiscal balance, the C-efficiency ratio of value-added tax revenue to consumption, divided by the standard tax rate government total expenditure, real GDP growth, and the intensity of natural disasters

[9] We extend the model by Ebeke, Loko, and Viseth (2014) by including natural disasters as a determinant of NPLs. We apply a fractional logit model to assess the impact of natural disasters using a sample that covers 176 countries during the 1997–2014 period. The other variables in the model include real GDP growth, GDP per capita, trade openness, and a measure of governance.

followed by droughts, epidemics, and floods, with the increase varying between 0.1 and 1 percentage point (Figure 3.17).

These results suggest that the lower financial development and associated credit constraints in sub-Saharan Africa increase vulnerabilities to disasters. Additionally, the limited availability of insurance and firms' difficulty in accessing credit can also hamper the ability of firms to restore their operations and sustain debt service after disasters.

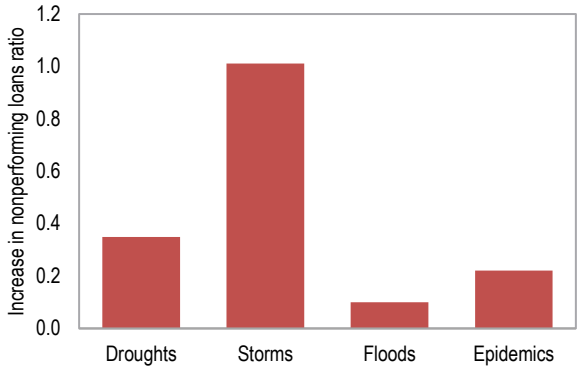
**Figure 3.16. Selected Groups: Event Analysis, Impact of Natural Disasters on Nonperforming Loans**




Sources: World Bank, Global Financial Development database; and IMF staff calculations.

Note: Disaster episode is defined as one that occurred between 1997 and 2014 and that resulted in more than 0.5 percent of GDP in damage.

**Figure 3.17. Sub-Saharan Africa: Econometric Estimates, Impact of Natural Disasters on Nonperforming Loans**




Sources: World Bank, Global Financial Development database; and IMF staff calculations.

## Long-Term Effects

Disasters appear to have substantial longer-term impacts on growth and social indictors, despite the muted effects in the near term. These negative long-term impacts could reflect the effects over time of both the disasters and the responses to cope with them.

Disasters do appear to affect longer term development through repeated damage to physical and human capital. This damage reduces the overall level and efficiency of capital, hence lowering potential growth.

- To assess this impact, the first econometric approach[10] looks at the types of disasters and finds a persistent adverse impact on growth from droughts (between –0.4 percent of GDP overall and –0.5 percent of GDP for the severe disasters in sub-Saharan Africa) and storms (about –0.2 percent of GDP). The results are summarized in Table 3.2.
- The second approach focuses on selected sub-Saharan African countries and finds that natural disasters lower real GDP by about 0.9 percent in the long term. In addition,

**Table 3.2. Sub-Saharan Africa: Econometric Estimates, Average Impact of Selected Disasters on Real GDP Growth,**
*(Average Real GDP Change over a 10-year Period (percent), 1990–2014)*

| | | Droughts | Storms | Floods | Epidemics |
|---|---|---|---|---|---|
| Overall | | –0.361* | –0.197** | –0.081 | –0.076 |
| Sub-Saharan Africa | Overall | –0.222 | –0.160* | –0.109 | –0.219 |
| | Interaction | –0.257 | –0.445 | 0.124 | 0.188 |
| Sub-Saharan African low-income countries | Overall | –0.222 | –0.160* | –0.109 | –0.187 |
| | Interaction | –0.257 | –0.445 | 0.124 | 0.155 |
| Top 20 percent | Overall | –0.441** | –0.204** | –0.108 | –0.071 |
| | Interaction | 0.440 | 0.057 | 0.196 | –0.027 |
| Top 20 percent and sub-Saharan Africa | Overall | –0.441** | –0.183** | –0.080 | –0.082 |
| | Interaction | 0.440 | –0.524 | –0.018 | 0.076 |

Source: IMF staff calculations.

Note: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

[10] We use the same model as for the short-term growth impact (Barro 2003). We use 10-year panel data covering 95 countries during the 1984–2014 period. The other explanatory variables remain unchanged (see footnote 6).

damage to physical infrastructure and reduced human capital also compound the impact. Annex 3.1 provides additional details.

## Social Costs

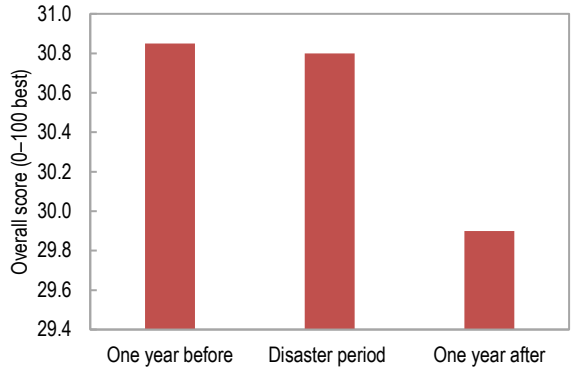
To assess the social impact of disasters, we examine trends in food security, poverty, and inequality and find that disasters are associated with deterioration in most cases.

- The event analysis suggests that natural disasters worsen social conditions across all dimensions. There is a marked decline in the availability, affordability, and quality of food following a disaster, resulting in a marked decline in food security (Figure 3.18); these trends disproportionately affect the poor, who spend a higher share of income on food. Both poverty and inequality also tend to be higher in countries that are impacted by disasters (Figure 3.19).
- The empirical analysis[11] points to significant increases in poverty following all four types of disasters, ranging from a 0.2 to a 0.5 percent increase (see Mills and others, forthcoming; Figure 3.20). The increase is often stronger for sub-Saharan countries or low-income countries than elsewhere.

A number of factors explain the substantial deterioration in social conditions following a disaster, especially in sub-Saharan Africa and low-income countries. The lack of effective social safety nets can increase the vulnerability of poor households hit by reduced subsistence production and wages. In addition, the poor tend to settle in the most vulnerable areas, which also tend to suffer from weak housing standards (World Bank 2003). In addition, credit constraints and limited insurance limit options to cope with disasters' impact (IMF 2003). These social pressures arising from natural disasters can in turn contribute to the incentives for migration, leading to regional and global spillovers.

[11] We build on Ravallion 1997 and Ravallion and Chen 1997 by including natural disasters as a determinant of poverty. We apply a fractional logit estimation method using a sample of 176 countries during the period 1997–2014. The other variables in the model include GDP per capita and the Gini coefficient.

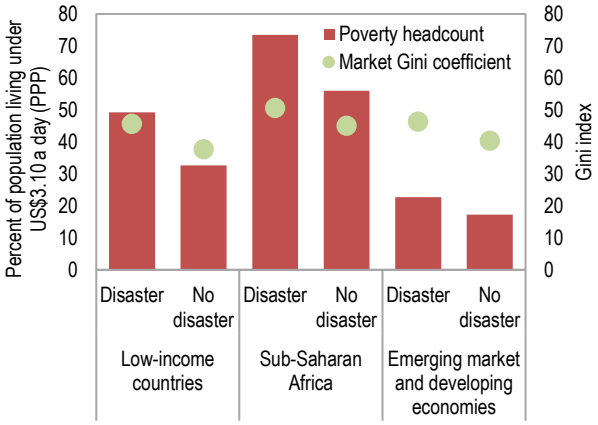
**Figure 3.18. Sub-Saharan Africa: Event Analysis, Food Security Index, 2011–14**




Source: Global Food Security Index database.

Note: Disaster period is defined as one during which any type of disaster (flood, drought, epidemic, storm) resulted in damage of more than 0.5 percent of GDP.

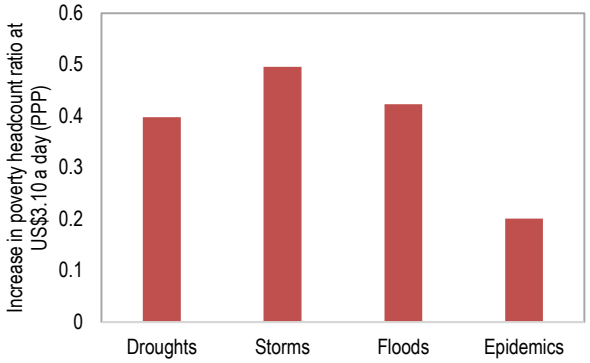
**Figure 3.19. Selected Groups: Event Analysis, Poverty, and Inequality, 2011–13**




Sources: Solt 2014; and World Bank, World Development Indicators.

Note: Disaster period is defined as one during which any type of disaster (flood, drought, epidemic, storm) resulted in damage of more than 0.5 percent of GDP. PPP = purchasing power parity.

**Figure 3.20. Sub-Saharan Africa: Econometric Estimates, Impact of Natural Disaters on Poverty, 2011–13**




Source: World Bank, World Development Indicators.

Note: PPP = purchasing power parity.

In sum, the results point to a muted impact for short-term growth and fiscal variables, although there are clear short-term impacts on the external and financial sectors that can contribute to vulnerability. We also find a slowdown in longer-term growth and a clear deterioration in social indicators.

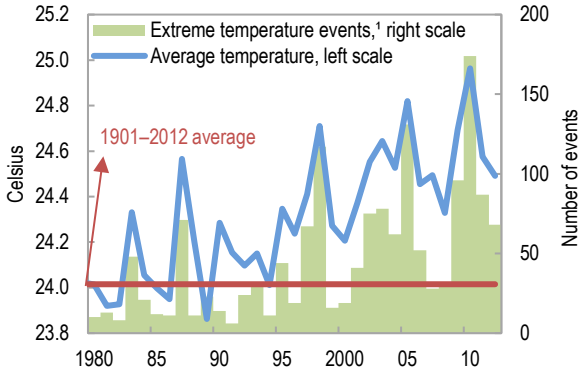
## THE CHALLENGES POSED BY CLIMATE CHANGE

Climate change is expected to compound the difficulties posed by natural disasters. The region will suffer disproportionately from rising temperatures, as well as from more frequent and intense droughts and floods (IPCC 2012). At the same time, the region has among the lowest adaptive capacity to climate change (in addition to natural disasters). Sub-Saharan Africa has already seen average temperature increases of about ½ degree Celsius (°C) over the past few decades, broadly in line with the global pattern, although future increases are expected to be above average, particularly in the more arid regions (IPCC 2014). Climate change is already contributing to patterns of rising temperatures and below average rainfall, punctuated with more frequent episodes of extreme rainfall (Figures 3.21 and 3.22).

Climate change is likely to negatively affect sub-Saharan Africa in the following ways:

- **Reduced agricultural output due to rising temperatures and volatility in water supply**—Warming by 1.5°–2°C could lead to a 40–80 percent reduction in present maize, millet, and sorghum cropping areas in Africa (World Bank 2013a). Climate change will hit poor households disproportionately.
- **Increased water stress contributing to desertification and reduction in cropping areas**—All regions will face increased variability in rainfall, although some specific regions, such as East Africa, may see overall increases. Changing rainfall patterns will also heighten uncertainty about hydroelectric power generation, complicating a key challenge for the region.
- **Rising sea levels will cause erosion in coastal areas**—especially for small islands, and contribute to flooding and saltwater intrusion (World Bank 2013a).
- **Environmental degradation**—for example, coral bleaching resulting from El Niño—can in turn accentuate economic costs and increase vulnerability. For example, variations in the water composition of Lake Tanganyika observed recently could jeopardize fisheries, an important food source for the large surrounding population.

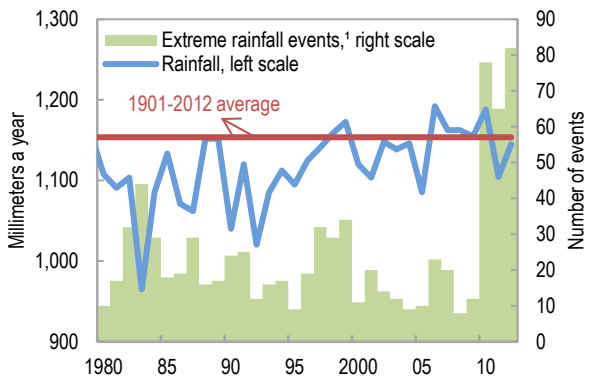
**Figure 3.21. Sub-Saharan Africa: Temperature, 1980–2012**




Sources: World Bank, Climate Change Knowledge Portal; and IMF staff calculations.

[1] Number of country-months where average temperature is more than 2 standard deviations away from the 1901–2012 average.

**Figure 3.22. Sub-Saharan Africa: Rainfall, 1980–2012**




Sources: Climate Change Knowledge Portal, World Bank; and IMF staff calculations.

[1] Number of country-months where total rainfall is more than 2 standard deviations away from the 1901–2012 average.

**Table 3.3. Impact of Weather on Real GDP Growth[1]**

| | Dependent variable: Total GDP | | | Dependent variable: Agricultural GDP | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (1) | (2) | (3) |
| **Temperature** | | | | | | |
| Contemporaneous | –0.541 *** | | –0.564 *** | –1.522 ** | | –1.324 * |
| | (0.186) | | (0.190) | (0.691) | | (0.687) |
| With three lags[2] | | –0.461 *** | | | –0.559 | |
| | | (0.176) | | | (0.631) | |
| Extreme events | | | 0.065 | | | –0.461 |
| | | | (0.112) | | | (0.403) |
| **Rainfall** | | | | | | |
| Contemporaneous | 0.006 | | 0.006 | 0.081 ** | | 0.081 ** |
| | (0.007) | | (0.007) | (0.033) | | (0.032) |
| With three lags[2] | | 0.012 | | | –0.013 | |
| | | (0.010) | | | (0.042) | |
| Extreme events | | | 0.623 | | | –0.214 |
| | | | (1.614) | | | (5.027) |
| Number of observations | 1,981 | 1,886 | 1,981 | 952 | 952 | 952 |
| $R^2$ | 0.13 | 0.14 | 0.13 | 0.08 | 0.08 | 0.08 |

Source: IMF staff calculations.

Note: Panel regressions covering 43 sub-Saharan African countries during 1963–2012. Temperature (°C) and rainfall (cm) are first differences of annual averages based on monthly data, with Southern Hemisphere countries' years adjusted to end in June. Extreme events are number of months where the weather variable is more than 2 standard deviations away from the long-term country mean. All specifications include country and period fixed effects. Robust standard errors in parentheses.

*** $p$<0.01, ** $p$<0.05, * $p$<0.1.

[1] Dependent variable: 100 x Δlog (GDP in constant local currency prices).

[2] Average across all the coefficients.

- **Rising temperatures**—are expected to promote the spread of diseases, particularly to higher altitudes and more temperate regions (World Bank 2016b).
- **Fiscal costs and financial disruptions**—can also result from climate change (Farid and others 2016). The damage from climate change and the need to implement adaptation measures will weigh on the budget. The disruption and cost will be higher for cities in coastal areas. At the same time, changing weather patterns could disrupt traditional business models, lead to dislocation of economic activities, and result in stranded assets, such as roads, bridges, and dams.

The magnitude of the expected costs of climate change, while uncertain, is likely to be large. The impact will depend in large part on the extent of global warming and whether policy action can contain it at 1.5°–2°C. Studies generally place the relative costs for sub-Saharan Africa above the global average, reflecting its lower per capita incomes, higher initial temperatures, and a greater reliance on climate sensitive economic activity such as farming (Farid and others 2016).

Empirical estimates conducted for this study looked at the impact of rainfall and temperature on real GDP growth. The findings suggest that rising temperatures associated with climate change could reduce annual economic growth by about ½ percentage point (Table 3.3)[12]. The analysis did not find a significant impact historically of rainfall (on a national basis) on total GDP but it did point to some impact on agriculture. The regression results indicate that agricultural GDP is positively influenced by precipitation, with a 1 centimeter increase in rainfall leading to a 0.08 percent increase in sector-level growth. Moreover, the negative impact from higher temperature is also substantially larger for agricultural GDP than for total GDP, indicating its sensitivity to weather variations.

Having quantified the impact of natural disasters and the risk posed by climate change, the chapter next looks at policies countries could implement to cope with natural disasters and enhance their resilience.

[12] Dell, Jones, and Olken (2012) find a similar but higher impact of 1 percentage point, in low-income countries.

## POLICY RESPONSES TO NATURAL DISASTERS AND CLIMATE CHANGE

Natural disasters have harmful economic and social effects, which are especially evident over the long-term. These effects depend on a number of factors: while some are deep rooted (such as poverty), or largerly beyond the control of country authorities (such as climate change), effective preparedness and policy responses can make a difference. Given the broad-ranging impact of disasters, an integrated multipillar strategy that emphasizes risk reduction, transfer, and retention is needed (IPCC 2012). Some approaches, including those involving international assistance, can span all three elements.

Ideally, the policy mix will combine risk reduction through enhanced resilience, risk transfer through financial instruments, and a residual risk element retained for low-impact, high-frequency events (World Bank 2014; IMF 2016c forthcoming).

The risk management strategy should reflect a cost-benefit assessment looking at the expected impact of disasters and the payoff from the policies. The resource intensity of policies will differ, with some reflecting minor adjustments to existing frameworks and others creating significant resource needs. In light of resource and capacity constraints in the near term, many countries in sub-Saharan Africa will have to rely to a large degree on low-cost adaptation and risk retention, in which case a gradualist, cost-effective approach to implementing responses will likely be appropriate.[13] Nevertheless, it is urgent to integrate resilience into development strategies and launch implementation, since timely interventions can be both less costly and more effective.

This section looks at a combination of policies that can support risk management. The IMF is already directly involved in a number of these areas as part of its surveillance or financial programs or is working in close collaboration with other development partners as part of broader international efforts.

### Risk Reduction

Risk reduction aims to mitigate the impact of disasters by integrating disaster planning into development strategies. Policies with general relevance include the following:

- **Assessing risks and information dissemination**—The first step in preparedness is adequate investment in risk identification and information dissemination. Early warning systems, including adequate weather and public health services and effective means of dissemination, can significantly enhance preparedness and reduce the impact on the population; one dollar invested in on early warning system yields an estimated $4 in reduced losses (World Bank 2016a). The operation of such systems in the region, while limited, is benefiting from technological improvements.
  - Information sharing among the countries affected by storms in the Indian Ocean allows for better forecasting of storm paths and facilitates any needed evacuations.
  - Rwanda is disseminating information on the expected timing of rainfall to farmers by mobile phone, which optimizes the planting of crops.
- **Making agriculture more resilient**—Enhancing the sector's resilience will help mitigate disasters' impact on income volatility, food insecurity, and poverty. Climate change is likely to further increase the benefits of resilience. Investment in water storage, irrigation, and increased agricultural productivity (for example, developing crops more resilient to water shortages) will support resilience. Box 3.4 elaborates on experiences in making agriculture more resilient in three sub-Saharan African countries.
  - The World Bank (2016a) estimates that interventions to enhance productivity in dryland households could lift many of them out of vulnerability to drought for US$160

[13] Box 3.3 looks at initiatives in Madagascar, a low-income, low-capacity country.

per household.[14] In Burkina Faso, large cisterns in sugarcane fields collect water that is distributed via efficient irrigation methods (IMF 2015c).

- **Promoting economic diversification—** Diversifying the economy toward manufacturing and services not related to agriculture will enhance resilience to weather-related disasters. Policies promoting diversification need to tackle the factors hindering the emergence of businesses that could drive noncommodity exports (IMF 2015b).
- **Adapting physical infrastructure—** Infrastructure development plans need to adapt to the growing risks from natural disasters and climate change, notwithstanding existing infrastructure gaps. Priority actions include strengthening building standards and planning ahead for the expected impact of climate change. Although resilient infrastructure usually costs more in the near term, it can pay off in the long run as it survives disasters. Adequate maintenance is also paramount for resilience. Policies implemented to enhance infrastructure resilience in the region include:
  - Improved construction standards resistant to storms in Madagascar, Malawi, and Mauritius (the first two focused on schools first), as well as the development of weather-resistant transport infrastructure in Madagascar and Mozambique (Ebinger and Vandycke 2015).
  - Reduced reliance on drought-prone hydropower generation and increased reliance on gas and geothermal energy in Kenya.
  - Risk-informed planning, as in São Tomé and Príncipe and Zambia; for example, by moving people from flood-prone to safer areas. Lesotho planned roads to reduce the impact of flooding (World Bank 2015a).
- **Strengthening financial infrastructure—** Resilient payments systems protect financial transactions after a natural disaster, helping minimize knock-on effects. Progress toward modern payment systems could also contribute to resilience by supporting postdisaster access to financing. Mobile banking could support a resilient payment system.

## Risk Transfer

The transfer of risk, for compensation in the event of a disaster, can be considered at the level of households, businesses, or nations. For nations, risk transfer takes place through private or sovereign insurance and through regional or multilateral risk-sharing mechanisms.

- **Increasing access to financing and insurance for households and businesses**—This can help mitigate the financial stress, including for the most vulnerable. Progress in financial deepening and inclusion will support this adaptation. In Kenya, crop insurance via mobile phones has begun to broaden access, with assistance from the World Bank.
- **Improving international assistance and coordination**—Some low-income and fragile countries with limited policy space rely on international support to cope with natural disasters. Donors play an essential role in providing short-term relief in such instances. In light of concerns about the adequacy, allocation, and timeliness of post-disaster assistance (Clarke and Dercon 2016), donors should seek to strengthen coordination and preparedness to ensure timely responses following a natural disaster. The World Bank's catastrophe deferred drawdown option (CAT-DDO) provides rapid access to financing while also promoting risk reduction. Donors can also assist in maintaining debt sustainability after disasters, and several international initiatives have been designed to help countries in the face of disasters. For example, the "hurricane clause" in the restructuring of Grenada's debt represents an example of a state-contingent solution for an economy highly vulnerable to natural disasters.

[14] Predisaster interventions to boost resilience can be cost-effective. Dissemination of productivity-enhancing, resilient agricultural and herding techniques would cost about US$1 billion in the Sahel and the Horn of Africa, whereas humanitarian aid to the region totaled US$4 billion in 2013 (World Bank 2016a).

- **Providing cost-effective insurance**—Sovereign disaster risk insurance remains at an early stage of development but holds significant promise as a cost-effective tool, compared with current practices in ex-post discretionary financing. The African Union established the Africa Risk Capacity (ARC) in 2014, with donor support, to provide quick-disbursing aid in the event of severe drought; it disbursed US$26 million in 2015. To transfer the large risks of catastrophe insurance to global markets, it has been combined with index-linked securities, such as catastrophe bonds, or "cat bonds."

## Risk Retention

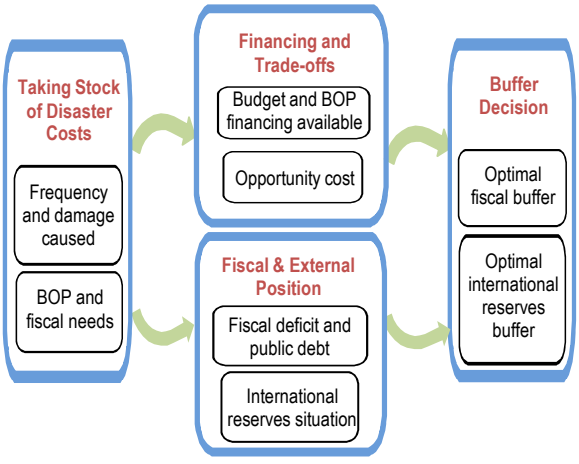
In principle, risk retention should be residual and targeted at high-frequency, low-impact events. At the same time, countries may have to retain a higher residual risk due to their limited capacity to reduce or transfer these risks. The primary policy responses to retained risk include the following:

- **Maintaining higher reserves and fiscal buffers**—A higher level of international reserves could help cushion potential balance of payments shortfalls, while higher fiscal buffers increase the resources available to cope with natural disasters (IMF 2016a, 2016c). The appropriate type and size of buffers would depend primarily on cost-benefit assessment, taking into account in particular the country's fiscal situation, the expected costs of natural disasters, and the ability to borrow—domestically or externally. Figure 3.23 highlights some of these considerations. For many sub-Saharan Africa countries with large infrastructure gaps and high opportunity costs, there are difficult trade-offs in maintaining policy buffers. Under these circumstances, it often makes sense to rely more on postdisaster external assistance. In some cases, increased remittances have provided resources after a disaster and supported preparedness (Mohapatra, Joseph, and Ratha 2012).
- **Strengthening social safety nets and public health systems**—Scalable and well-targeted safety nets enable the authorities to provide some protection to mitigate the social impact of the disasters, especially to the most vulnerable segments of the population. However, in a number of low-capacity countries, existing social safety nets are inadequate, limiting this response. Broadening access to primary health care is considered an adaptation priority, in light of the social impact of natural disasters and climate change (World Bank 2016b). Building health systems is a cost-effective response to the global spillover risks of pandemics (Commission on a Global Health Risk Framework for the Future 2016).
  - The Productive Safety Net Program (PSNP) in Ethiopia serves as an example of a public works program that has been scaled up during droughts and supports improved agricultural productivity by building community assets.
  - Rwanda has effectively extended universal primary health care, with increasing contributions, according to household income levels.

## Postdisaster Response

Notwithstanding a country's level of preparedness, a timely and robust response after a disaster can mitigate the impact. Postdisaster measures should focus on protecting affected populations, restoring growth, and improving resilience. There are various options the authorities can consider:

**Figure 3.23. Considerations in Determining the Size of Buffers**




Source: IMF (2016b forthcoming).
Note: BOP = balance of payments.

- Scaling up social safety nets promptly, including food programs and emergency supplies, cushions the social impact.
- Expenditure flexibility and a responsive budget process can support disaster relief and infrastructure reconstruction. The budget can include contingency spending items that are only activated in the event of disasters (a form of fiscal buffer).
- Domestic financing of the recovery should be pursued provided it does not hamper or crowd out the efforts of the private sector. If domestic financing is not a viable option and external debt is high, the donor community should consider grants or debt rescheduling.
- There may be scope for an accommodative monetary policy where price and currency stability conditions allow. Furthermore, the monetary authority should ensure there is enough liquidity in the market to keep the payments system operational.
- To the extent that natural disasters have durable effects on trend growth and create significant balance of payments pressures, exchange rate flexibility can aid the adjustment process. The amount of foreign assistance will also determine the magnitude of the adjustment needed. At the same time, too rapid a depreciation can also have the unintended effects of exacerbating short-term balance-of-payments pressures, especially when there are large import needs related to reconstruction. To the extent that countries have sufficient external reserves, they could draw on these to smooth the pace of adjustment. Globally, exchange rate flexibility has also been associated with a faster recovery in output following disasters (Ramcharan 2007).

### *The role of the IMF*

The IMF assists in building resilience through policy advice, capacity building, and financing. In particular, the IMF's Rapid Credit Facility (RCF) and Rapid Finance Instrument (RFI) provide rapid assistance to countries with emergency balance of payments needs (Table 3.4). They are accessible under a number of specified circumstances and entail limited conditionality, albeit with a low access level compared with other IMF facilities. The presence of an IMF disbursement to a country can help lend credibility to the macroeconomic policy framework after a disaster, thereby catalyzing external assistance. Countries with ongoing IMF programs can also request augmentations, which has occurred in at least five cases since 2014, and the IMF has participated in postdisaster debt relief under the Catastrophe Containment and Relief

**Table 3.4. IMF Postdisaster Assistance to Sub-Saharan African Countries, 2014–16[1]**

| | | | Purchases | | |
|---|---|---|---|---|---|
| Country | Year | Event | Millions of SDRs | Percent of quota | Instrument used [2, 3] |
| Malawi | 2016 | Drought | 34.7 | 25.0 | Augmentation of ECF |
| The Gambia | 2015 | Ebola epidemic | 7.8 | 25.0 | RCF |
| Guinea | 2015 | Ebola epidemic | 21.4 | 20.0 | Debt relief under CCRT |
| Sierra Leone | 2015 | Ebola epidemic | 20.7 | 20.0 | Debt relief under CCRT |
| Liberia | 2015 | Ebola epidemic | 25.8 | 20.0 | Debt relief under CCRT |
| Guinea | 2015 | Ebola epidemic | 45.1 | 42.1 | Augmentation of ECF |
| Sierra Leone | 2015 | Ebola epidemic | 51.9 | 50.0 | Augmentation of ECF |
| Liberia | 2015 | Ebola epidemic | 32.3 | 25.0 | RCF |
| Guinea-Bissau | 2014 | Post conflict; food prices | 3.6 | 25.0 | RCF |
| Guinea | 2014 | Ebola epidemic | 26.8 | 25.0 | RCF |
| Liberia | 2014 | Ebola epidemic | 32.3 | 25.0 | Augmentation of ECF |
| Sierra Leone | 2014 | Ebola epidemic | 25.9 | 25.0 | Augmentation of ECF |

Source: IMF staff calculations.

[1] Under 2009 LIC reform, RCF took over the role of subsidized emergency lending to LICs. Establishment of RFI in 2011 replaced previous policy on emergency lending on GRA terms.
[2] CCRT = Catastrophe Containment and Relief Trust; ECF = Extended Credit Facility; GRA = General Resource Account; LICs = low-income countries; RCF = Rapid Credit Facility; RFI = Rapid Finance Instrument.
[3] Following the devastating earthquake in Haiti in January 2010, the IMF had established a Post-Catastrophe Debt Relief (PCDR) Trust that allowed the IMF to join international debt relief efforts for very poor countries hit by the most catastrophic natural disasters. In February 2015, following the Ebola epidemic in Guinea, Liberia, and Sierra Leone, the IMF transformed the PCDR Trust to the CCR Trust to allow the IMF to provide grants for debt relief for the poorest and most vulnerable countries hit by catastrophic natural or public health disasters.

Trust (CCRT), which was successfully applied in the three West African countries (Guinea, Liberia, Sierra Leone) as they were battling the Ebola epidemics.

### Climate Change Adaptation and Mitigation

Adapting to and mitigating climate change must be integrated into development planning and resilience building. Many of the policy responses to natural disasters are equally appropriate for the impact of climate change. Infrastructure design has to take into account changing rainfall patterns, rising sea levels, and more frequent and intense weather events. Other measures concern stronger soil and water conservation and better protection of natural barriers, such as rehabilitating mangrove swamps as buffers against ocean surges. Planning also needs to consider the risk of "stranded assets" (which could also become a factor in financial sector soundness). The sooner these factors are integrated, the lower the cost of adaptation. Although climate change is a slow-moving phenomenon, the policy responses are urgent.

Sub-Saharan African countries have made national commitments to control carbon emissions as part of a global effort to reduce $CO_2$. In many cases this will require new tax policy initiatives including in the direction of a carbon taxation (Box 3.5). Carbon taxation could facilitate domestic revenue mobilization for financing development, including resilience to disasters and climate change. In addition, the US$100 billion promised by advanced economies to developing economies in the context of COP21 could provide a source of financing for adaptation for low-income countries. The architecture of climate finance is complex and evolving rapidly, however, and low-capacity countries in sub-Saharan Africa will likely benefit from support by international financial institutions in mobilizing this assistance.

## CONCLUSIONS

Sub-Saharan Africa is one of the world's most vulnerable regions to natural disasters, due in large part to low adaptive capacity. Climate change will add to this vulnerability. Natural disasters negatively affect economic and social indicators, especially over the longer term; while their short-term impact is often mixed, they can nevertheless contribute to vulnerability and pose challenges for macroeconomic management. It is thus imperative that building resilience is integrated into development strategies as quickly as possible. Countries need to decide what mix of policy responses best suits their development needs and capacity, including how to balance and implement the three main strategies of risk reduction, transfer, and retention. There are some broad policies that would apply to most countries and types of disasters in the region. Increasing investment in agriculture to make it more resilient is critical for food and economic security. Investing in the resilience of infrastructure to natural disasters and climate change is imperative, despite the higher upfront costs. More generally, ensuring better preparedness and spatial planning is a cost effective way to reduce losses. In particular, developing well-targeted social safety nets and building primary health care systems are cost-effective ways to combat the impact of disasters.

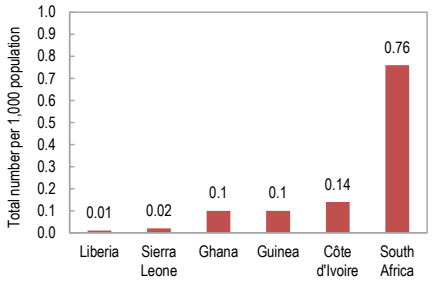
The impact of disasters is proportionately higher for low-income countries and poor households. To a large extent, this reflects an inability to adapt to and hedge against weather- and climate-related shocks. As such, increasing access to cost-effective financial instruments holds promise for transferring risks. It is important to increase the financial instruments in these areas and address issues regarding cost-effectiveness. That said, low-income countries and small states will have little alternative to retaining risk for some time. Mechanisms for quicker and better-targeted international disaster relief could also reduce the impact. While countries can self-insure by creating policy buffers, the opportunity cost is a significant consideration, particularly when the policy space is severely constrained, as in many countries in the region.

## Box 3.1. Epidemics: Ebola—A Case Study in National Vulnerabilities, Global Costs

Starting in December 2013 in Guinea, the Ebola epidemic quickly spread to neighboring Sierra Leone and Liberia; by late 2014, it had spread to seven other countries (Italy, Mali, Nigeria, Senegal, Spain, United Kingdom, United States) and became a "Public Health Emergency of International Concern" according to the World Health Organization (WHO 2015). The outbreak infected 28,500 people and claimed more than 11,300 lives, almost entirely in the three western African countries, making it the deadliest Ebola outbreak on record. Deforestation related to population growth, changing land use, and climate change may have prompted transmission from wild animals to humans. Initial conditions in Guinea, Liberia, and Sierra Leone made these countries extremely vulnerable to the introduction of an unfamiliar disease. Poverty coupled with a legacy of protracted conflict and instability, weak health care systems (Figure 3.1.1), porous borders, and some cultural practices added to the challenge of containing the disease.

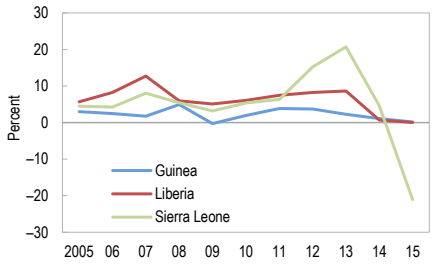
The economic and social impacts in the three most affected countries were severe. In addition to the deaths and infections, the shock was magnified by border closures, internal quarantines, school and government shutdowns, disruptions in international travel, significant reduction to domestic and cross-border trade, and negative effects on consumer and business confidence. Growth plummeted (up to 12 percent in Liberia, Figure 3.1.2), largely owing to the shock to the human capital stock and lower business and consumer confidence (World Bank 2015b; IMF 2016b forthcoming). The current account and fiscal balances deteriorated, to varying degrees (Figures 3.1.3 and 3.1.4). Inflation, unemployment, poverty, and food insecurity all increased. Two million people in Liberia and Sierra Leone needed food assistance (FAO 2015). The international community disbursed US$5.9 billion to fund the response and recovery efforts. About 25 percent of the funds were directly disbursed to government institutions, including from the IMF. Total IMF support to the most affected countries amounted to US$430 million, including US$100 million in debt relief through the Catastrophe Containment and Relief Trust.

**Figure 3.1.1. Selected Sub-Saharan African Countries: Physicians per 1,000 people, 2010**



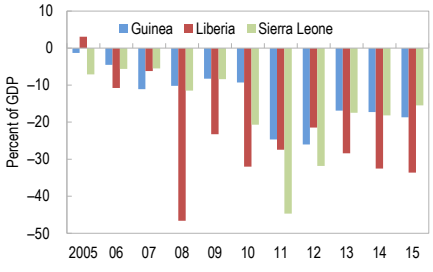

Source: World Health Organization.

**Figure 3.1.2. Selected Sub-Saharan African Countries: Real GDP Growth**



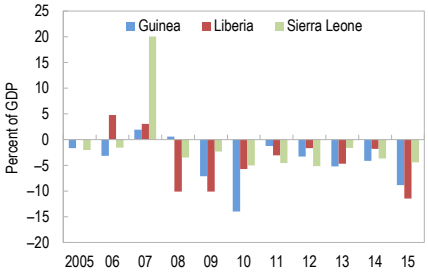

Source: IMF, World Economic Outlook database.

**Figure 3.1.3. Selected Sub-Saharan African Countries: Current Account Balance**




Source: IMF, World Economic Outlook database.

**Figure 3.1.4. Selected Sub-Saharan African Countries: Overall Balance**




Source: IMF, World Economic Outlook database.

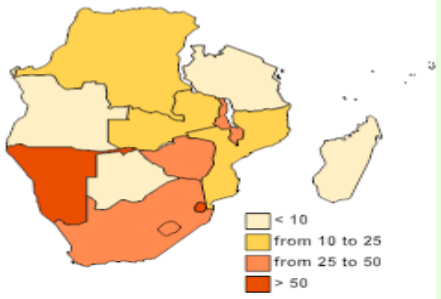
## Box 3.2. Droughts: Case Study of the El Niño-induced Drought in Southern Africa

The harshest El Niño-induced drought since 1990 has affected more than 30 million people in southern Africa, threatening a regionwide food crisis. Food insecurity has increased, particularly among the rural population (Figure 3.2.1). Notwithstanding crop failures, the stock of cattle has been decimated, and households' disposable incomes have also been impacted due to diminished opportunities for casual labor. The World Food Program expects the number of people affected to increase to 40 million for 2016–17.

The drought has reduced growth and boosted food inflation. Growth has suffered (Figure 3.2.2), due to both reduced agricultural product and lower hydroelectric power production. Zimbabwe is one of the worst-hit countries: the drought has cut crop production by an estimated 9.9 percent, and the Kariba Dam (which provides about 60 percent of peak electricity demand) risked a complete shutdown due to declining water levels. Electricity shortages have hampered energy-intensive mining and manufacturing activities in several countries.

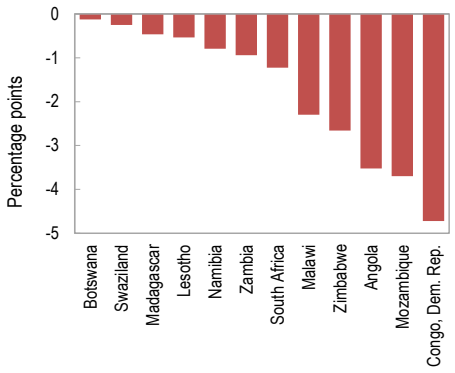
Needs for food and energy imports, as well as social protection, have pushed down fiscal and current account balances: costs range from 1 percent of GDP in Swaziland and Zambia to over 2 percent of GDP in Zimbabwe. While international partners have stepped up their support to some extent, significant financing needs remain. At the same time, many countries have also been hit by the decline in the prices of and demand for their commodity exports (for example, Madagascar, Mozambique, Zambia, Zimbabwe), which has also worsened their external positions.

**Figure 3.2.1. Southern Africa: Rural Population Affected by Drought, 2016**
*(Percent of total rural population)*




Source: Southern African Development Community Regional Humanitarian Appeal, June 2016.

**Figure 3.2.2. Sub-Saharan Africa: Real GDP Growth, 2016: October 2016 versus October 2015 Projection**




Source: IMF, World Economic Outlook database.

### Box 3.3. Natural Disasters and Adaptation in Madagascar

Madagascar is among the countries most vulnerable to natural disasters in sub-Saharan Africa, owing to its high exposure to weather-related hazards combined with weak initial conditions related to low income, limited capacity, and a rapidly growing population. It accounts for over half of all reported deaths and economic damage due to storms in sub-Saharan Africa, totaling more than US$2 billion since 1967 (EM-DAT).

Despite low adaptive capacity, Madagascar is undertaking measures for disaster risk reduction and climate change adaptation, with the support of international partners, such as the Global Facility for Disaster Reduction and Recovery (GFDRR) managed by the World Bank. These measures include:

- Technical assistance to rice producers to increase resilience, notably through soil conservation, natural fertilizer production, and reforestation.
- Construction of resilient public facilities such as school and health centers. Between 2004 and 2006, 2,041 schools and 311 health centers were built to resist winds up to 250 kilometers an hour.
- The development of a regional risk information database aimed at assessing regional and national risk financing options, and the establishment of a technical center for disaster risk reduction.

### Box 3.4. Contrasting Experiences in Enhancing Resilience to Droughts

Ethiopia, The Gambia, and Niger have taken a range of measures, with varying degrees of success to enhance their resilience to droughts. Two main factors explain the differing experiences: (1) the state of water management systems and other infrastructure; and (2) the effectiveness of the early warning systems and social safety nets.

**Water management systems and other infrastructure**

Ethiopia has taken steps to develop irrigation schemes of different scales in many parts of the country since the early 2000s. Smart investment in small-scale irrigation, rehabilitation of water catchments, and reforestation in the rural areas enhanced resilience. The size of the road networks to connect farmers to markets and emergency responders to villages doubled over the past decade. These measures have increased the resilience of the agricultural sector to droughts.

In The Gambia, efforts are underway through the government's Integrated Water Resources Management, but there remains considerable scope for better irrigation to support agriculture. In Niger, the potential for irrigation is limited, and its use is relatively low (World Bank 2013b). It is expected that the completion of Niger's Kandadji Dam in 2017 will boost irrigation, other agricultural activities, and hydroelectricity generation.

**Early warning mechanisms and social safety nets**

Early warning mechanisms are needed to communicate weather forecasts to farmers, enabling them to adapt and better plan their activities.

Ethiopia developed a program called the Livelihoods-Early Assessment-Protection (LEAP), which combines early assessment, early warning, contingency planning, and capacity building with contingency financing through the use of information technology systems. Ethiopia's early warning system also generates critical information useful for its social safety nets and food distribution in the aftermath of droughts. Generally, preexisting social protection systems that can be scaled up can contribute significantly to helping reduce the risk of exposure of poor households to droughts. Ethiopia's Productive Safety Net Program (PSNP) is useful in providing emergency food aid during droughts.

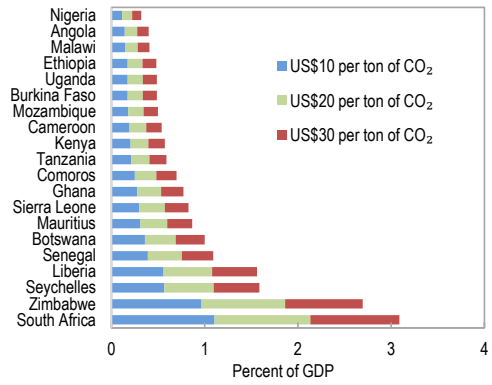
The Gambia and Niger have taken similar initiatives, but low human and infrastructure capacity for collection and monitoring of data on climate and climate change, and the limited development of alerts, have limited the effectiveness of early warning systems.

## Box 3.5. Revenue Potential from Carbon Taxation

Carbon taxation involves levying charges on domestic use of coal, petroleum products, and natural gas in proportion to their carbon content. It is a straightforward extension of fuel taxes, which are well established in most sub-Saaharan African countries and among the easiest of taxes to administer.

Carbon taxes (or similar pricing instruments) are the most effective policies for reducing energy-related carbon dioxide ($CO_2$) emissions—as carbon taxes are reflected in higher prices for fossil fuels, electricity, and so on, this will encourage mitigation opportunities (for example, shifting to cleaner fuels, adoption of energy-saving technologies) across all sectors of the economy—though from a global perspective, mitigation action in large emitting countries is far more urgent (Farid and others 2016). The fiscal rationale for carbon taxes is, however, appealing in sub-Saharan African countries where revenues from broader tax instruments can be severely constrained by the high proportion of economic activity occurring in the informal sector.

**Figure 3.5.1. Selected Sub-Saharan African Countries: Potential Revenue from Carbon Taxes, 2013 or Latest Available**




Source: IMF staff calculations.

Note: The figure shows revenue that would have been raised had a carbon tax been in place in 2013 or latest year available, where each US$10 increase in the tax per ton of $CO_2$ is assumed to reduce emissions by 3.3 percent.

Carbon taxes can have significant revenue potential in sub-Saharan African countries, for example, if a US$20 per ton $CO_2$ tax had been in place in 2013 (or thereabouts) revenues would have exceeded 0.5 percent of GDP in about half of the countries illustrated in the Figure 3.5.1, and more than 1 percent of GDP in a quarter of them.[1] Revenue gains are obviously greater in emissions-intensive countries like South Africa, which use a lot of coal. And revenues are likely to grow over time given the high carbon prices (over US$50 per ton by 2030) that will be needed in many cases, if countries are to meet their emissions reductions pledges made for the 2015 Paris Agreement on climate change.[2]

However, it would be important to use these revenue sources productively, for example, to lower other burdensome taxes or fund public investments with high social value. Earmarking revenues for environmental spending (for example, on investments to improve resilience to climate change) might be problematic in this regard, as there is no relationship between the efficient amount of such spending and the revenues raised from carbon pricing consistent with mitigation objectives.

The author of this box is Ian Parry (IMF, Fiscal Affairs Department).

[1] For perspective, a US$20 per ton $CO_2$ tax in South Africa in 2014 would have raised fuel prices by approximately 4 percent for gasoline, 50 percent for coal, and 10 percent for natural gas

[2] See for example https://blog-imfdirect.imf.org/2016/04/21/countries-are-signing-up-for-sizeable-carbon-prices. Many countries, including some sub-Saharan African countries, have pledged to cut emissions by about 20–30 percent below business as usual levels by 2030.

## REFERENCES


Barro, R. 2003. "Determinants of Economic Growth in a Panel of Countries." *Annals of Economics and Finance* 4: 231–74.

Cabezon, E., Hunter, L., Tumbarello, P., Washimi, P., and Wu, Y. 2015."Enhancing Macroeconomic Resilience to Natural Disasters and Climate Change in the Small States of the Pacific." IMF Working Paper 15/125, International Monetary Fund, Washington, DC.

Chinn, M., and Prasad, E. 2003."Medium-Term Determinants of Current Accounts in Industrial and Developing Countries: An Empirical Exploration." J*ournal of International Economies* 59: 47–76.

Clarke, D.J., and S. Dercon. 2016. *Dull Disasters? How Planning Ahead Will Make a Difference*. Oxford: Oxford University Press.

Commission on a Global Health Risk Framework for the Future. 2016."The Neglected Dimension of Global Security: A Framework to Counter Infectious Disease Crises." www.nam.edu/GHRF

Dell, Melissa, Benjamin F. Jones, and Benjamin A. Olken, 2012. "Temperature Shocks and Economic Growth: Evidence from the Last Half Century." *American Economic Journal: Macroeconomics* 4(3): 66–95.

Ebeke, C., B. Loko, and A. Viseth. 2014. "Credit Quality in Developing Economies: Remittances to the Rescue?"IMF Working Paper 14/144, International Monetary Fund, Washington, DC.

Ebinger, and Vandycke. 2015. *Moving toward Climate-Resilient Transport: The World Bank Experience from Building Adaptation into Programs*. Washington: World Bank.

Food and Agriculture Organization of the United Nations (FAO). 2015. "Quarterly Early Warning." *Bulletin for Food and Agriculture* 16 (July–September).

Farid, Mai, M. Keen, M. G. Papaioannou, I. Parry, C. A. Pattillo, and A. Ter-Martirosyan. 2016. "After Paris: Fiscal, Macroeconomic, and Financial Implications of Global Climate Change." Staff Discussion Note 16/1, International Monetary Fund, Washington, DC.

Gerling, K., Badia M. Moreno, and P. Toffano. Forthcoming. "A Primer on the Macro-Fiscal Impact of Natural Disasters." IMF Working Paper. International Moentary Fund, Washington, DC.

Goetz von Peter, S. von Dahlen, S. Saxena. 2012. "Unmitigated Disasters? New Evidence on the Macroeconomic Cost of Natural Catastrophes."BIS Working Paper 394, Bank for International Settlements, Basel.

Guha-Sapir, D., R. Below, and P. Hoyois. 2015. EM-DAT: The CRED/OFDA International Disaster Database. Brussels: Université Catholique de Louvain.

Intergovernmental Panel on Climate Change (IPCC). 2012. *Special Report: Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change*. New York: Cambridge University Press.

_____. 2014. *Climate Change 2014: Impacts, Adaptation, and Vulnerability*. Geneva.

International Monetary Fund (IMF). 2003. "Fund Assistance for Countries Facing Exogenous Shocks." Policy Paper, International Monetary Fund, Washington, DC.

_____. (2015a). "How Can Sub-Saharan Africa Harness the Demographic Dividend." Chapter 2, *Regional Economic Outlook: Sub-Saharan Africa*, Washington. Spring 2015.

_____. (2015b). "Global Value Chains: Where are You?" Chapter 3, *Regional Economic Outlook: Sub-Saharan Africa*, Washington. Spring 2015.

_____. (2015c). "Issues In Managing Water Challenges And Policy Instruments: Regional Perspectives and Case Studies." Washington, June.

_____. (2016a). "Analyzing and Managing Fiscal Risks—Best Practices." IMF Board Paper, Washington, D.C.

_____. (2016b, Forthcoming). "Macroeconomic Impact of the Ebola Epidemic in Guinea, Liberia, and Sierra Leone." IMF Working Paper, Washington, D.C.

_____. (2016c, Forthcoming). "Small States' Resilience to Natural Disasters and Climate Change: Role for the IMF." IMF Board Paper, Washington, D.C.

Mills, M., M. Bari, L. Charry, M. Francisco, F. Gwenhamo, E. Hitaj, M. Hussain, Y. Liu, T. Rasmussen, V. Thakoor, A. Viseth, F. Yang. Forthcoming. "Enhancing Resilience to Natural Disasters and Climate Change in Sub-Saharan Africa." IMF Working Paper, International Monetary Fund, Washington, D.C.

Mohapatra, S., G. Joseph, and D. Ratha. 2012. "Remittances and Natural Disasters: Ex-Post Response and Contribution to Ex-Ante Preparedness." *Environment, Development and Sustainability* 14:365–78.

Noy, I. 2009. "The Macroeconomic Consequences of Disasters." *Journal of Development Economics* 88: 221–31.

Office of the United Nations Special Envoy on Ebola. 2015. "Resources for Results V." http://ebolaresponse.un.org/resources.

Pesaran M. H. Pesaran M H and Shin Y. 1999. "An Autoregressive Distributed Lag Modelling Approach to Cointegration Analysis." In S Strom, (ed.), *Econometrics and Economic Theory in the 20th Century*: The Ragnar Frisch Centennial Symposium, Cambridge: Cambridge University Press.

Ramcharan, R. 2007. "Does the Exchange Rate Regime Matter for Real Shocks? Evidence from Windstorms and Earthquakes." *Journal of International Economics* 73 (1): 31–47.

Ravallion, M., 1997. "Can High-Inequality Developing Countries Escape Absolute Poverty? *Economics Letter* 56: 51–7.

_____, and Chen, S. 1997. "'What can New Survey Data Tell Us About Recent Changes in Distribution and Poverty?" *World Bank Economic Review* 11: 357–82.

Southern African Development Community (SADC). 2016. Regional Humanitarian Appeal, Gaborone, Botswana.

Solt, F. 2014. "The Standardized World Income Inequality Database." Working Paper, SWIID 5.0.

Swiss, Re. 2013. "Partnering for Food Security in Emerging Markets. Sigma." Swiss Reinsurance Company, Zurich.

World Bank. 2003. *Caribbean Economic Overview 2002: Macroeconomic Volatility, Household Vulnerability, and Institutional and Policy Responses*. Washington, DC.

_____. 2013a. T*urn Down the Heat: Climate Extremes, Regional Impacts, and the Case for Resilience*. Washington, DC.

_____. 2013b. *Building Resilience: Integrating Climate and Disaster Risk into Development: Lessons from World Bank Group Experience*. Washington, DC.

_____. 2014. *Financial Protection Against Natural Disasters: An Operational Framework for Disaster Risk Financing and Insurance*. Washington, DC.

_____, and GFDRR. 2015a. *Building Regulation for Resilience—Managing Risks for Safer Cities*. Washington, DC.

_____. 2015b. *The Economic Impact of Ebola on Sub- Saharan Africa: Updated Estimates for 2015*. Washington, DC.

_____. 2016a. *Confronting Drought in Africa's Drylands*, edited by Raffaello Cervigni and Michael Morris, Washington, DC.

_____. 2016b. *Shock Waves: Managing the Impacts of Climate Change on Poverty*. Washington, DC.

World Risk Report 2016. *World Risk Report*. Achen, Germany: Bündnis Entwicklung Hilft.

World Health Organization (WHO). 2015. *One Year into the Ebola Epidemic: A Deadly, Tenacious and Unforgiving Virus*. Washington, DC.

## Annex 3.1. Long-Term Impact of Natural Disasters on GDP

To estimate the impact of natural disasters on long-term economic growth, we use an autoregressive distributed lag (ARDL) model. ARDL models are standard least squares regressions that can be used to examine long-term and cointegrating relationships between variables (Pesaran and Shin 1999). We estimate this model using panel data for 22 sub-Saharan African countries for the period 1985–2014.[1] The specification is the same as in Cabezon and others (2015) and is expressed as follows:

*RGDP = f(capital stock, population, natural disaster)*

The dependent variable is real GDP (in log) and the explanatory variables are population, capital stocks (both in logs) and natural disaster damage (in percent of population affected). The capital stock series is constructed by applying the perpetual inventory method to gross fixed capital formation data. Except for natural disasters (sourced from EM DAT), the other variables are from the IMF WEO database.

The results confirm the adverse long-term impact of natural disasters on economic growth. For natural disasters affecting more than 1 percent of the population, real GDP is lower by 0.92 percent in the long term.[2]

**Annex Table 3.1.1. Panel Autoregressive Distributed Lag model, Fixed Effects**

| Real GDP | |
|---|---|
| **Long–term** | |
| Natural disaster | –0.0092 *** |
| Capital stock | 0.52 * |
| Population | 1.81 * |
| **Short–term** | |
| Error correction term | –0.05 * |
| Natural disaster | |
| First difference | 1.02 |
| Second difference | –0.05 ** |
| Capital stock | |
| First difference | 0.16 * |
| Second difference | 0.08 * |
| Population | |
| First difference | 0.77 * |
| Second difference | 0.13 |
| Constant | 0.06 ** |

Source: IMF staff calculations.

Note: ***, **, and * denote statistical significance at 1, 5, and 10 percent levels of significance, respectively.

[1] The sample includes Botswana, Cameroon, Cabo Verde, Chad, Comoros, Democratic Republic of Congo, Ethiopia, The Gambia, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Niger, Senegal, Seychelles, South Africa, Swaziland, and Zimbabwe.

[2] The natural disaster variable is in percent of GDP, so the long run coefficient of –0.0092 is multiplied by 100 to get 0.92.

# Statistical Appendix

Unless otherwise noted, data and projections presented in this *Regional Economic Outlook* are IMF staff estimates as of 21 September, 2016, consistent with the projections underlying the October 2016 *World Economic Outlook*.

The data and projections cover 45 sub-Saharan African countries in the IMF's African Department. Data definitions follow established international statistical methodologies to the extent possible. However, in some cases, data limitations limit comparability across countries.

## Country Groupings

Country classifications have been changed compared to previous *Regional Economic Outlooks.*

Countries are aggregated into four (overlapping) groups: oil exporters, middle-income, low-income, and countries in fragile situations (see table on page 88 for the new country groupings).

The membership of these groups reflects the most recent data on per capita gross national income (averaged over three years) and the World Bank, Country Policy and Institutional Assessment (CPIA) score, (averaged over three years).

- The oil exporters are countries where net oil exports make up 30 percent or more of total exports. Except for Angola, Nigeria, and South Sudan, they belong to the Central African Economic and Monetary Community (CEMAC).
- The middle-income countries had per capita gross national income in the years 2013–15 of more than US$1,025.00 (World Bank, using the Atlas method).
- The low-income countries had average per capita gross national income in the years 2013–15 equal to or lower than US$1,025.00 (World Bank, Atlas method).
- The countries in fragile situations had average CPIA scores of 3.2 or less in the years 2013–15 and/or had the presence of a peace-keeping or peace-building mission within the last three years.
- The membership of sub-Saharan African countries in the major regional cooperation bodies is shown on page 88: CFA franc zone, comprising the West African Economic and Monetary Union (WAEMU) and CEMAC; the Common Market for Eastern and Southern Africa (COMESA); the East Africa Community (EAC-5); the Economic Community of West African States (ECOWAS); the Southern African Development Community (SADC); and the Southern Africa Customs Union (SACU). EAC-5 aggregates include data for Rwanda and Burundi, which joined the group only in 2007.

## Methods of Aggregation

In Tables SA1–SA3, SA6–SA7, SA13, SA15–SA16, and SA22–SA23, country group composites are calculated as the arithmetic average of data for individual countries, weighted by GDP valued at purchasing power parity as a share of total group GDP. The source of purchasing power parity weights is the World Economic Outlook (WEO) database.

In Tables SA8–SA12, SA17–SA21, and SA24–SA26, country group composites are calculated as the arithmetic average of data for individual countries, weighted by GDP in U.S. dollars at market exchange rates as a share of total group GDP.

In Tables SA4–SA5 and SA14, country group composites are calculated as the geometric average of data for individual countries, weighted by GDP valued at purchasing power parity as a share of total group GDP. The source of purchasing power parity weights is the WEO database.

In Tables SA27–SA28, country group composites are calculated as the unweighted arithmetic average of data for individual countries.

## Sub-Saharan Africa: Member Countries of Groupings

| Oil exporters | Middle-income countries | Low-income countries | | Countries in fragile situations | Other resource-intensive countries | Non-resource-intensive countries |
|---|---|---|---|---|---|---|
| Angola | Angola | Benin | Malawi | Burundi | Botswana | Benin |
| Cameroon | Botswana | Burkina Faso | Mali | Central African Republic | Burkina Faso | Burundi |
| Chad | Cabo Verde | Burundi | Mozambique | Chad | Central African Republic | Cabo Verde |
| Congo, Republic of | Cameroon | Central African Republic | Niger | Comoros | Congo, Dem. Rep. of | Comoros |
| Equatorial Guinea | Congo, Republic of | Chad | Rwanda | Congo, Dem. Rep. of | Ghana | Côte d'Ivoire |
| Gabon | Côte d'Ivoire | Comoros | Sierra Leone | Congo, Republic of | Guinea | Eritrea |
| Nigeria | Equatorial Guinea | Congo, Dem.Rep. of | South Sudan | Côte d'Ivoire | Liberia | Ethiopia |
| South Sudan | Gabon | Eritrea | Tanzania | Eritrea | Mali | Gambia, The |
| | Ghana | Ethiopia | Togo | Gambia, The | Namibia | Guinea-Bissau |
| | Kenya | Gambia, The | Uganda | Guinea | Niger | Kenya |
| | Lesotho | Guinea | Zimbabwe | Guinea-Bissau | Sierra Leone | Lesotho |
| | Mauritius | Guinea-Bissau | | Liberia | South Africa | Madagascar |
| | Namibia | Liberia | | Madagascar | Tanzania | Malawi |
| | Nigeria | Madagascar | | Malawi | Zambia | Mauritius |
| | Seychelles | | | Mali | Zimbabwe | Mozambique |
| | São Tomé & Príncipe | | | São Tomé &Príncipe | | Rwanda |
| | Senegal | | | Sierra Leone | | São Tomé & Príncipe |
| | South Africa | | | South Sudan | | Senegal |
| | Swaziland | | | Togo | | Seychelles |
| | Zambia | | | Zimbabwe | | Swaziland |
| | | | | | | Togo |
| | | | | | | Uganda |

## Sub-Saharan Africa: Member Countries of Regional Groupings

| The West African Economic and Monetary Union (**WAEMU**) | Economic and Monetary Community of Central African States (**CEMAC**) | Common Market for Eastern and Southern Africa (**COMESA**) | East Africa Community (**EAC-5**) | Southern African Development Community (**SADC**) | Southern Africa Customs Union (**SACU**) | Economic Community of West African States (**ECOWAS**) |
|---|---|---|---|---|---|---|
| Benin | Cameroon | Burundi | Burundi | Angola | Botswana | Benin |
| Burkina Faso | Central African Republic | Comoros | Kenya | Botswana | Lesotho | Burkina Faso |
| Côte d'Ivoire | Chad | Congo, Dem. Rep. of | Rwanda | Congo, Dem. Rep. of | Namibia | Cabo Verde |
| Guinea-Bissau | Congo, Republic of | Eritrea | Tanzania | Lesotho | South Africa | Côte d'Ivoire |
| Mali | Equatorial Guinea | Ethiopia | Uganda | Madagascar | Swaziland | Gambia, The |
| Niger | Gabon | Kenya | | Malawi | | Ghana |
| Senegal | | Madagascar | | Mauritius | | Guinea |
| Togo | | Malawi | | Mozambique | | Guinea-Bissau |
| | | Mauritius | | Namibia | | Liberia |
| | | Rwanda | | Seychelles | | Mali |
| | | Seychelles | | South Africa | | Niger |
| | | Swaziland | | Swaziland | | Nigeria |
| | | Uganda | | Tanzania | | Senegal |
| | | Zambia | | Zambia | | Sierra Leone |
| | | Zimbabwe | | Zimbabwe | | Togo |

## Sub-Saharan Africa: Country Classifications

| | Oil exporters | Oil importers | MICs | LICs | LICs excluding countries in fragile situations | Countries in fragile situations |
|---|---|---|---|---|---|---|
| Angola | X | | X | | | |
| Benin | | X | | X | X | |
| Botswana | | X | X | | | |
| Burkina Faso | | X | | X | X | |
| Burundi | | X | | X | | X |
| Cabo Verde | | X | X | | | |
| Cameroon | X | | X | | | |
| Central African Rep. | | X | | X | | X |
| Chad | X | | | X | | X |
| Comoros | | X | | X | | X |
| Congo, Dem. Rep. of | | X | | X | | X |
| Congo, Rep. of | X | | X | | | X |
| Côte d'Ivoire | | X | X | | | X |
| Equatorial Guinea | X | | X | | | |
| Eritrea | | X | | X | | X |
| Ethiopia | | X | | X | X | |
| Gabon | X | | X | | | |
| Gambia, The | | X | | X | | X |
| Ghana | | X | X | | | |
| Guinea | | X | | X | | X |
| Guinea-Bissau | | X | | X | | X |
| Kenya | | X | X | | | |
| Lesotho | | X | X | | | |
| Liberia | | X | | X | | X |
| Madagascar | | X | | X | | X |
| Malawi | | X | | X | | X |
| Mali | | X | | X | | X |
| Mauritius | | X | X | | | |
| Mozambique | | X | | X | X | |
| Namibia | | X | X | | | |
| Niger | | X | | X | X | |
| Nigeria | X | | X | | | |
| Rwanda | | X | | X | X | |
| São Tomé & Príncipe | | X | X | | | X |
| Senegal | | X | X | | | |
| Seychelles | | X | X | | | |
| Sierra Leone | | X | | X | | X |
| South Africa | | X | X | | | |
| South Sudan | X | | | X | | X |
| Swaziland | | X | X | | | |
| Tanzania | | X | | X | X | |
| Togo | | X | | X | | X |
| Uganda | | X | | X | X | |
| Zambia | | X | X | | | |
| Zimbabwe | | X | | X | | X |

## List of Country Abbreviations:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| AGO | Angola | CPV | Cabo Verde | LSO | Lesotho | SDN | Sudan |
| ARE | United Arab Emirates | DZA | Algeria | MDG | Madagascar | SLE | Sierra Leone |
| AZE | Azerbaijan | ECU | Ecuador | MLI | Mali | SSD | South Sudan |
| BDI | Burundi | ERI | Eritrea | MNG | Mongolia | STP | São Tomé & Príncipe |
| BEN | Benin | ETH | Ethiopia | MOZ | Mozambique | SWZ | Swaziland |
| BFA | Burkina Faso | GAB | Gabon | MUS | Mauritius | SYC | Seychelles |
| BHR | Bahrain | GHA | Ghana | MWI | Malawi | TCD | Chad |
| BOL | Bolivia | GIN | Guinea | MYS | Malaysia | TGO | Togo |
| BRN | Brunei Darussalam | GMB | Gambia, The | NAM | Namibia | TKM | Turkmenistan |
| BWA | Botswana | GNB | Guinea-Bissau | NER | Niger | TTO | Trinidad and Tobago |
| CAF | Central African Republic | GNQ | Equatorial Guinea | NIG | Nigeria | TZA | Tanzania |
| CIV | Côte d'Ivoire | IRN | Iran, Islamic Rep. | OMN | Oman | UGA | Uganda |
| CMR | Cameroon | IRQ | Iraq | QAT | Qatar | VEN | Venezuela |
| COD | Congo, Dem. Rep. of | KAZ | Kazakhstan | RUS | Russian Federation | YEM | Yemen |
| COG | Congo, Rep. of | KEN | Kenya | RWA | Rwanda | ZAF | South Africa |
| COL | Colombia | KWT | Kuwait | SEN | Senegal | ZMB | Zambia |
| COM | Comoros | LBR | Liberia | SAU | Saudi Arabia | ZWE | Zimbabwe |

## List of Sources and Footnotes for Appendix Tables SA1—SA28

### Tables SA1–SA3, SA6–SA19, SA21, SA24–SA26

Sources: IMF, African Department database, and IMF, World Economic Outlook database, 25 March, 2016.

[1] Fiscal year data.

[2] In constant 2009 U.S. dollars. The Zimbabwe dollar ceased circulating in early 2009. Data are based on IMF staff estimates of price and exchange rate developments in U.S. dollars. Staff estimates of U.S. dollar values may differ from authorities' estimates.

Note: "..." denotes data not available.

### Tables SA4–SA5

Sources: IMF, African Department database, and IMF, World Economic Outlook database, 25 March, 2016.

[1] In constant 2009 U.S. dollars. The Zimbabwe dollar ceased circulating in early 2009. Data are based on IMF staff estimates of price and exchange rate developments in U.S. dollars. Staff estimates of U.S. dollar values may differ from authorities' estimates.

Note: "..." denotes data not available.

### Table SA20

Sources: IMF, African Department database, and IMF, World Economic Outlook database, 25 March, 2016.

[1] Including grants.

[2] Fiscal year data.

[3] In constant 2009 U.S. dollars. The Zimbabwe dollar ceased circulating in early 2009. Data are based on IMF staff estimates of price and exchange rate developments in U.S. dollars. Staff estimates of U.S. dollar values may differ from authorities' estimates.

Note: "..." denotes data not available.

### Tables SA22–SA23

Source: IMF, Information Notice System.

[1] An increase indicates appreciation.

Note: "..." denotes data not available.

### Table SA27

Source: IMF, International Financial Statistics.

[1] Includes offshore banking assets.

Note: "..." denotes data not available.

### Table SA28

Source: IMF, International Financial Statistics.

[1] Loan-to-deposit ratio includes deposits and loans of commercial banks to the public sector.

Note: "..." denotes data not available.

## List of Tables:

**Table SA1. Real GDP Growth**
*(Percent)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 17.3 | 2.4 | 3.4 | 3.9 | 5.2 | 6.8 | 4.8 | 3.0 | 0.0 | 1.5 |
| Benin | 4.2 | 2.3 | 2.1 | 3.0 | 4.6 | 6.9 | 6.5 | 5.0 | 4.6 | 5.4 |
| Botswana | 6.0 | –7.7 | 8.6 | 6.0 | 4.5 | 9.9 | 3.2 | –0.3 | 3.1 | 4.0 |
| Burkina Faso | 5.9 | 3.0 | 8.4 | 6.6 | 6.5 | 6.6 | 4.0 | 4.0 | 5.2 | 5.9 |
| Burundi | 4.4 | 3.8 | 5.1 | 4.0 | 4.4 | 5.9 | 4.5 | –4.0 | –0.5 | 2.0 |
| Cabo Verde | 7.1 | –1.3 | 1.5 | 4.0 | 1.1 | 0.8 | 1.9 | 1.5 | 3.6 | 4.0 |
| Cameroon | 3.1 | 1.9 | 3.3 | 4.1 | 4.6 | 5.6 | 5.9 | 5.8 | 4.8 | 4.2 |
| Central African Rep. | 3.3 | 1.7 | 3.0 | 3.3 | 4.1 | –36.7 | 1.0 | 4.8 | 5.2 | 5.5 |
| Chad | 9.7 | 4.2 | 13.6 | 0.1 | 8.9 | 5.7 | 6.9 | 1.8 | –1.1 | 1.7 |
| Comoros | 1.3 | 1.8 | 2.1 | 2.2 | 3.0 | 3.5 | 2.0 | 1.0 | 2.2 | 3.3 |
| Congo, Dem. Rep. of | 6.1 | 2.9 | 7.1 | 6.9 | 7.1 | 8.5 | 9.5 | 6.9 | 3.9 | 4.2 |
| Congo, Rep. of | 4.3 | 7.5 | 8.7 | 3.4 | 3.8 | 3.3 | 6.8 | 2.3 | 1.7 | 5.0 |
| Côte d'Ivoire | 1.8 | 3.3 | 2.0 | –4.2 | 10.1 | 9.3 | 7.9 | 8.5 | 8.0 | 8.0 |
| Equatorial Guinea | 15.2 | 1.3 | –8.9 | 6.5 | 8.3 | –4.1 | –0.5 | –7.4 | –9.9 | –5.8 |
| Eritrea | –2.1 | 3.9 | 2.2 | 8.7 | 7.0 | 3.1 | 5.0 | 4.8 | 3.7 | 3.3 |
| Ethiopia[1] | 11.8 | 10.0 | 10.6 | 11.4 | 8.7 | 9.9 | 10.3 | 10.2 | 6.5 | 7.5 |
| Gabon | 1.3 | –2.3 | 6.3 | 7.1 | 5.3 | 5.6 | 4.3 | 4.0 | 3.2 | 4.5 |
| Gambia, The | 3.3 | 6.4 | 6.5 | –4.3 | 5.6 | 4.8 | –0.2 | 4.4 | 2.3 | 3.3 |
| Ghana | 6.2 | 4.8 | 7.9 | 14.0 | 9.3 | 7.3 | 4.0 | 3.9 | 3.3 | 7.4 |
| Guinea | 2.9 | –0.3 | 1.9 | 3.8 | 3.7 | 2.3 | 1.1 | 0.1 | 3.8 | 4.4 |
| Guinea-Bissau | 3.1 | 3.3 | 4.4 | 9.4 | –1.8 | 0.8 | 2.5 | 4.8 | 4.8 | 5.0 |
| Kenya | 4.6 | 3.3 | 8.4 | 6.1 | 4.6 | 5.7 | 5.3 | 5.6 | 6.0 | 6.1 |
| Lesotho | 4.0 | 4.5 | 6.9 | 4.5 | 5.3 | 3.6 | 3.4 | 2.8 | 2.4 | 3.8 |
| Liberia | 7.3 | 5.1 | 6.1 | 7.4 | 8.2 | 8.7 | 0.7 | 0.0 | 2.0 | 4.0 |
| Madagascar | 5.8 | –4.7 | 0.3 | 1.5 | 3.0 | 2.3 | 3.3 | 3.1 | 4.1 | 4.5 |
| Malawi | 6.1 | 8.3 | 6.9 | 4.9 | 1.9 | 5.2 | 5.7 | 2.9 | 2.7 | 4.5 |
| Mali | 4.2 | 4.7 | 5.4 | 3.2 | –0.8 | 2.3 | 7.0 | 6.0 | 5.3 | 5.2 |
| Mauritius | 4.3 | 3.0 | 4.1 | 3.9 | 3.2 | 3.2 | 3.6 | 3.5 | 3.5 | 3.9 |
| Mozambique | 8.1 | 6.4 | 6.7 | 7.1 | 7.2 | 7.1 | 7.4 | 6.6 | 4.5 | 5.5 |
| Namibia | 4.3 | 0.3 | 6.0 | 5.1 | 5.1 | 5.7 | 6.5 | 5.3 | 4.2 | 5.3 |
| Niger | 5.2 | –0.7 | 8.4 | 2.2 | 11.8 | 5.3 | 7.0 | 3.5 | 5.2 | 5.0 |
| Nigeria | 7.7 | 8.4 | 11.3 | 4.9 | 4.3 | 5.4 | 6.3 | 2.7 | –1.7 | 0.6 |
| Rwanda | 9.0 | 6.3 | 7.3 | 7.8 | 8.8 | 4.7 | 7.0 | 6.9 | 6.0 | 6.0 |
| São Tomé & Príncipe | 5.7 | 4.0 | 4.5 | 4.8 | 4.5 | 4.0 | 4.5 | 4.0 | 4.0 | 5.0 |
| Senegal | 4.5 | 2.4 | 4.3 | 1.9 | 4.5 | 3.6 | 4.3 | 6.5 | 6.6 | 6.8 |
| Seychelles | 4.8 | –1.1 | 5.9 | 5.4 | 3.7 | 5.0 | 6.2 | 5.7 | 4.9 | 3.5 |
| Sierra Leone | 5.8 | 3.2 | 5.3 | 6.3 | 15.2 | 20.7 | 4.6 | –21.1 | 4.3 | 5.0 |
| South Africa | 4.8 | –1.5 | 3.0 | 3.3 | 2.2 | 2.3 | 1.6 | 1.3 | 0.1 | 0.8 |
| South Sudan | ... | ... | ... | ... | –52.4 | 29.3 | 2.9 | –0.2 | –13.1 | –6.1 |
| Swaziland | 4.4 | 1.9 | 1.4 | 1.2 | 3.0 | 2.9 | 2.5 | 1.7 | 0.5 | 0.9 |
| Tanzania | 6.5 | 5.4 | 6.4 | 7.9 | 5.1 | 7.3 | 7.0 | 7.0 | 7.2 | 7.2 |
| Togo | 2.4 | 3.5 | 4.1 | 4.8 | 5.9 | 5.4 | 5.4 | 5.4 | 5.3 | 5.0 |
| Uganda | 8.3 | 8.1 | 7.7 | 6.8 | 2.6 | 4.0 | 4.9 | 4.8 | 4.9 | 5.5 |
| Zambia | 7.7 | 9.2 | 10.3 | 5.6 | 7.6 | 5.1 | 5.0 | 3.0 | 3.0 | 4.0 |
| Zimbabwe[2] | –7.5 | 7.5 | 11.4 | 11.9 | 10.6 | 4.5 | 3.8 | 1.1 | –0.3 | –2.5 |
| **Sub-Saharan Africa** | **6.6** | **3.9** | **7.0** | **5.0** | **4.3** | **5.2** | **5.1** | **3.4** | **1.4** | **2.9** |
| *Median* | 4.8 | 3.3 | 6.0 | 4.8 | 4.6 | 5.2 | 4.6 | 3.9 | 3.8 | 4.5 |
| Excluding Nigeria and South Africa | 6.9 | 3.9 | 6.0 | 6.0 | 5.4 | 6.5 | 5.7 | 4.7 | 3.9 | 4.9 |
| **Oil-exporting countries** | **8.7** | **6.7** | **9.2** | **4.7** | **3.9** | **5.7** | **5.9** | **2.6** | **–1.3** | **0.9** |
| Excluding Nigeria | 11.0 | 2.3 | 3.5 | 4.2 | 2.7 | 6.5 | 4.6 | 2.4 | –0.2 | 1.7 |
| **Oil-importing countries** | **5.3** | **2.0** | **5.3** | **5.3** | **4.7** | **4.9** | **4.5** | **3.9** | **3.4** | **4.2** |
| Excluding South Africa | 5.6 | 4.4 | 6.8 | 6.6 | 6.2 | 6.5 | 6.1 | 5.4 | 5.1 | 5.9 |
| **Middle-income countries** | **6.7** | **3.6** | **6.9** | **4.6** | **4.3** | **4.7** | **4.6** | **2.7** | **0.4** | **2.0** |
| Excluding Nigeria and South Africa | 7.4 | 2.8 | 5.1 | 5.4 | 6.1 | 5.9 | 4.9 | 3.8 | 3.1 | 4.5 |
| **Low-income countries** | **6.2** | **5.1** | **7.0** | **6.6** | **4.5** | **7.1** | **6.6** | **5.6** | **4.7** | **5.4** |
| Excluding low-income countries in fragile situations | 7.7 | 6.3 | 7.6 | 7.6 | 6.2 | 7.0 | 7.2 | 7.2 | 6.1 | 6.7 |
| **Countries in fragile situations** | **3.5** | **3.3** | **5.6** | **3.1** | **3.3** | **7.3** | **6.1** | **3.7** | **3.2** | **4.1** |
| CFA franc zone | 4.9 | 2.6 | 4.0 | 2.8 | 6.1 | 4.5 | 5.5 | 4.4 | 3.9 | 4.8 |
| CEMAC | 6.3 | 2.2 | 3.5 | 4.4 | 6.0 | 2.8 | 4.7 | 2.1 | 1.0 | 2.6 |
| WAEMU | 3.6 | 2.9 | 4.4 | 1.3 | 6.3 | 6.1 | 6.3 | 6.3 | 6.3 | 6.5 |
| COMESA (SSA members) | 6.2 | 5.6 | 7.9 | 7.1 | 5.9 | 6.2 | 6.5 | 5.9 | 4.8 | 5.3 |
| EAC-5 | 6.2 | 5.2 | 7.4 | 6.9 | 4.6 | 5.9 | 5.9 | 5.8 | 6.1 | 6.3 |
| ECOWAS | 6.8 | 7.0 | 9.7 | 5.0 | 5.1 | 5.8 | 6.0 | 3.1 | 0.2 | 2.4 |
| SACU | 4.8 | –1.6 | 3.3 | 3.4 | 2.4 | 2.8 | 1.9 | 1.3 | 0.4 | 1.1 |
| SADC | 6.2 | 0.5 | 4.2 | 4.3 | 3.7 | 4.2 | 3.5 | 2.7 | 1.6 | 2.4 |

See sources and footnotes on page 90.

**Table SA2. Real Non-Oil GDP Growth**
*(Percent)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 17.6 | 8.1 | 7.6 | 9.5 | 5.5 | 10.9 | 8.2 | 1.6 | –0.6 | 1.5 |
| Benin | 4.2 | 2.3 | 2.1 | 3.0 | 4.6 | 6.9 | 6.5 | 5.0 | 4.6 | 5.4 |
| Botswana | 6.0 | –7.7 | 8.6 | 6.0 | 4.5 | 9.9 | 3.2 | –0.3 | 3.1 | 4.0 |
| Burkina Faso | 5.9 | 3.0 | 8.4 | 6.6 | 6.5 | 6.6 | 4.0 | 4.0 | 5.2 | 5.9 |
| Burundi | 4.4 | 3.8 | 5.1 | 4.0 | 4.4 | 5.9 | 4.5 | –4.0 | –0.5 | 2.0 |
| Cabo Verde | 7.1 | –1.3 | 1.5 | 4.0 | 1.1 | 0.8 | 1.9 | 1.5 | 3.6 | 4.0 |
| Cameroon | 3.6 | 2.9 | 4.1 | 4.6 | 4.6 | 5.4 | 5.6 | 4.9 | 4.9 | 4.8 |
| Central African Rep. | 3.3 | 1.7 | 3.0 | 3.3 | 4.1 | –36.7 | 1.0 | 4.8 | 5.2 | 5.5 |
| Chad | 6.3 | 6.4 | 17.2 | 0.2 | 11.6 | 8.0 | 7.1 | –2.9 | –0.3 | 2.7 |
| Comoros | 1.3 | 1.8 | 2.1 | 2.2 | 3.0 | 3.5 | 2.0 | 1.0 | 2.2 | 3.3 |
| Congo, Dem. Rep. of | 5.9 | 2.8 | 7.2 | 7.0 | 7.2 | 8.6 | 9.5 | 7.0 | 4.0 | 4.3 |
| Congo, Rep. of | 5.7 | 3.9 | 6.5 | 7.4 | 9.7 | 8.1 | 7.9 | 4.8 | 0.3 | 3.2 |
| Côte d'Ivoire | 1.8 | 2.1 | 2.6 | –4.8 | 12.5 | 9.0 | 8.4 | 7.8 | 7.5 | 8.3 |
| Equatorial Guinea | 34.8 | 19.0 | –10.3 | 15.7 | 6.7 | 1.8 | –2.0 | –7.0 | –2.1 | –2.8 |
| Eritrea | –2.1 | 3.9 | 2.2 | 8.7 | 7.0 | 3.1 | 5.0 | 4.8 | 3.7 | 3.3 |
| Ethiopia[1] | 11.8 | 10.0 | 10.6 | 11.4 | 8.7 | 9.9 | 10.3 | 10.2 | 6.5 | 7.5 |
| Gabon | 5.0 | –3.3 | 13.1 | 10.5 | 7.1 | 7.8 | 5.0 | 4.0 | 5.4 | 6.6 |
| Gambia, The | 3.3 | 6.4 | 6.5 | –4.3 | 5.6 | 4.8 | –0.2 | 4.4 | 2.3 | 3.3 |
| Ghana | 6.2 | 4.8 | 7.6 | 8.6 | 8.6 | 6.7 | 4.0 | 4.1 | 3.7 | 4.5 |
| Guinea | 2.9 | –0.3 | 1.9 | 3.8 | 3.7 | 2.3 | 1.1 | 0.1 | 3.8 | 4.4 |
| Guinea-Bissau | 3.1 | 3.3 | 4.4 | 9.4 | –1.8 | 0.8 | 2.5 | 4.8 | 4.8 | 5.0 |
| Kenya | 4.6 | 3.3 | 8.4 | 6.1 | 4.6 | 5.7 | 5.3 | 5.6 | 6.0 | 6.1 |
| Lesotho | 4.0 | 4.5 | 6.9 | 4.5 | 5.3 | 3.6 | 3.4 | 2.8 | 2.4 | 3.8 |
| Liberia | 7.3 | 5.1 | 6.1 | 7.4 | 8.2 | 8.7 | 0.7 | 0.0 | 2.0 | 4.0 |
| Madagascar | 5.8 | –4.7 | 0.3 | 1.5 | 3.0 | 2.3 | 3.3 | 3.1 | 4.1 | 4.5 |
| Malawi | 6.1 | 8.3 | 6.9 | 4.9 | 1.9 | 5.2 | 5.7 | 2.9 | 2.7 | 4.5 |
| Mali | 4.2 | 4.7 | 5.4 | 3.2 | –0.8 | 2.3 | 7.0 | 6.0 | 5.3 | 5.2 |
| Mauritius | 4.3 | 3.0 | 4.1 | 3.9 | 3.2 | 3.2 | 3.6 | 3.5 | 3.5 | 3.9 |
| Mozambique | 8.1 | 6.4 | 6.7 | 7.1 | 7.2 | 7.1 | 7.4 | 6.6 | 4.5 | 5.5 |
| Namibia | 4.3 | 0.3 | 6.0 | 5.1 | 5.1 | 5.7 | 6.5 | 5.3 | 4.2 | 5.3 |
| Niger | 5.2 | –0.7 | 8.4 | 1.3 | 4.2 | 3.2 | 8.1 | 4.9 | 4.2 | 4.7 |
| Nigeria | 10.8 | 10.0 | 12.4 | 5.3 | 5.9 | 8.3 | 7.3 | 3.6 | –0.1 | 0.3 |
| Rwanda | 9.0 | 6.3 | 7.3 | 7.8 | 8.8 | 4.7 | 7.0 | 6.9 | 6.0 | 6.0 |
| São Tomé & Príncipe | 5.7 | 4.0 | 4.5 | 4.8 | 4.5 | 4.0 | 4.5 | 4.0 | 4.0 | 5.0 |
| Senegal | 4.5 | 2.4 | 4.3 | 1.9 | 4.5 | 3.6 | 4.3 | 6.5 | 6.6 | 6.8 |
| Seychelles | 4.8 | –1.1 | 5.9 | 5.4 | 3.7 | 5.0 | 6.2 | 5.7 | 4.9 | 3.5 |
| Sierra Leone | 5.8 | 3.2 | 5.3 | 6.3 | 15.2 | 20.7 | 4.6 | –21.1 | 4.3 | 5.0 |
| South Africa | 4.8 | –1.5 | 3.0 | 3.3 | 2.2 | 2.3 | 1.6 | 1.3 | 0.1 | 0.8 |
| South Sudan | ... | ... | ... | ... | –0.8 | 4.1 | –17.5 | –1.2 | –7.0 | –9.8 |
| Swaziland | 4.4 | 1.9 | 1.4 | 1.2 | 3.0 | 2.9 | 2.5 | 1.7 | 0.5 | 0.9 |
| Tanzania | 6.5 | 5.4 | 6.4 | 7.9 | 5.1 | 7.3 | 7.0 | 7.0 | 7.2 | 7.2 |
| Togo | 2.4 | 3.5 | 4.1 | 4.8 | 5.9 | 5.4 | 5.4 | 5.4 | 5.3 | 5.0 |
| Uganda | 8.3 | 8.1 | 7.7 | 6.8 | 2.6 | 4.0 | 4.9 | 4.8 | 4.9 | 5.5 |
| Zambia | 7.7 | 9.2 | 10.3 | 5.6 | 7.6 | 5.1 | 5.0 | 3.0 | 3.0 | 4.0 |
| Zimbabwe[2] | –7.5 | 7.5 | 11.4 | 11.9 | 10.6 | 4.5 | 3.8 | 1.1 | –0.3 | –2.5 |
| **Sub-Saharan Africa** | **7.8** | **4.9** | **7.6** | **5.5** | **5.2** | **6.3** | **5.4** | **3.5** | **2.0** | **2.7** |
| *Median* | 5.2 | 3.4 | 6.1 | 5.2 | 5.1 | 5.1 | 4.9 | 4.0 | 4.0 | 4.5 |
| Excluding Nigeria and South Africa | 7.6 | 5.0 | 6.7 | 6.6 | 6.1 | 6.8 | 5.8 | 4.4 | 4.1 | 4.8 |
| **Oil-exporting countries** | **11.7** | **9.2** | **10.8** | **6.2** | **5.9** | **8.2** | **6.6** | **3.0** | **0.1** | **0.7** |
| Excluding Nigeria | 5.1 | 7.1 | 6.2 | 8.5 | 6.0 | 8.0 | 4.9 | 1.4 | 0.6 | 2.0 |
| **Oil-importing countries** | **5.3** | **1.9** | **5.3** | **5.0** | **4.7** | **4.9** | **4.5** | **3.9** | **3.4** | **4.0** |
| Excluding South Africa | 5.6 | 4.3 | 6.9 | 6.0 | 6.2 | 6.4 | 6.1 | 5.4 | 5.1 | 5.6 |
| **Middle-income countries** | **8.2** | **4.9** | **7.7** | **5.1** | **5.0** | **6.2** | **5.2** | **2.9** | **1.1** | **1.8** |
| Excluding Nigeria and South Africa | 8.9 | 4.9 | 6.2 | 6.7 | 6.5 | 7.2 | 5.6 | 3.5 | 3.3 | 4.3 |
| **Low-income countries** | **6.1** | **5.1** | **7.2** | **6.6** | **5.8** | **6.4** | **6.1** | **5.4** | **4.8** | **5.3** |
| Excluding low-income countries in fragile situations | 7.7 | 6.3 | 7.6 | 7.6 | 6.0 | 6.9 | 7.3 | 7.2 | 6.1 | 6.6 |
| **Countries in fragile situations** | **3.3** | **2.9** | **5.8** | **3.4** | **7.0** | **6.2** | **5.0** | **3.4** | **3.3** | **4.0** |
| CFA franc zone | 7.1 | 4.3 | 4.7 | 4.2 | 6.8 | 5.6 | 5.6 | 4.0 | 4.5 | 5.2 |
| CEMAC | 10.8 | 6.2 | 4.8 | 7.6 | 7.1 | 5.3 | 4.6 | 1.6 | 2.5 | 3.5 |
| WAEMU | 3.6 | 2.6 | 4.5 | 1.0 | 6.4 | 5.9 | 6.6 | 6.2 | 6.1 | 6.6 |
| COMESA (SSA members) | 6.2 | 5.6 | 7.9 | 7.1 | 5.9 | 6.2 | 6.6 | 5.9 | 4.8 | 5.3 |
| EAC-5 | 6.2 | 5.2 | 7.4 | 6.9 | 4.6 | 5.9 | 5.9 | 5.8 | 6.1 | 6.3 |
| ECOWAS | 9.0 | 8.2 | 10.6 | 4.9 | 6.2 | 7.8 | 6.8 | 3.8 | 1.4 | 1.8 |
| SACU | 4.8 | –1.6 | 3.3 | 3.4 | 2.4 | 2.8 | 1.9 | 1.3 | 0.4 | 1.1 |
| SADC | 6.3 | 1.2 | 4.8 | 5.0 | 3.8 | 4.7 | 4.0 | 2.5 | 1.5 | 2.4 |

See sources and footnotes on page 90.

**Table SA3. Real Per Capita GDP Growth**
*(Percent)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 13.8 | –0.6 | 0.4 | 0.9 | 2.1 | 3.7 | 1.8 | 0.0 | –2.9 | –1.5 |
| Benin | 1.0 | –0.6 | –0.8 | 0.1 | 1.8 | 4.1 | 3.8 | 2.4 | 2.1 | 2.9 |
| Botswana | 4.6 | –8.9 | 7.2 | 4.8 | 3.2 | 8.6 | 2.0 | –1.4 | 1.9 | 2.8 |
| Burkina Faso | 2.8 | 0.2 | 5.6 | 3.3 | 3.2 | 4.0 | 0.9 | 1.2 | 2.3 | 3.0 |
| Burundi | 2.2 | 1.4 | 2.7 | 1.6 | 2.0 | 3.5 | 2.0 | –6.2 | –2.8 | –0.4 |
| Cabo Verde | 6.4 | –1.5 | 1.1 | 3.3 | –2.0 | –0.4 | 0.6 | 0.2 | 2.4 | 2.8 |
| Cameroon | 0.3 | –0.8 | 0.8 | 1.6 | 2.0 | 3.0 | 3.3 | 3.2 | 2.2 | 1.7 |
| Central African Rep. | 1.5 | –0.2 | 1.1 | 1.3 | 2.1 | –37.9 | –0.9 | 2.8 | 3.2 | 3.4 |
| Chad | 7.0 | 1.7 | 10.8 | –2.4 | 6.2 | 3.1 | 4.3 | –0.7 | –3.5 | –1.1 |
| Comoros | –1.1 | –1.2 | –0.9 | –0.8 | –0.0 | 0.5 | –1.0 | –1.9 | –0.8 | 0.3 |
| Congo, Dem. Rep. of | 3.0 | –0.1 | 4.0 | 3.8 | 4.0 | 5.3 | 6.3 | 3.8 | 0.9 | 1.2 |
| Congo, Rep. of | 1.4 | 4.4 | 5.7 | 0.5 | 0.9 | 1.1 | 4.5 | 0.1 | –0.3 | 2.8 |
| Côte d'Ivoire | –0.8 | 0.6 | –0.6 | –6.6 | 7.3 | 6.5 | 5.2 | 5.8 | 5.2 | 5.2 |
| Equatorial Guinea | 11.8 | –1.5 | –11.5 | 3.6 | 5.3 | –6.8 | –3.2 | –9.9 | –12.2 | –8.2 |
| Eritrea | –5.2 | 0.6 | –1.1 | 5.2 | 3.6 | –0.2 | 1.6 | 1.4 | 0.4 | –0.0 |
| Ethiopia[1] | 9.2 | 8.3 | 8.8 | 9.6 | 7.0 | 8.2 | 8.6 | 8.5 | 4.8 | 5.8 |
| Gabon | –1.5 | –5.9 | 2.4 | 3.2 | 1.4 | 1.7 | 2.8 | 2.5 | 1.7 | 3.1 |
| Gambia, The | 0.4 | 3.6 | 3.7 | –6.9 | 2.8 | 2.0 | –2.9 | 1.6 | –0.4 | 0.5 |
| Ghana | 3.6 | 2.2 | 5.2 | 11.2 | 6.6 | 4.6 | 1.4 | 1.3 | 0.8 | 4.7 |
| Guinea | 0.6 | –2.9 | –0.7 | 1.2 | 1.1 | –0.3 | –1.4 | –2.3 | 1.3 | 1.9 |
| Guinea-Bissau | 0.9 | 1.1 | 2.1 | 6.8 | –4.0 | –1.4 | 0.3 | 2.5 | 2.5 | 2.7 |
| Kenya | 1.8 | 0.5 | 6.1 | 3.4 | 1.5 | 2.9 | 2.4 | 2.8 | 3.1 | 3.2 |
| Lesotho | 3.7 | 4.3 | 6.6 | 4.3 | 5.0 | 3.3 | 3.2 | 2.6 | 2.1 | 3.6 |
| Liberia | 5.7 | 0.8 | 1.8 | 4.7 | 5.5 | 5.9 | –1.9 | –2.5 | –0.4 | 1.6 |
| Madagascar | 2.8 | –7.4 | –2.5 | –1.4 | 0.2 | –0.6 | 0.5 | 0.3 | 1.3 | 1.7 |
| Malawi | 3.5 | 5.3 | 3.9 | 1.9 | –1.0 | 2.3 | 2.7 | 0.1 | –0.2 | 1.6 |
| Mali | 1.0 | 1.4 | 2.2 | 0.2 | –3.8 | –0.7 | 3.7 | 2.7 | 2.0 | 1.9 |
| Mauritius | 3.8 | 2.8 | 3.9 | 3.7 | 2.9 | 3.0 | 3.6 | 3.5 | 3.5 | 3.9 |
| Mozambique | 5.0 | 3.4 | 3.7 | 4.1 | 4.2 | 4.2 | 4.5 | 3.7 | 1.7 | 2.7 |
| Namibia | 2.9 | –1.2 | 4.5 | 3.5 | 3.1 | 3.7 | 4.5 | 3.3 | 3.4 | 4.4 |
| Niger | 1.5 | –4.1 | 5.1 | –0.9 | 8.5 | 2.1 | 3.8 | 0.4 | 2.1 | 1.9 |
| Nigeria | 4.9 | 5.5 | 8.3 | 2.1 | 1.5 | 2.6 | 3.5 | –0.1 | –4.4 | –2.0 |
| Rwanda | 6.8 | 4.1 | 4.1 | 5.7 | 5.7 | 2.4 | 4.4 | 4.1 | 3.9 | 3.4 |
| São Tomé & Príncipe | 3.0 | 1.0 | 1.5 | 1.9 | 1.8 | 1.4 | 1.9 | 1.5 | 1.5 | 2.6 |
| Senegal | 1.7 | –0.4 | 1.3 | –1.1 | 1.5 | 0.6 | 1.4 | 3.4 | 3.6 | 3.8 |
| Seychelles | 3.7 | –1.5 | 3.0 | 8.2 | 2.7 | 3.1 | 4.6 | 5.0 | 4.1 | 2.8 |
| Sierra Leone | 2.4 | 1.2 | 3.3 | 4.3 | 13.0 | 18.2 | 2.4 | –22.2 | 2.3 | 3.0 |
| South Africa | 3.4 | –3.0 | 1.5 | 1.7 | 0.6 | 0.7 | –0.0 | –0.4 | –1.5 | –0.8 |
| South Sudan | ... | ... | ... | ... | –54.7 | 23.4 | –1.6 | –4.4 | –17.3 | –10.6 |
| Swaziland | 3.4 | 0.7 | 0.3 | 0.0 | 1.8 | 1.7 | 1.2 | 0.5 | –0.7 | –0.3 |
| Tanzania | 3.6 | 2.7 | 3.8 | 5.3 | 2.7 | 5.2 | 4.9 | 4.9 | 5.1 | 5.1 |
| Togo | –0.7 | 0.7 | 1.3 | 2.0 | 3.1 | 2.6 | 2.6 | 2.6 | 2.5 | 2.2 |
| Uganda | 4.6 | 4.5 | 4.2 | 3.5 | –0.8 | 0.4 | 1.9 | 1.8 | 1.9 | 2.5 |
| Zambia | 4.7 | 6.0 | 7.1 | 2.5 | 4.3 | 2.0 | 1.9 | –0.1 | –0.1 | 0.8 |
| Zimbabwe[2] | –8.3 | 6.6 | 10.4 | 10.8 | 5.5 | 1.6 | 1.2 | –1.5 | –2.8 | –5.0 |
| **Sub-Saharan Africa** | **4.1** | **1.5** | **4.5** | **2.6** | **1.8** | **2.8** | **2.6** | **0.9** | **–0.9** | **0.5** |
| *Median* | 2.9 | 0.7 | 3.2 | 2.8 | 2.7 | 2.6 | 2.0 | 1.4 | 1.7 | 2.5 |
| Excluding Nigeria and South Africa | 4.1 | 1.2 | 3.4 | 3.4 | 2.6 | 3.8 | 3.1 | 2.1 | 1.4 | 2.4 |
| **Oil-exporting countries** | **5.7** | **3.7** | **6.2** | **1.9** | **1.0** | **2.8** | **3.0** | **–0.2** | **–4.0** | **–1.8** |
| Excluding Nigeria | 7.9 | –0.6 | 0.6 | 1.2 | –0.2 | 3.3 | 1.8 | –0.4 | –2.8 | –1.0 |
| **Oil-importing countries** | **3.1** | **–0.1** | **3.2** | **3.1** | **2.4** | **2.7** | **2.3** | **1.7** | **1.2** | **2.0** |
| Excluding South Africa | 3.0 | 1.9 | 4.3 | 4.1 | 3.5 | 3.9 | 3.6 | 2.9 | 2.7 | 3.4 |
| **Middle-income countries** | **4.3** | **1.2** | **4.5** | **2.2** | **1.8** | **2.3** | **2.1** | **0.3** | **–1.9** | **–0.4** |
| Excluding Nigeria and South Africa | 4.8 | 0.2 | 2.6 | 2.8 | 3.4 | 3.2 | 2.3 | 1.3 | 0.6 | 2.0 |
| **Low-income countries** | **3.4** | **2.4** | **4.4** | **4.0** | **1.8** | **4.4** | **4.0** | **3.0** | **2.1** | **2.9** |
| Excluding low-income countries in fragile situations | 4.7 | 3.7 | 4.9 | 5.0 | 3.6 | 4.6 | 4.9 | 4.8 | 3.8 | 4.3 |
| **Countries in fragile situations** | **0.9** | **0.6** | **2.8** | **0.5** | **0.3** | **4.3** | **3.2** | **0.9** | **0.4** | **1.3** |
| CFA franc zone | 2.0 | –0.3 | 1.1 | –0.1 | 3.2 | 1.7 | 2.9 | 1.8 | 1.3 | 2.2 |
| CEMAC | 3.4 | –0.7 | 0.7 | 1.6 | 3.1 | 0.0 | 2.3 | –0.2 | –1.2 | 0.3 |
| WAEMU | 0.7 | 0.1 | 1.5 | –1.6 | 3.4 | 3.3 | 3.4 | 3.4 | 3.4 | 3.6 |
| COMESA (SSA members) | 3.5 | 3.1 | 5.4 | 4.7 | 3.1 | 3.6 | 4.0 | 3.4 | 2.3 | 2.8 |
| EAC-5 | 3.2 | 2.3 | 4.7 | 4.2 | 1.6 | 3.2 | 3.3 | 3.2 | 3.5 | 3.7 |
| ECOWAS | 3.9 | 4.2 | 6.8 | 2.2 | 2.3 | 3.0 | 3.2 | 0.4 | –2.5 | –0.4 |
| SACU | 3.4 | –3.0 | 1.8 | 1.9 | 0.9 | 1.2 | 0.3 | –0.3 | –1.2 | –0.5 |
| SADC | 4.3 | –1.4 | 2.3 | 2.3 | 1.6 | 2.2 | 1.5 | 0.6 | –0.4 | 0.3 |

See sources and footnotes on page 90.

**Table SA4. Consumer Prices**
*(Annual average, percent change)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 20.9 | 13.7 | 14.5 | 13.5 | 10.3 | 8.8 | 7.3 | 10.3 | 33.7 | 38.3 |
| Benin | 3.7 | 0.9 | 2.2 | 2.7 | 6.7 | 1.0 | –1.1 | 0.3 | 0.6 | 2.2 |
| Botswana | 9.4 | 8.1 | 6.9 | 8.5 | 7.5 | 5.9 | 4.4 | 3.0 | 3.2 | 3.5 |
| Burkina Faso | 3.8 | 0.9 | –0.6 | 2.8 | 3.8 | 0.5 | –0.3 | 0.9 | 1.6 | 2.0 |
| Burundi | 11.4 | 10.6 | 6.5 | 9.6 | 18.2 | 7.9 | 4.4 | 5.6 | 6.3 | 9.4 |
| Cabo Verde | 2.9 | 1.0 | 2.1 | 4.5 | 2.5 | 1.5 | –0.2 | 0.1 | 0.1 | 1.3 |
| Cameroon | 2.7 | 3.0 | 1.3 | 2.9 | 2.4 | 2.1 | 1.9 | 2.7 | 2.2 | 2.2 |
| Central African Rep. | 3.5 | 3.5 | 1.5 | 1.2 | 5.9 | 6.6 | 11.6 | 4.5 | 4.0 | 3.5 |
| Chad | 1.5 | 10.1 | –2.1 | 1.9 | 7.7 | 0.2 | 1.7 | 3.7 | 0.0 | 5.2 |
| Comoros | 4.0 | 4.8 | 3.9 | 2.2 | 5.9 | 1.6 | 1.3 | 2.0 | 2.2 | 2.2 |
| Congo, Dem. Rep. of | 14.6 | 46.1 | 23.5 | 14.9 | 0.9 | 0.9 | 1.2 | 1.0 | 1.7 | 2.7 |
| Congo, Rep. of | 3.9 | 4.3 | 5.0 | 1.8 | 5.0 | 4.6 | 0.9 | 2.0 | 4.0 | 3.7 |
| Côte d'Ivoire | 3.2 | 1.0 | 1.4 | 4.9 | 1.3 | 2.6 | 0.4 | 1.2 | 1.0 | 1.5 |
| Equatorial Guinea | 4.4 | 5.7 | 5.3 | 4.8 | 3.4 | 3.2 | 4.3 | 1.7 | 1.5 | 1.4 |
| Eritrea | 16.4 | 33.0 | 11.2 | 3.9 | 6.0 | 6.5 | 10.0 | 9.0 | 9.0 | 9.0 |
| Ethiopia | 18.0 | 8.5 | 8.1 | 33.2 | 24.1 | 8.1 | 7.4 | 10.1 | 7.7 | 8.2 |
| Gabon | 0.9 | 1.9 | 1.4 | 1.3 | 2.7 | 0.5 | 4.5 | 0.1 | 2.5 | 2.5 |
| Gambia, The | 6.2 | 4.6 | 5.0 | 4.8 | 4.6 | 5.2 | 6.2 | 6.8 | 8.3 | 7.6 |
| Ghana | 13.3 | 13.1 | 6.7 | 7.7 | 7.1 | 11.7 | 15.5 | 17.2 | 17.0 | 10.0 |
| Guinea | 25.0 | 4.7 | 15.5 | 21.4 | 15.2 | 11.9 | 9.7 | 8.2 | 8.2 | 8.1 |
| Guinea-Bissau | 4.0 | –1.6 | 1.1 | 5.1 | 2.1 | 0.8 | –1.0 | 1.5 | 2.6 | 2.8 |
| Kenya | 8.3 | 10.6 | 4.3 | 14.0 | 9.4 | 5.7 | 6.9 | 6.6 | 6.2 | 5.5 |
| Lesotho | 6.9 | 5.9 | 3.4 | 6.0 | 5.5 | 5.0 | 4.0 | 5.3 | 8.6 | 6.0 |
| Liberia | 9.8 | 7.4 | 7.3 | 8.5 | 6.8 | 7.6 | 9.9 | 7.7 | 8.6 | 8.5 |
| Madagascar | 12.5 | 9.0 | 9.2 | 9.5 | 5.7 | 5.8 | 6.1 | 7.4 | 6.7 | 6.9 |
| Malawi | 11.5 | 8.4 | 7.4 | 7.6 | 21.3 | 28.3 | 23.8 | 21.9 | 19.8 | 13.9 |
| Mali | 3.1 | 2.2 | 1.3 | 3.1 | 5.3 | –0.6 | 0.9 | 1.4 | 1.0 | 1.3 |
| Mauritius | 7.4 | 2.5 | 2.9 | 6.5 | 3.9 | 3.5 | 3.2 | 1.3 | 1.5 | 2.1 |
| Mozambique | 10.2 | 3.3 | 12.7 | 10.4 | 2.1 | 4.2 | 2.3 | 2.4 | 16.7 | 15.5 |
| Namibia | 5.4 | 9.5 | 4.9 | 5.0 | 6.7 | 5.6 | 5.3 | 3.4 | 6.6 | 6.0 |
| Niger | 4.0 | 4.3 | –2.8 | 2.9 | 0.5 | 2.3 | –0.9 | 1.0 | 1.6 | 2.0 |
| Nigeria | 11.6 | 12.5 | 13.7 | 10.8 | 12.2 | 8.5 | 8.0 | 9.0 | 15.4 | 17.1 |
| Rwanda | 10.9 | 10.3 | 2.3 | 5.7 | 6.3 | 4.2 | 1.8 | 2.5 | 5.3 | 4.9 |
| São Tomé & Príncipe | 20.8 | 17.0 | 13.3 | 14.3 | 10.6 | 8.1 | 7.0 | 5.3 | 3.9 | 3.5 |
| Senegal | 3.3 | –2.2 | 1.2 | 3.4 | 1.4 | 0.7 | –1.1 | 0.1 | 1.0 | 1.8 |
| Seychelles | 9.0 | 31.8 | –2.4 | 2.6 | 7.1 | 4.3 | 1.4 | 4.0 | –0.8 | 2.5 |
| Sierra Leone | 12.5 | 9.2 | 17.8 | 18.5 | 13.8 | 9.8 | 8.3 | 9.0 | 9.7 | 9.0 |
| South Africa | 5.6 | 7.1 | 4.3 | 5.0 | 5.7 | 5.8 | 6.1 | 4.6 | 6.4 | 6.0 |
| South Sudan | ... | ... | ... | ... | 45.1 | –0.0 | 1.7 | 52.8 | 476.0 | 110.7 |
| Swaziland | 6.2 | 7.4 | 4.5 | 6.1 | 8.9 | 5.6 | 5.7 | 5.0 | 7.0 | 6.1 |
| Tanzania | 6.6 | 12.1 | 7.2 | 12.7 | 16.0 | 7.9 | 6.1 | 5.6 | 5.2 | 5.0 |
| Togo | 3.8 | 3.7 | 1.4 | 3.6 | 2.6 | 1.8 | 0.2 | 1.8 | 2.1 | 2.5 |
| Uganda | 7.5 | 13.0 | 3.8 | 15.1 | 12.9 | 5.0 | 3.1 | 5.5 | 5.5 | 5.1 |
| Zambia | 13.7 | 13.4 | 8.5 | 8.7 | 6.6 | 7.0 | 7.8 | 10.1 | 19.1 | 9.1 |
| Zimbabwe[1] | 39.9 | 6.2 | 3.0 | 3.5 | 3.7 | 1.6 | –0.2 | –2.4 | –1.6 | 4.6 |
| **Sub-Saharan Africa** | **8.8** | **9.8** | **8.2** | **9.4** | **9.3** | **6.6** | **6.3** | **7.0** | **11.3** | **10.8** |
| *Median* | 7.2 | 7.3 | 4.4 | 5.4 | 6.0 | 5.0 | 4.3 | 4.0 | 5.2 | 5.0 |
| Excluding Nigeria and South Africa | 9.2 | 9.5 | 6.6 | 10.6 | 9.1 | 5.7 | 5.3 | 6.7 | 10.8 | 9.2 |
| **Oil-exporting countries** | **10.9** | **11.5** | **12.1** | **10.0** | **11.2** | **7.5** | **7.1** | **8.8** | **18.2** | **18.3** |
| Excluding Nigeria | 9.1 | 8.8 | 7.8 | 7.6 | 8.4 | 4.9 | 4.6 | 8.2 | 25.8 | 21.6 |
| **Oil-importing countries** | **7.7** | **8.6** | **5.4** | **9.0** | **7.9** | **5.9** | **5.7** | **5.6** | **6.6** | **5.9** |
| Excluding South Africa | 9.3 | 9.7 | 6.2 | 11.6 | 9.3 | 6.0 | 5.5 | 6.2 | 6.7 | 5.8 |
| **Middle-income countries** | **8.7** | **9.7** | **8.6** | **8.4** | **8.5** | **7.0** | **7.0** | **7.2** | **11.8** | **12.0** |
| Excluding Nigeria and South Africa | 9.1 | 8.9 | 6.5 | 8.6 | 6.7 | 6.2 | 6.4 | 7.0 | 12.2 | 11.1 |
| **Low-income countries** | **9.3** | **10.2** | **6.6** | **13.0** | **11.8** | **5.2** | **4.2** | **6.3** | **9.5** | **7.3** |
| Excluding low-income countries in fragile situations | 8.8 | 7.9 | 5.4 | 15.5 | 13.4 | 5.6 | 4.2 | 5.5 | 5.9 | 6.0 |
| **Countries in fragile situations** | **8.2** | **10.6** | **7.0** | **7.2** | **7.4** | **4.1** | **3.3** | **5.9** | **12.5** | **7.6** |
| CFA franc zone | 3.1 | 2.7 | 1.5 | 3.2 | 3.3 | 1.7 | 1.2 | 1.5 | 1.6 | 2.2 |
| CEMAC | 2.7 | 4.6 | 2.1 | 2.7 | 3.8 | 2.2 | 2.7 | 2.2 | 2.1 | 2.8 |
| WAEMU | 3.4 | 1.0 | 0.8 | 3.6 | 2.8 | 1.3 | –0.1 | 1.0 | 1.2 | 1.7 |
| COMESA (SSA members) | 11.5 | 13.0 | 7.3 | 15.5 | 11.4 | 6.2 | 5.9 | 6.8 | 7.1 | 6.4 |
| EAC-5 | 7.7 | 11.6 | 5.1 | 13.3 | 12.4 | 6.3 | 5.5 | 5.8 | 5.6 | 5.3 |
| ECOWAS | 10.3 | 10.4 | 11.1 | 9.6 | 10.3 | 7.6 | 7.3 | 8.2 | 12.8 | 13.4 |
| SACU | 5.8 | 7.2 | 4.4 | 5.2 | 5.8 | 5.7 | 6.0 | 4.5 | 6.3 | 5.9 |
| SADC | 8.0 | 9.8 | 6.9 | 7.6 | 7.1 | 6.3 | 6.0 | 5.5 | 9.9 | 9.8 |

See sources and footnotes on page 90.

**Table SA5. Consumer Prices**
*(End of period, percent change)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 17.3 | 14.0 | 15.3 | 11.4 | 9.0 | 7.7 | 7.5 | 14.3 | 48.0 | 32.0 |
| Benin | 4.1 | –0.5 | 4.0 | 1.8 | 6.8 | –1.8 | –0.8 | 2.3 | 2.2 | 2.3 |
| Botswana | 9.9 | 5.8 | 7.4 | 9.2 | 7.4 | 4.1 | 3.7 | 3.1 | 3.3 | 3.6 |
| Burkina Faso | 4.1 | –1.8 | –0.3 | 5.1 | 1.7 | 0.1 | –0.1 | 1.3 | 1.6 | 2.0 |
| Burundi | 12.5 | 4.6 | 4.1 | 14.9 | 11.8 | 9.0 | 3.7 | 7.1 | 11.6 | 7.6 |
| Cabo Verde | 3.5 | –0.4 | 3.4 | 3.6 | 4.1 | 0.1 | –0.4 | –0.5 | 1.0 | 1.5 |
| Cameroon | 3.1 | 0.9 | 2.6 | 2.7 | 2.5 | 1.7 | 2.6 | 2.8 | 2.2 | 2.2 |
| Central African Rep. | 4.7 | –1.2 | 2.3 | 4.3 | 5.9 | 5.9 | 9.7 | 4.8 | 4.0 | 3.5 |
| Chad | 3.2 | 4.7 | –2.2 | 10.8 | 2.1 | 0.9 | 3.7 | –0.3 | 5.0 | 3.0 |
| Comoros | 4.4 | 2.2 | 6.7 | 4.9 | 1.0 | 3.5 | 0.0 | 3.3 | 6.4 | 1.5 |
| Congo, Dem. Rep. of | 17.2 | 53.4 | 9.8 | 8.7 | 2.8 | 1.1 | 1.0 | 0.9 | 2.5 | 3.0 |
| Congo, Rep. of | 4.4 | 2.5 | 5.4 | 1.8 | 7.5 | 2.1 | 0.5 | 2.2 | 4.6 | 3.5 |
| Côte d'Ivoire | 3.9 | –1.7 | 5.1 | 2.0 | 3.4 | 0.4 | 0.9 | 1.3 | 1.2 | 1.7 |
| Equatorial Guinea | 4.3 | 5.0 | 5.4 | 4.9 | 2.6 | 4.9 | 2.6 | 1.6 | 1.4 | 1.5 |
| Eritrea | 17.5 | 22.2 | 14.2 | 12.3 | 2.9 | 9.5 | 10.0 | 9.0 | 9.0 | 9.0 |
| Ethiopia | 19.3 | 7.1 | 14.6 | 35.9 | 15.0 | 7.7 | 7.1 | 10.0 | 9.7 | 8.0 |
| Gabon | 1.1 | 0.9 | 0.7 | 2.3 | 2.2 | 3.3 | 1.7 | 0.1 | 2.5 | 2.5 |
| Gambia, The | 5.2 | 2.7 | 5.8 | 4.4 | 4.9 | 5.5 | 6.9 | 6.7 | 10.0 | 5.2 |
| Ghana | 13.7 | 9.5 | 6.9 | 8.4 | 8.1 | 13.5 | 17.0 | 17.7 | 13.5 | 8.0 |
| Guinea | 24.6 | 7.9 | 20.8 | 19.0 | 12.8 | 10.5 | 9.0 | 7.3 | 8.8 | 7.5 |
| Guinea-Bissau | 4.6 | –6.4 | 5.7 | 3.4 | 1.6 | –0.1 | –0.1 | 2.4 | 2.5 | 2.5 |
| Kenya | 9.0 | 8.0 | 5.8 | 18.9 | 3.2 | 7.1 | 6.0 | 8.0 | 5.6 | 5.5 |
| Lesotho | 7.2 | 3.8 | 3.6 | 7.2 | 5.0 | 5.6 | 2.9 | 6.0 | 8.5 | 6.0 |
| Liberia | 9.5 | 9.7 | 6.6 | 11.4 | 7.7 | 8.5 | 7.7 | 8.0 | 8.8 | 8.2 |
| Madagascar | 13.6 | 8.0 | 10.2 | 6.9 | 5.8 | 6.3 | 6.0 | 7.6 | 7.1 | 7.1 |
| Malawi | 11.6 | 7.6 | 6.3 | 9.8 | 34.6 | 23.5 | 24.2 | 24.9 | 15.2 | 10.2 |
| Mali | 3.7 | 1.7 | 1.9 | 5.3 | 2.4 | 0.0 | 1.2 | 1.0 | 1.0 | 1.5 |
| Mauritius | 7.3 | 1.5 | 6.1 | 4.9 | 3.2 | 4.1 | 0.2 | 1.3 | 2.0 | 2.2 |
| Mozambique | 9.2 | 4.2 | 16.6 | 5.5 | 2.2 | 3.0 | 1.1 | 11.1 | 20.0 | 12.2 |
| Namibia | 6.1 | 7.9 | 3.1 | 7.4 | 6.4 | 4.9 | 4.6 | 3.7 | 7.3 | 6.0 |
| Niger | 5.3 | –3.1 | 1.4 | 1.4 | 0.7 | 1.1 | –0.6 | 2.2 | 1.6 | 2.2 |
| Nigeria | 10.3 | 13.9 | 11.8 | 10.3 | 12.0 | 8.0 | 8.0 | 9.6 | 18.5 | 17.0 |
| Rwanda | 11.4 | 5.7 | 0.2 | 8.3 | 3.9 | 3.6 | 2.1 | 4.5 | 4.7 | 5.0 |
| São Tomé & Príncipe | 21.9 | 16.1 | 12.9 | 11.9 | 10.4 | 7.1 | 6.4 | 4.0 | 4.0 | 3.0 |
| Senegal | 3.8 | –4.5 | 4.3 | 2.7 | 1.1 | –0.1 | –0.8 | 0.4 | 1.4 | 1.7 |
| Seychelles | 16.1 | –2.5 | 0.4 | 5.5 | 5.8 | 3.4 | 0.5 | 3.2 | 0.9 | 3.1 |
| Sierra Leone | 12.4 | 10.8 | 18.4 | 16.9 | 12.0 | 8.5 | 9.8 | 10.1 | 9.5 | 9.0 |
| South Africa | 6.4 | 6.3 | 3.5 | 6.1 | 5.7 | 5.4 | 5.3 | 5.2 | 6.7 | 5.5 |
| South Sudan | ... | ... | ... | ... | 25.2 | –8.8 | 9.9 | 109.9 | 583.9 | 38.1 |
| Swaziland | 7.7 | 4.5 | 4.5 | 7.8 | 8.3 | 4.4 | 6.2 | 4.9 | 5.5 | 6.6 |
| Tanzania | 7.1 | 12.2 | 5.6 | 19.8 | 12.1 | 5.6 | 4.8 | 6.8 | 5.0 | 5.0 |
| Togo | 4.9 | 0.6 | 3.8 | 1.5 | 2.9 | –0.4 | 1.8 | 1.8 | 2.3 | 2.5 |
| Uganda | 8.4 | 10.9 | 1.6 | 23.8 | 4.5 | 5.5 | 2.2 | 8.5 | 5.2 | 5.1 |
| Zambia | 13.4 | 9.9 | 7.9 | 7.2 | 7.3 | 7.1 | 7.9 | 21.1 | 9.5 | 8.7 |
| Zimbabwe[1] | ... | –7.7 | 3.2 | 4.9 | 2.9 | 0.3 | –0.8 | –2.5 | –1.2 | 6.0 |
| **Sub-Saharan Africa** | **8.9** | **9.2** | **7.7** | **10.0** | **8.2** | **6.1** | **6.1** | **8.2** | **12.8** | **10.0** |
| *Median* | 7.3 | 4.7 | 5.4 | 7.0 | 5.0 | 4.4 | 3.7 | 4.5 | 5.0 | 5.0 |
| Excluding Nigeria and South Africa | 9.5 | 7.7 | 7.2 | 11.8 | 6.9 | 5.2 | 5.2 | 8.5 | 12.0 | 7.9 |
| **Oil-exporting countries** | **9.8** | **12.2** | **10.9** | **9.5** | **10.5** | **6.9** | **7.2** | **10.1** | **22.4** | **16.9** |
| Excluding Nigeria | 8.3 | 7.8 | 8.3 | 7.4 | 6.7 | 4.0 | 5.0 | 11.7 | 33.4 | 16.5 |
| **Oil-importing countries** | **8.4** | **7.1** | **5.4** | **10.4** | **6.5** | **5.5** | **5.3** | **6.7** | **6.5** | **5.5** |
| Excluding South Africa | 9.9 | 7.7 | 6.8 | 13.3 | 7.0 | 5.6 | 5.3 | 7.5 | 6.3 | 5.5 |
| **Middle-income countries** | **8.6** | **9.3** | **7.9** | **8.6** | **8.2** | **6.7** | **6.7** | **8.2** | **13.5** | **11.4** |
| Excluding Nigeria and South Africa | 9.0 | 6.9 | 7.4 | 8.7 | 5.8 | 6.2 | 6.2 | 8.9 | 13.4 | 9.8 |
| **Low-income countries** | **10.2** | **8.6** | **6.9** | **15.3** | **8.2** | **4.2** | **4.2** | **8.1** | **10.7** | **6.1** |
| Excluding low-income countries in fragile situations | 9.5 | 6.4 | 6.9 | 19.1 | 8.5 | 4.7 | 3.6 | 7.0 | 6.6 | 5.7 |
| **Countries in fragile situations** | **9.1** | **8.7** | **6.4** | **6.9** | **6.9** | **2.7** | **4.0** | **7.8** | **14.0** | **5.4** |
| CFA franc zone | 3.6 | 0.4 | 2.9 | 3.5 | 2.9 | 1.2 | 1.3 | 1.4 | 2.1 | 2.1 |
| CEMAC | 3.2 | 2.5 | 2.5 | 4.1 | 3.2 | 2.5 | 2.4 | 1.6 | 2.9 | 2.5 |
| WAEMU | 4.0 | –1.6 | 3.3 | 3.0 | 2.7 | 0.0 | 0.3 | 1.3 | 1.4 | 1.8 |
| COMESA (SSA members) | 12.5 | 10.7 | 7.6 | 17.7 | 7.4 | 6.4 | 5.4 | 8.6 | 6.6 | 6.3 |
| EAC-5 | 8.4 | 9.9 | 4.5 | 19.6 | 6.7 | 6.1 | 4.5 | 7.5 | 5.4 | 5.2 |
| ECOWAS | 9.6 | 10.7 | 10.2 | 9.1 | 10.1 | 7.1 | 7.4 | 8.7 | 14.7 | 13.1 |
| SACU | 6.5 | 6.3 | 3.6 | 6.2 | 5.8 | 5.3 | 5.2 | 5.1 | 6.6 | 5.4 |
| SADC | 8.4 | 9.0 | 6.1 | 8.1 | 6.9 | 5.6 | 5.4 | 7.2 | 11.2 | 8.8 |

See sources and footnotes on page 90.

**Table SA6. Total Investment**
*(Percent of GDP)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 12.6 | 15.2 | 14.4 | 12.9 | 14.9 | 14.7 | 15.3 | 9.1 | 9.7 | 10.3 |
| Benin | 20.7 | 21.9 | 23.1 | 24.1 | 22.7 | 28.5 | 25.0 | 27.2 | 26.2 | 28.9 |
| Botswana | 30.0 | 37.3 | 35.4 | 38.7 | 38.1 | 32.9 | 30.6 | 31.1 | 30.4 | 32.8 |
| Burkina Faso | 18.5 | 17.9 | 18.0 | 15.4 | 14.9 | 20.8 | 19.8 | 14.2 | 14.3 | 16.7 |
| Burundi | 14.6 | 14.2 | 15.1 | 14.7 | 14.3 | 14.9 | 15.5 | 10.6 | 4.2 | 9.2 |
| Cabo Verde | 36.7 | 36.5 | 37.7 | 37.2 | 40.4 | 39.2 | 37.0 | 40.7 | 41.1 | 42.4 |
| Cameroon | 16.5 | 21.0 | 20.3 | 20.5 | 20.7 | 21.6 | 22.9 | 21.9 | 21.9 | 20.6 |
| Central African Rep. | 10.1 | 13.2 | 14.3 | 12.2 | 15.0 | 8.7 | 10.2 | 13.9 | 16.9 | 17.2 |
| Chad | 22.6 | 30.2 | 34.5 | 28.5 | 31.5 | 27.5 | 30.5 | 27.0 | 27.1 | 25.1 |
| Comoros | 10.7 | 12.4 | 15.4 | 14.9 | 16.8 | 20.4 | 18.6 | 18.4 | 20.9 | 21.5 |
| Congo, Dem. Rep. of | 12.7 | 14.8 | 12.3 | 12.2 | 15.2 | 21.7 | 23.1 | 19.1 | 14.9 | 16.4 |
| Congo, Rep. of | 20.9 | 22.5 | 20.5 | 25.3 | 25.2 | 30.9 | 42.2 | 33.4 | 30.3 | 26.6 |
| Côte d'Ivoire | 12.8 | 11.6 | 14.9 | 9.7 | 17.2 | 18.1 | 17.8 | 18.6 | 20.2 | 20.8 |
| Equatorial Guinea | 35.7 | 64.3 | 58.6 | 46.4 | 42.7 | 47.8 | 51.9 | 53.1 | 31.0 | 23.4 |
| Eritrea | 15.9 | 9.3 | 9.3 | 10.0 | 9.5 | 8.7 | 7.9 | 7.6 | 7.4 | 7.2 |
| Ethiopia[1] | 22.7 | 24.7 | 25.5 | 32.1 | 37.1 | 34.1 | 38.0 | 39.3 | 39.7 | 39.0 |
| Gabon | 23.2 | 29.1 | 26.1 | 29.0 | 28.2 | 29.5 | 34.9 | 36.2 | 35.8 | 35.4 |
| Gambia, The | 21.1 | 19.6 | 21.3 | 18.9 | 27.8 | 20.0 | 25.2 | 19.8 | 24.1 | 31.7 |
| Ghana | 22.2 | 21.4 | 25.9 | 27.4 | 32.0 | 28.0 | 26.6 | 24.6 | 22.5 | 23.2 |
| Guinea | 17.3 | 10.3 | 9.4 | 13.4 | 24.7 | 20.3 | 9.3 | 10.2 | 16.9 | 16.5 |
| Guinea-Bissau | 6.8 | 6.0 | 6.6 | 5.3 | 7.3 | 7.0 | 10.8 | 12.5 | 12.8 | 13.2 |
| Kenya | 18.9 | 19.3 | 20.7 | 21.7 | 21.5 | 20.2 | 22.5 | 21.2 | 22.5 | 22.3 |
| Lesotho | 25.5 | 29.5 | 29.0 | 35.0 | 36.7 | 35.0 | 31.3 | 32.8 | 35.8 | 32.5 |
| Liberia | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Madagascar | 29.7 | 35.6 | 23.4 | 17.6 | 17.6 | 15.9 | 15.6 | 13.1 | 15.3 | 18.2 |
| Malawi | 19.4 | 24.5 | 22.8 | 12.4 | 12.1 | 12.7 | 12.0 | 11.3 | 12.6 | 13.9 |
| Mali | 22.4 | 22.0 | 24.0 | 19.7 | 17.2 | 25.5 | 24.4 | 25.9 | 19.4 | 19.7 |
| Mauritius | 25.6 | 21.3 | 23.7 | 26.0 | 24.8 | 25.2 | 23.0 | 21.2 | 21.7 | 22.1 |
| Mozambique | 19.9 | 15.2 | 18.7 | 29.8 | 59.6 | 69.6 | 67.7 | 53.6 | 38.5 | 41.5 |
| Namibia | 22.6 | 26.5 | 24.1 | 22.4 | 26.7 | 25.2 | 33.0 | 34.2 | 29.2 | 27.3 |
| Niger | 23.2 | 32.1 | 49.5 | 43.9 | 39.5 | 40.2 | 39.3 | 41.8 | 42.5 | 41.9 |
| Nigeria | 16.5 | 19.4 | 17.3 | 16.2 | 14.9 | 14.9 | 15.8 | 15.5 | 13.8 | 13.9 |
| Rwanda | 20.1 | 23.6 | 23.2 | 23.6 | 25.9 | 26.5 | 26.1 | 26.3 | 29.5 | 25.9 |
| São Tomé & Príncipe | 54.9 | 37.1 | 54.3 | 42.9 | 35.6 | 29.9 | 25.7 | 32.8 | 31.0 | 28.5 |
| Senegal | 26.3 | 22.1 | 22.1 | 25.6 | 29.3 | 27.8 | 25.1 | 25.3 | 26.6 | 27.1 |
| Seychelles | 28.6 | 27.3 | 36.6 | 35.4 | 38.1 | 38.5 | 37.7 | 33.9 | 32.5 | 33.5 |
| Sierra Leone | 10.2 | 10.0 | 31.1 | 41.9 | 27.9 | 12.7 | 13.1 | 16.2 | 16.1 | 15.6 |
| South Africa | 20.2 | 20.7 | 19.5 | 19.7 | 20.0 | 21.0 | 20.7 | 20.7 | 19.6 | 19.3 |
| South Sudan | ... | ... | ... | 5.5 | 10.7 | 12.8 | 15.3 | 15.4 | 14.1 | 14.0 |
| Swaziland | 22.8 | 14.4 | 6.5 | 4.6 | 5.4 | 7.6 | 9.2 | 8.9 | 9.4 | 8.4 |
| Tanzania | 26.3 | 25.1 | 27.3 | 33.2 | 28.5 | 30.3 | 30.9 | 30.8 | 30.7 | 30.8 |
| Togo | 19.2 | 22.8 | 23.9 | 23.5 | 23.8 | 23.6 | 23.5 | 25.3 | 26.0 | 26.0 |
| Uganda | 29.3 | 27.1 | 26.7 | 28.7 | 29.7 | 27.8 | 26.4 | 24.7 | 25.6 | 27.8 |
| Zambia | 33.2 | 30.3 | 29.9 | 33.6 | 31.8 | 34.0 | 34.9 | 35.5 | 31.5 | 31.8 |
| Zimbabwe[2] | ... | 15.1 | 23.9 | 22.4 | 13.5 | 13.0 | 13.2 | 12.1 | 14.2 | 12.1 |
| **Sub-Saharan Africa** | **19.7** | **21.4** | **20.6** | **20.5** | **21.0** | **21.4** | **22.0** | **21.2** | **20.2** | **20.4** |
| *Median* | 21.0 | 21.9 | 23.2 | 22.9 | 24.8 | 24.4 | 24.0 | 23.3 | 22.5 | 22.8 |
| Excluding Nigeria and South Africa | 21.4 | 23.0 | 23.5 | 23.8 | 25.6 | 25.7 | 26.6 | 25.1 | 24.3 | 24.5 |
| **Oil-exporting countries** | **17.2** | **21.0** | **18.9** | **17.3** | **16.8** | **17.0** | **18.2** | **17.0** | **15.2** | **15.0** |
| Excluding Nigeria | 18.9 | 25.1 | 23.3 | 19.9 | 21.8 | 22.3 | 24.7 | 20.8 | 18.9 | 18.0 |
| **Oil-importing countries** | **21.4** | **21.6** | **21.9** | **23.0** | **24.2** | **24.6** | **24.8** | **24.4** | **23.7** | **24.0** |
| Excluding South Africa | 22.3 | 22.3 | 23.5 | 25.2 | 26.8 | 26.8 | 27.2 | 26.5 | 25.9 | 26.4 |
| **Middle-income countries** | **19.0** | **21.0** | **19.7** | **19.3** | **19.3** | **19.5** | **20.1** | **19.3** | **18.0** | **18.0** |
| Excluding Nigeria and South Africa | 20.5 | 23.1 | 23.0 | 22.9 | 24.3 | 23.9 | 25.2 | 23.1 | 21.8 | 21.7 |
| **Low-income countries** | **22.5** | **22.9** | **24.0** | **24.7** | **26.9** | **27.5** | **28.0** | **27.2** | **26.8** | **27.4** |
| Excluding low-income countries in fragile situations | 24.3 | 24.1 | 25.7 | 29.9 | 32.2 | 32.7 | 33.3 | 32.5 | 32.1 | 32.5 |
| **Countries in fragile situations** | **18.1** | **19.1** | **19.7** | **16.1** | **18.3** | **19.4** | **20.3** | **18.9** | **18.3** | **18.6** |
| CFA franc zone | 20.7 | 25.7 | 26.1 | 23.9 | 24.8 | 26.9 | 28.1 | 27.1 | 24.9 | 24.3 |
| CEMAC | 22.7 | 33.3 | 30.8 | 28.7 | 28.5 | 30.0 | 34.0 | 31.9 | 27.6 | 25.1 |
| WAEMU | 18.9 | 18.7 | 21.7 | 19.4 | 21.3 | 24.0 | 22.8 | 23.0 | 22.8 | 23.6 |
| COMESA (SSA members) | 22.9 | 23.1 | 22.8 | 24.3 | 25.2 | 24.9 | 26.4 | 25.7 | 25.9 | 26.2 |
| EAC-5 | 23.4 | 23.1 | 24.3 | 27.1 | 25.7 | 25.5 | 26.3 | 25.4 | 26.1 | 26.5 |
| ECOWAS | 17.4 | 19.3 | 18.7 | 17.8 | 17.5 | 17.5 | 17.7 | 17.4 | 16.2 | 16.6 |
| SACU | 20.7 | 21.4 | 20.1 | 20.5 | 20.8 | 21.6 | 21.5 | 21.5 | 20.4 | 20.2 |
| SADC | 20.8 | 21.3 | 20.4 | 21.0 | 21.6 | 22.8 | 22.9 | 21.6 | 20.4 | 20.7 |

See sources and footnotes on page 90.

**Table SA7. Gross National Savings**
*(Percent of GDP)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 27.3 | 5.2 | 23.5 | 25.5 | 26.9 | 21.4 | 12.4 | 0.6 | 4.3 | 5.0 |
| Benin | 14.0 | 13.6 | 14.9 | 16.8 | 15.2 | 20.5 | 16.3 | 16.7 | 16.3 | 17.1 |
| Botswana | 40.9 | 29.9 | 32.2 | 41.5 | 39.6 | 41.8 | 46.3 | 39.1 | 35.3 | 35.7 |
| Burkina Faso | 8.1 | 13.2 | 15.8 | 13.9 | 7.7 | 9.8 | 11.7 | 7.7 | 8.2 | 11.6 |
| Burundi | 8.8 | 16.9 | 3.7 | 1.0 | –3.7 | –4.0 | –2.7 | –4.9 | –0.1 | –0.6 |
| Cabo Verde | 27.2 | 21.9 | 25.3 | 20.9 | 27.8 | 34.3 | 28.0 | 36.4 | 33.4 | 33.2 |
| Cameroon | 15.5 | 17.6 | 17.5 | 17.5 | 17.1 | 17.7 | 18.6 | 17.6 | 17.7 | 16.6 |
| Central African Rep. | 4.6 | 4.1 | 4.1 | 4.6 | 10.4 | 5.7 | 4.6 | 4.9 | 6.8 | 7.5 |
| Chad | 23.1 | 21.1 | 25.5 | 22.8 | 22.8 | 18.2 | 21.5 | 14.6 | 18.4 | 17.3 |
| Comoros | 4.4 | 6.2 | 15.2 | 10.0 | 12.2 | 12.2 | 12.8 | 19.2 | 11.9 | 11.7 |
| Congo, Dem. Rep. of | 8.0 | 7.8 | 12.8 | 9.8 | 8.8 | 23.5 | 27.1 | 15.4 | 14.2 | 21.6 |
| Congo, Rep. of | 18.2 | 8.4 | 27.9 | 30.2 | 42.9 | 32.6 | 38.9 | 12.4 | 22.1 | 24.6 |
| Côte d'Ivoire | 13.9 | 18.3 | 16.8 | 20.1 | 16.0 | 16.0 | 19.3 | 16.8 | 18.4 | 18.7 |
| Equatorial Guinea | 54.1 | 50.0 | 39.2 | 48.4 | 46.8 | 47.9 | 46.3 | 36.3 | 19.3 | 16.8 |
| Eritrea | –19.9 | –9.7 | –9.3 | 1.2 | 5.9 | 3.6 | 4.0 | 1.3 | 4.0 | 4.6 |
| Ethiopia[1] | 19.7 | 15.4 | 24.5 | 33.1 | 31.2 | 28.1 | 30.2 | 31.7 | 29.0 | 29.7 |
| Gabon | 39.5 | 33.5 | 41.0 | 44.2 | 44.1 | 41.0 | 42.9 | 33.9 | 30.4 | 31.0 |
| Gambia, The | 12.6 | 7.1 | 5.0 | 6.7 | 19.9 | 9.8 | 14.2 | 4.5 | 11.4 | 18.0 |
| Ghana | 14.1 | 16.0 | 17.3 | 18.5 | 20.3 | 16.0 | 17.0 | 17.1 | 16.1 | 17.2 |
| Guinea | 11.4 | 2.0 | 0.1 | –11.3 | –1.3 | 3.5 | –8.0 | –8.5 | 3.7 | 5.2 |
| Guinea-Bissau | 5.6 | 0.8 | –2.2 | 5.8 | –2.6 | 2.6 | 7.5 | 11.5 | 11.1 | 10.4 |
| Kenya | 16.4 | 14.9 | 14.8 | 12.6 | 13.1 | 11.3 | 12.2 | 12.7 | 16.1 | 16.2 |
| Lesotho | 42.7 | 33.4 | 19.0 | 20.4 | 26.9 | 24.7 | 23.4 | 24.1 | 27.8 | 23.4 |
| Liberia | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Madagascar | 20.4 | 14.5 | 13.7 | 10.8 | 10.7 | 10.0 | 15.3 | 11.1 | 13.0 | 14.5 |
| Malawi | 12.8 | 20.5 | 26.2 | 3.8 | 2.8 | 4.1 | 3.5 | 3.0 | –4.4 | 5.1 |
| Mali | 15.6 | 15.6 | 13.3 | 14.7 | 15.0 | 22.6 | 19.7 | 20.8 | 13.4 | 14.5 |
| Mauritius | 20.0 | 15.0 | 14.3 | 13.1 | 18.5 | 19.0 | 17.0 | 16.3 | 15.8 | 16.2 |
| Mozambique | 9.4 | 4.4 | 8.1 | 4.4 | 14.9 | 26.6 | 29.5 | 14.7 | 5.0 | 13.2 |
| Namibia | 29.3 | 25.0 | 20.7 | 19.3 | 21.0 | 21.2 | 22.3 | 21.2 | 16.8 | 20.4 |
| Niger | 14.1 | 7.7 | 25.5 | 21.5 | 24.8 | 25.2 | 24.2 | 24.3 | 24.7 | 24.3 |
| Nigeria | 30.6 | 24.1 | 21.2 | 19.2 | 19.3 | 18.8 | 16.0 | 12.4 | 13.1 | 13.5 |
| Rwanda | 18.4 | 16.4 | 17.8 | 16.4 | 14.7 | 19.1 | 15.6 | 12.8 | 12.9 | 14.0 |
| São Tomé & Príncipe | 27.8 | 13.8 | 32.6 | 17.4 | 14.3 | 16.6 | 3.7 | 16.0 | 19.5 | 16.2 |
| Senegal | 16.4 | 15.4 | 17.7 | 17.6 | 18.5 | 17.3 | 16.1 | 17.7 | 18.2 | 18.9 |
| Seychelles | 14.8 | 12.5 | 17.5 | 12.8 | 22.7 | 26.5 | 14.7 | 15.2 | 13.8 | 15.2 |
| Sierra Leone | 4.5 | –1.7 | 9.6 | –16.9 | –4.0 | –4.8 | –7.2 | 2.1 | 2.0 | 1.2 |
| South Africa | 16.0 | 18.0 | 18.0 | 17.5 | 14.8 | 15.2 | 15.5 | 16.4 | 16.3 | 16.1 |
| South Sudan | ... | ... | ... | 23.3 | –5.2 | 8.9 | 13.6 | 4.4 | 13.6 | 5.3 |
| Swaziland | 19.6 | 2.8 | –2.1 | –2.3 | 8.6 | 12.7 | 12.4 | 18.1 | 4.5 | 6.0 |
| Tanzania | 20.9 | 18.3 | 21.2 | 21.6 | 19.3 | 14.9 | 21.9 | 22.0 | 21.9 | 22.0 |
| Togo | 10.4 | 17.2 | 17.6 | 15.4 | 16.3 | 10.5 | 13.6 | 18.2 | 18.0 | 17.8 |
| Uganda | 26.5 | 21.4 | 18.7 | 18.7 | 23.0 | 20.8 | 17.7 | 15.3 | 16.9 | 18.9 |
| Zambia | 32.1 | 36.2 | 37.4 | 38.3 | 37.1 | 33.5 | 37.1 | 31.9 | 27.0 | 29.6 |
| Zimbabwe[2] | ... | –28.8 | 12.3 | –0.1 | –2.6 | –6.4 | –2.3 | 1.3 | 7.3 | 7.1 |
| **Sub-Saharan Africa** | **22.2** | **18.8** | **20.0** | **19.5** | **19.1** | **18.5** | **18.0** | **15.4** | **15.6** | **16.3** |
| *Median* | 16.2 | 15.4 | 17.5 | 17.1 | 16.1 | 17.5 | 16.1 | 15.7 | 15.9 | 16.2 |
| Excluding Nigeria and South Africa | 20.5 | 15.9 | 20.2 | 20.7 | 20.9 | 19.9 | 20.4 | 16.9 | 16.9 | 18.1 |
| **Oil-exporting countries** | **30.0** | **22.0** | **22.5** | **21.7** | **21.7** | **20.5** | **17.6** | **12.1** | **13.1** | **13.3** |
| Excluding Nigeria | 28.4 | 16.7 | 26.2 | 27.9 | 28.1 | 24.8 | 21.8 | 11.6 | 13.0 | 12.8 |
| **Oil-importing countries** | **17.1** | **16.6** | **18.1** | **17.9** | **17.1** | **17.1** | **18.3** | **17.8** | **17.4** | **18.4** |
| Excluding South Africa | 18.0 | 15.6 | 18.2 | 18.2 | 18.5 | 18.3 | 19.9 | 18.6 | 18.1 | 19.6 |
| **Middle-income countries** | **23.6** | **20.4** | **20.7** | **20.2** | **19.8** | **18.9** | **17.6** | **14.7** | **15.1** | **15.4** |
| Excluding Nigeria and South Africa | 24.0 | 18.3 | 22.5 | 24.0 | 25.0 | 22.4 | 21.5 | 16.3 | 16.5 | 17.1 |
| **Low-income countries** | **16.4** | **13.1** | **17.6** | **17.3** | **16.6** | **17.3** | **19.2** | **17.5** | **17.3** | **19.0** |
| Excluding low-income countries in fragile situations | 18.8 | 15.9 | 19.9 | 21.9 | 21.9 | 20.8 | 22.7 | 21.8 | 20.7 | 22.1 |
| **Countries in fragile situations** | **13.2** | **10.2** | **15.3** | **13.1** | **11.6** | **13.6** | **16.0** | **11.3** | **13.2** | **14.9** |
| CFA franc zone | 20.7 | 20.6 | 22.0 | 23.7 | 23.5 | 23.0 | 23.9 | 19.4 | 18.4 | 18.7 |
| CEMAC | 28.4 | 26.3 | 27.9 | 30.3 | 31.9 | 29.5 | 30.9 | 22.2 | 20.7 | 20.3 |
| WAEMU | 13.6 | 15.2 | 16.5 | 17.3 | 15.5 | 17.1 | 17.6 | 16.9 | 16.5 | 17.4 |
| COMESA (SSA members) | 18.6 | 15.1 | 18.8 | 18.5 | 18.9 | 18.7 | 20.0 | 18.7 | 18.4 | 20.3 |
| EAC-5 | 19.8 | 17.6 | 17.7 | 16.9 | 17.0 | 14.6 | 16.6 | 16.2 | 17.9 | 18.4 |
| ECOWAS | 25.7 | 21.5 | 19.8 | 18.3 | 18.4 | 18.0 | 15.9 | 13.2 | 13.8 | 14.4 |
| SACU | 17.5 | 18.5 | 18.4 | 18.3 | 16.0 | 16.6 | 17.0 | 17.6 | 17.0 | 17.1 |
| SADC | 18.9 | 15.9 | 19.4 | 18.9 | 17.7 | 17.5 | 17.9 | 15.5 | 15.3 | 16.3 |

See sources and footnotes on page 90.

**Table SA8. Overall Fiscal Balance, Including Grants**
*(Percent of GDP)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 4.6 | –7.4 | 3.4 | 8.7 | 4.6 | –0.3 | –6.6 | –4.9 | –5.4 | –5.4 |
| Benin | –0.6 | –3.1 | –0.4 | –1.3 | –0.3 | –1.9 | –2.3 | –7.5 | –4.2 | –4.3 |
| Botswana | 4.5 | –13.3 | –7.5 | –0.1 | 0.8 | 5.6 | 3.8 | –4.1 | –3.3 | –3.8 |
| Burkina Faso | –0.8 | –4.7 | –3.0 | –1.4 | –3.1 | –3.9 | –1.9 | –2.3 | –3.1 | –3.0 |
| Burundi | –2.7 | –5.1 | –3.6 | –4.2 | –3.8 | –1.8 | –3.6 | –5.6 | –7.0 | –4.4 |
| Cabo Verde | –3.3 | –5.9 | –10.7 | –7.7 | –10.3 | –8.9 | –7.3 | –3.8 | –3.3 | –2.8 |
| Cameroon | 8.6 | –0.0 | –1.1 | –2.6 | –1.6 | –4.0 | –4.6 | –2.7 | –6.2 | –4.9 |
| Central African Rep. | 0.5 | –0.6 | –1.5 | –2.4 | –0.0 | –6.5 | 3.0 | –0.6 | –4.1 | –2.8 |
| Chad | 1.2 | –9.2 | –4.2 | 2.4 | 0.5 | –2.1 | –4.2 | –4.9 | –2.8 | –1.3 |
| Comoros | –1.7 | 0.6 | 7.0 | 1.4 | 3.3 | 17.8 | –0.5 | 4.4 | –9.1 | –7.9 |
| Congo, Dem. Rep. of | –0.3 | 1.3 | 2.4 | –0.5 | 1.8 | 4.0 | 1.3 | –0.1 | –1.9 | 2.8 |
| Congo, Rep. of | 13.5 | 4.8 | 16.1 | 16.5 | 7.5 | –1.8 | –7.9 | –18.3 | –7.5 | –1.6 |
| Côte d'Ivoire | –1.0 | –1.4 | –1.8 | –4.0 | –3.1 | –2.2 | –2.3 | –3.0 | –4.0 | –3.6 |
| Equatorial Guinea | 16.0 | –6.5 | –4.5 | 0.8 | –7.2 | –5.8 | –4.9 | –3.2 | –5.3 | –5.3 |
| Eritrea | –17.9 | –14.7 | –16.0 | –16.2 | –15.3 | –15.1 | –14.4 | –14.2 | –14.0 | –13.8 |
| Ethiopia[1] | –3.4 | –0.9 | –1.3 | –1.6 | –1.2 | –1.9 | –2.6 | –2.5 | –3.0 | –3.2 |
| Gabon | 8.5 | 6.8 | 2.7 | 2.5 | 1.6 | 1.8 | 2.7 | –1.2 | –2.8 | –2.7 |
| Gambia, The | –3.2 | –2.7 | –4.7 | –4.7 | –4.4 | –8.5 | –10.0 | –6.5 | –9.8 | –12.9 |
| Ghana | –4.9 | –7.1 | –9.8 | –8.0 | –11.3 | –12.0 | –10.9 | –4.7 | –3.8 | –2.0 |
| Guinea | –1.5 | –7.1 | –14.0 | –1.3 | –3.3 | –5.2 | –4.1 | –8.8 | –1.9 | –0.9 |
| Guinea-Bissau | –4.0 | 4.1 | 1.6 | –0.8 | –2.2 | –1.8 | –1.4 | –7.0 | –2.1 | –1.8 |
| Kenya | –1.9 | –4.3 | –4.4 | –4.1 | –5.0 | –5.7 | –7.4 | –8.3 | –7.4 | –6.4 |
| Lesotho | 9.0 | –4.0 | –4.2 | –10.6 | 5.0 | –2.5 | 2.1 | 0.1 | –9.3 | –5.8 |
| Liberia | –0.5 | –10.1 | –5.7 | –3.1 | –1.6 | –4.7 | –1.8 | –11.4 | –7.1 | –8.4 |
| Madagascar | –2.6 | –2.5 | –0.9 | –2.4 | –2.6 | –4.0 | –2.3 | –3.3 | –3.2 | –4.4 |
| Malawi | –2.3 | –3.6 | 1.8 | –4.1 | –1.8 | –6.4 | –4.8 | –5.2 | –6.4 | –3.9 |
| Mali | 3.6 | –3.7 | –2.6 | –3.4 | –1.0 | –2.4 | –2.9 | –1.8 | –4.3 | –3.8 |
| Mauritius | –3.9 | –3.6 | –3.2 | –3.2 | –1.8 | –3.5 | –3.2 | –3.4 | –2.8 | –2.9 |
| Mozambique | –2.9 | –4.9 | –3.9 | –4.8 | –3.8 | –2.6 | –10.7 | –7.4 | –5.8 | –4.0 |
| Namibia | 2.0 | –0.1 | –4.5 | –6.7 | –2.3 | –3.2 | –5.9 | –8.1 | –9.2 | –8.3 |
| Niger | 7.1 | –5.3 | –2.4 | –1.5 | –1.1 | –2.6 | –8.0 | –9.1 | –6.9 | –5.3 |
| Nigeria | 4.7 | –5.4 | –4.2 | –0.2 | –0.2 | –2.0 | –1.2 | –3.8 | –4.6 | –4.0 |
| Rwanda | 0.2 | 0.0 | 0.4 | –1.1 | –1.6 | –2.5 | –3.6 | –3.2 | –3.0 | –1.6 |
| São Tomé & Príncipe | 24.9 | –18.1 | –11.1 | –11.5 | –10.9 | 1.9 | –5.5 | –6.3 | –2.1 | –3.8 |
| Senegal | –2.5 | –4.6 | –4.9 | –6.1 | –5.2 | –5.5 | –5.0 | –4.8 | –4.2 | –3.7 |
| Seychelles | –0.7 | 4.8 | 0.5 | 3.4 | 2.9 | 0.4 | 3.7 | 1.9 | 0.6 | 1.8 |
| Sierra Leone | 2.2 | –2.3 | –5.0 | –4.5 | –5.2 | –2.4 | –3.6 | –4.4 | –5.0 | –3.7 |
| South Africa | 0.1 | –4.8 | –4.6 | –3.8 | –4.0 | –3.9 | –3.7 | –3.9 | –3.9 | –3.9 |
| South Sudan | ... | ... | ... | 4.6 | –14.8 | –5.7 | –8.5 | –25.2 | –21.8 | –11.4 |
| Swaziland | 1.4 | –2.9 | –8.8 | –3.7 | 3.4 | 0.7 | –1.2 | –5.6 | –11.5 | –11.0 |
| Tanzania | –2.5 | –4.5 | –4.8 | –3.6 | –4.1 | –3.9 | –3.0 | –3.2 | –4.0 | –4.6 |
| Togo | –1.4 | –3.9 | –2.5 | –4.0 | –7.2 | –4.6 | –4.8 | –6.7 | –6.3 | –6.3 |
| Uganda | –0.8 | –2.1 | –5.7 | –2.7 | –3.0 | –4.0 | –3.5 | –2.7 | –4.7 | –2.9 |
| Zambia | 2.1 | –2.1 | –2.4 | –1.8 | –2.8 | –6.2 | –5.9 | –9.1 | –8.9 | –8.2 |
| Zimbabwe[2] | –3.5 | –2.1 | 0.7 | –1.2 | –0.5 | –1.9 | –1.5 | –1.1 | –4.9 | –3.1 |
| **Sub-Saharan Africa** | **1.7** | **–4.5** | **–3.4** | **–1.3** | **–1.9** | **–2.9** | **–3.2** | **–4.3** | **–4.6** | **–4.0** |
| *Median* | –0.7 | –3.6 | –3.4 | –2.6 | –2.2 | –2.6 | –3.6 | –4.4 | –4.6 | –3.9 |
| Excluding Nigeria and South Africa | 1.2 | –3.7 | –1.9 | –0.3 | –1.8 | –3.1 | –4.6 | –4.8 | –4.9 | –4.0 |
| **Oil-exporting countries** | **5.5** | **–5.0** | **–2.2** | **1.9** | **0.3** | **–1.9** | **–2.5** | **–4.4** | **–4.8** | **–4.2** |
| Excluding Nigeria | 7.2 | –4.2 | 2.3 | 5.8 | 1.3 | –1.7 | –5.5 | –5.8 | –5.5 | –4.7 |
| **Oil-importing countries** | **–0.5** | **–4.1** | **–4.2** | **–3.6** | **–3.7** | **–3.8** | **–4.0** | **–4.3** | **–4.4** | **–3.8** |
| Excluding South Africa | –1.2 | –3.5 | –3.8 | –3.5 | –3.3 | –3.8 | –4.1 | –4.5 | –4.7 | –3.8 |
| **Middle-income countries** | **2.4** | **–4.8** | **–3.5** | **–1.1** | **–1.7** | **–3.0** | **–3.2** | **–4.4** | **–4.8** | **–4.3** |
| Excluding Nigeria and South Africa | 3.0 | –4.1 | –1.4 | 0.9 | –1.2 | –3.4 | –5.5 | –5.5 | –5.7 | –4.9 |
| **Low-income countries** | **–1.4** | **–3.2** | **–2.7** | **–2.0** | **–2.7** | **–2.7** | **–3.4** | **–4.1** | **–4.1** | **–3.1** |
| Excluding low-income countries in fragile situations | –1.7 | –3.1 | –3.4 | –2.9 | –2.8 | –3.3 | –3.9 | –3.7 | –3.9 | –3.6 |
| **Countries in fragile situations** | **0.5** | **–2.2** | **0.0** | **0.1** | **–1.8** | **–1.9** | **–3.1** | **–5.1** | **–4.4** | **–2.4** |
| CFA franc zone | 4.8 | –2.0 | –0.7 | –0.2 | –1.8 | –3.0 | –3.5 | –4.3 | –4.7 | –3.7 |
| CEMAC | 9.5 | –0.8 | 1.1 | 2.7 | –0.7 | –2.8 | –3.6 | –4.6 | –5.1 | –3.6 |
| WAEMU | –0.1 | –3.2 | –2.5 | –3.4 | –2.9 | –3.1 | –3.3 | –4.1 | –4.3 | –3.8 |
| COMESA (SSA members) | –1.7 | –2.2 | –2.3 | –2.5 | –2.2 | –3.0 | –3.7 | –4.4 | –5.0 | –3.8 |
| EAC-5 | –1.8 | –3.7 | –4.5 | –3.5 | –4.1 | –4.5 | –5.0 | –5.4 | –5.7 | –4.9 |
| ECOWAS | 3.0 | –5.1 | –4.5 | –1.3 | –1.4 | –2.9 | –2.1 | –4.0 | –4.5 | –3.8 |
| SACU | 0.4 | –4.9 | –4.8 | –3.8 | –3.7 | –3.5 | –3.4 | –4.1 | –4.2 | –4.1 |
| SADC | 0.3 | –4.8 | –3.1 | –1.6 | –2.0 | –2.7 | –3.9 | –4.0 | –4.4 | –4.0 |

See sources and footnotes on page 90.

**Table SA9. Overall Fiscal Balance, Excluding Grants**
*(Percent of GDP)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 4.4 | –7.4 | 3.4 | 8.7 | 4.6 | –0.3 | –6.6 | –4.9 | –5.4 | –5.4 |
| Benin | –2.7 | –6.0 | –1.8 | –3.7 | –2.1 | –2.8 | –3.2 | –8.0 | –5.3 | –6.1 |
| Botswana | 3.8 | –14.3 | –7.8 | –0.6 | 0.8 | 5.4 | 3.5 | –4.3 | –3.6 | –4.1 |
| Burkina Faso | –10.2 | –10.6 | –7.5 | –6.4 | –8.0 | –9.3 | –6.1 | –5.8 | –6.9 | –7.5 |
| Burundi | –18.7 | –24.0 | –26.3 | –26.0 | –21.9 | –19.2 | –17.3 | –15.6 | –7.0 | –11.9 |
| Cabo Verde | –9.0 | –11.0 | –17.0 | –10.6 | –13.1 | –11.3 | –8.9 | –6.2 | –5.4 | –4.2 |
| Cameroon | 2.3 | –0.8 | –1.7 | –3.1 | –2.0 | –4.3 | –4.9 | –2.7 | –6.4 | –5.1 |
| Central African Rep. | –5.5 | –5.9 | –7.0 | –4.9 | –4.9 | –9.3 | –7.8 | –7.8 | –9.0 | –7.2 |
| Chad | –0.7 | –11.9 | –5.5 | 0.8 | –2.2 | –4.3 | –6.2 | –8.4 | –6.9 | –4.8 |
| Comoros | –7.8 | –9.1 | –7.8 | –6.0 | –6.0 | –9.7 | –9.9 | –10.7 | –17.4 | –16.3 |
| Congo, Dem. Rep. of | –1.9 | –3.2 | –5.7 | –3.9 | –1.1 | 0.7 | 0.1 | –3.5 | –3.9 | 0.3 |
| Congo, Rep. of | 13.2 | 4.5 | 16.0 | 15.9 | 7.3 | –2.2 | –8.4 | –18.3 | –7.9 | –1.9 |
| Côte d'Ivoire | –2.0 | –1.9 | –2.3 | –4.3 | –3.7 | –3.5 | –4.1 | –4.5 | –5.7 | –5.2 |
| Equatorial Guinea | 16.0 | –6.5 | –4.5 | 0.8 | –7.2 | –5.8 | –4.9 | –3.2 | –5.3 | –5.3 |
| Eritrea | –24.8 | –17.3 | –21.3 | –19.4 | –16.5 | –15.6 | –14.8 | –14.6 | –14.3 | –14.0 |
| Ethiopia[1] | –7.5 | –5.2 | –4.5 | –4.8 | –2.9 | –3.4 | –3.7 | –3.6 | –4.0 | –4.1 |
| Gabon | 8.5 | 6.8 | 2.7 | 2.5 | 1.6 | 1.8 | 2.7 | –1.2 | –2.8 | –2.7 |
| Gambia, The | –4.8 | –6.9 | –8.7 | –9.9 | –13.3 | –10.8 | –13.7 | –8.4 | –13.3 | –16.9 |
| Ghana | –8.3 | –10.1 | –12.1 | –10.0 | –12.8 | –12.5 | –11.6 | –6.7 | –4.8 | –2.6 |
| Guinea | –2.5 | –7.5 | –14.4 | –4.7 | –6.0 | –6.7 | –8.2 | –10.3 | –5.7 | –4.8 |
| Guinea-Bissau | –12.7 | –11.8 | –7.9 | –7.4 | –4.6 | –5.3 | –10.4 | –13.5 | –6.6 | –7.2 |
| Kenya | –2.9 | –5.0 | –5.0 | –4.6 | –5.5 | –6.2 | –7.9 | –8.7 | –7.8 | –6.8 |
| Lesotho | 7.3 | –7.0 | –11.5 | –18.4 | –3.6 | –7.3 | 0.0 | –3.6 | –13.4 | –9.6 |
| Liberia | –0.7 | –12.6 | –7.5 | –4.7 | –4.1 | –7.8 | –8.6 | –22.2 | –16.1 | –13.5 |
| Madagascar | –9.2 | –4.2 | –2.8 | –4.3 | –3.8 | –5.3 | –4.6 | –4.8 | –5.2 | –7.1 |
| Malawi | –12.3 | –11.1 | –8.2 | –7.7 | –10.6 | –13.1 | –8.0 | –8.0 | –10.3 | –8.6 |
| Mali | –6.2 | –7.8 | –5.1 | –6.6 | –1.2 | –5.2 | –5.1 | –4.5 | –6.3 | –5.8 |
| Mauritius | –4.2 | –5.2 | –3.9 | –3.9 | –2.5 | –3.9 | –3.4 | –4.1 | –3.1 | –3.2 |
| Mozambique | –9.7 | –13.3 | –12.1 | –12.3 | –8.8 | –7.8 | –15.0 | –10.4 | –7.6 | –7.6 |
| Namibia | 1.9 | –0.4 | –4.6 | –6.8 | –2.4 | –3.4 | –6.0 | –8.2 | –9.3 | –8.4 |
| Niger | –7.6 | –9.7 | –7.0 | –5.2 | –7.2 | –10.6 | –13.5 | –14.6 | –12.4 | –9.8 |
| Nigeria | 4.7 | –5.4 | –4.2 | –0.2 | –0.2 | –2.0 | –1.2 | –3.8 | –4.6 | –4.0 |
| Rwanda | –10.0 | –11.5 | –12.9 | –12.5 | –10.9 | –11.2 | –10.9 | –9.6 | –8.5 | –6.8 |
| São Tomé & Príncipe | –15.0 | –32.5 | –29.7 | –29.4 | –28.6 | –11.0 | –15.9 | –17.7 | –15.3 | –20.6 |
| Senegal | –4.5 | –7.6 | –7.4 | –8.3 | –8.0 | –8.1 | –8.4 | –7.7 | –7.0 | –6.6 |
| Seychelles | –1.8 | 0.8 | –0.3 | 0.9 | –1.9 | –4.0 | 0.5 | 1.1 | –1.9 | 0.5 |
| Sierra Leone | –7.5 | –8.4 | –10.3 | –10.1 | –9.0 | –5.0 | –7.8 | –9.6 | –8.0 | –6.0 |
| South Africa | 0.1 | –4.8 | –4.6 | –3.8 | –4.0 | –3.9 | –3.7 | –3.9 | –3.9 | –3.9 |
| South Sudan | ... | ... | ... | 1.7 | –20.9 | –12.1 | –15.3 | –35.5 | –39.5 | –31.4 |
| Swaziland | 0.9 | –3.4 | –8.9 | –3.7 | 3.3 | 0.3 | –2.8 | –6.2 | –13.0 | –12.4 |
| Tanzania | –7.2 | –8.1 | –8.2 | –6.9 | –7.0 | –6.3 | –4.7 | –4.2 | –5.1 | –5.8 |
| Togo | –2.7 | –5.4 | –4.5 | –7.2 | –8.8 | –7.6 | –6.8 | –9.0 | –8.9 | –8.8 |
| Uganda | –6.0 | –4.5 | –8.2 | –4.4 | –4.9 | –5.1 | –4.6 | –4.1 | –6.0 | –4.1 |
| Zambia | –5.7 | –4.5 | –3.9 | –2.4 | –4.5 | –7.7 | –6.6 | –9.2 | –9.2 | –8.4 |
| Zimbabwe[2] | –3.5 | –2.6 | 0.7 | –1.2 | –0.5 | –1.9 | –1.5 | –1.1 | –4.9 | –3.1 |
| **Sub-Saharan Africa** | **0.4** | **–5.5** | **–4.3** | **–2.0** | **–2.6** | **–3.6** | **–3.9** | **–5.0** | **–5.2** | **–4.7** |
| *Median* | –4.4 | –6.9 | –7.0 | –4.7 | –4.6 | –5.8 | –6.6 | –7.7 | –6.9 | –6.1 |
| Excluding Nigeria and South Africa | –1.9 | –6.0 | –4.1 | –2.1 | –3.4 | –4.7 | –5.9 | –6.3 | –6.1 | –5.3 |
| **Oil-exporting countries** | **5.1** | **–5.1** | **–2.3** | **1.7** | **0.1** | **–2.1** | **–2.6** | **–4.6** | **–5.0** | **–4.4** |
| Excluding Nigeria | 5.8 | –4.5 | 2.1 | 5.4 | 0.8 | –2.3 | –6.1 | –6.5 | –6.1 | –5.4 |
| **Oil-importing countries** | **–2.3** | **–5.8** | **–5.7** | **–4.9** | **–4.8** | **–5.0** | **–5.0** | **–5.3** | **–5.4** | **–4.8** |
| Excluding South Africa | –5.0 | –6.6 | –6.7 | –6.0 | –5.5 | –5.8 | –5.9 | –6.2 | –6.2 | –5.3 |
| **Middle-income countries** | **1.9** | **–5.0** | **–3.7** | **–1.3** | **–1.9** | **–3.1** | **–3.3** | **–4.5** | **–4.9** | **–4.4** |
| Excluding Nigeria and South Africa | 1.3 | –4.9 | –2.0 | 0.3 | –1.7 | –3.9 | –5.9 | –6.0 | –6.1 | –5.3 |
| **Low-income countries** | **–6.3** | **–7.4** | **–7.0** | **–5.5** | **–5.8** | **–5.7** | **–6.0** | **–6.6** | **–6.2** | **–5.4** |
| Excluding low-income countries in fragile situations | –7.1 | –7.5 | –7.4 | –6.7 | –6.0 | –6.1 | –6.2 | –5.6 | –5.7 | –5.5 |
| **Countries in fragile situations** | **–2.9** | **–5.0** | **–3.4** | **–2.3** | **–4.1** | **–4.7** | **–5.6** | **–8.1** | **–6.8** | **–5.1** |
| CFA franc zone | 1.4 | –3.8 | –2.0 | –1.5 | –3.1 | –4.6 | –5.1 | –6.0 | –6.4 | –5.5 |
| CEMAC | 7.0 | –1.6 | 0.6 | 2.2 | –1.3 | –3.3 | –4.2 | –5.2 | –5.9 | –4.3 |
| WAEMU | –4.6 | –6.0 | –4.7 | –5.8 | –5.0 | –6.0 | –6.0 | –6.6 | –6.8 | –6.4 |
| COMESA (SSA members) | –5.4 | –5.3 | –5.6 | –4.8 | –4.2 | –4.9 | –5.0 | –5.8 | –6.1 | –5.0 |
| EAC-5 | –5.5 | –6.6 | –7.6 | –6.2 | –6.5 | –6.5 | –6.6 | –6.7 | –6.7 | –6.1 |
| ECOWAS | 1.8 | –5.9 | –5.0 | –1.9 | –1.9 | –3.4 | –2.6 | –4.6 | –5.1 | –4.4 |
| SACU | 0.3 | –5.0 | –4.8 | –3.8 | –3.7 | –3.5 | –3.4 | –4.1 | –4.2 | –4.2 |
| SADC | –0.6 | –5.6 | –3.9 | –2.2 | –2.6 | –3.3 | –4.3 | –4.5 | –4.8 | –4.5 |

See sources and footnotes on page 90.

**Table SA10. Government Revenue, Excluding Grants**
*(Percent of GDP)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 45.5 | 34.5 | 43.5 | 48.8 | 45.9 | 40.2 | 35.3 | 24.8 | 21.0 | 22.5 |
| Benin | 16.6 | 17.2 | 17.5 | 16.4 | 17.4 | 17.7 | 16.5 | 16.4 | 16.1 | 16.5 |
| Botswana | 41.5 | 36.1 | 32.1 | 35.7 | 36.2 | 37.8 | 38.8 | 33.1 | 34.7 | 32.3 |
| Burkina Faso | 13.1 | 13.6 | 15.3 | 15.7 | 17.5 | 18.5 | 17.3 | 16.1 | 18.2 | 18.6 |
| Burundi | 13.9 | 13.9 | 14.5 | 16.2 | 15.6 | 14.0 | 14.4 | 12.9 | 15.5 | 13.3 |
| Cabo Verde | 22.7 | 21.9 | 21.7 | 22.7 | 21.6 | 22.1 | 21.0 | 23.8 | 23.9 | 24.6 |
| Cameroon | 18.2 | 16.7 | 16.0 | 17.5 | 17.5 | 17.6 | 17.8 | 17.8 | 16.0 | 15.9 |
| Central African Rep. | 9.4 | 10.8 | 11.6 | 10.8 | 11.5 | 5.6 | 4.9 | 7.1 | 8.1 | 8.9 |
| Chad | 14.1 | 12.3 | 18.9 | 23.2 | 21.8 | 18.5 | 15.9 | 8.7 | 9.9 | 10.6 |
| Comoros | 14.1 | 13.9 | 14.3 | 16.1 | 19.3 | 15.5 | 14.5 | 16.5 | 13.1 | 14.9 |
| Congo, Dem. Rep. of | 8.6 | 10.7 | 12.1 | 11.8 | 14.4 | 12.9 | 13.3 | 11.2 | 11.5 | 15.4 |
| Congo, Rep. of | 39.6 | 29.1 | 37.5 | 42.0 | 42.5 | 46.5 | 41.9 | 27.8 | 31.0 | 32.3 |
| Côte d'Ivoire | 17.5 | 18.0 | 17.7 | 14.0 | 18.6 | 18.4 | 17.8 | 19.6 | 20.1 | 19.9 |
| Equatorial Guinea | 33.2 | 33.4 | 26.6 | 28.3 | 28.0 | 24.9 | 24.3 | 25.3 | 22.8 | 21.2 |
| Eritrea | 22.3 | 13.3 | 13.3 | 14.2 | 14.2 | 14.1 | 14.1 | 13.9 | 13.9 | 14.0 |
| Ethiopia[1] | 13.9 | 11.9 | 14.0 | 13.4 | 13.8 | 14.3 | 13.8 | 15.1 | 16.3 | 16.1 |
| Gabon | 28.7 | 29.4 | 25.8 | 29.0 | 30.1 | 30.2 | 26.1 | 21.3 | 19.6 | 20.1 |
| Gambia, The | 15.8 | 16.2 | 14.9 | 16.1 | 16.4 | 16.3 | 18.7 | 19.8 | 19.2 | 20.7 |
| Ghana | 13.6 | 13.4 | 14.4 | 17.1 | 17.0 | 16.3 | 17.7 | 17.2 | 18.5 | 18.6 |
| Guinea | 14.1 | 16.2 | 15.3 | 16.8 | 20.1 | 18.4 | 17.9 | 17.5 | 19.1 | 19.3 |
| Guinea-Bissau | 9.4 | 9.1 | 10.8 | 10.1 | 9.1 | 8.1 | 12.0 | 13.4 | 13.5 | 12.9 |
| Kenya | 18.7 | 18.1 | 19.2 | 19.0 | 18.7 | 19.2 | 19.3 | 19.1 | 19.2 | 19.4 |
| Lesotho | 57.0 | 60.4 | 44.7 | 44.4 | 57.9 | 55.6 | 58.2 | 55.4 | 45.0 | 46.6 |
| Liberia | 15.1 | 20.6 | 25.0 | 24.3 | 26.0 | 25.0 | 23.5 | 21.5 | 21.3 | 22.6 |
| Madagascar | 11.7 | 9.9 | 11.2 | 9.7 | 9.6 | 9.6 | 10.1 | 10.4 | 11.0 | 11.2 |
| Malawi | 16.4 | 19.4 | 21.8 | 18.4 | 18.3 | 21.6 | 21.8 | 21.0 | 21.3 | 21.1 |
| Mali | 15.0 | 15.1 | 15.2 | 14.0 | 14.4 | 14.5 | 14.9 | 16.4 | 16.8 | 17.1 |
| Mauritius | 19.4 | 21.2 | 21.2 | 20.7 | 20.8 | 21.0 | 20.5 | 22.0 | 22.6 | 22.6 |
| Mozambique | 12.7 | 15.6 | 17.9 | 19.8 | 21.9 | 26.2 | 27.5 | 25.0 | 24.1 | 24.1 |
| Namibia | 28.5 | 30.8 | 27.8 | 29.8 | 31.3 | 32.0 | 33.9 | 34.1 | 30.5 | 30.4 |
| Niger | 13.7 | 14.3 | 13.6 | 14.2 | 15.3 | 16.6 | 17.5 | 18.1 | 17.7 | 17.8 |
| Nigeria | 21.2 | 10.1 | 12.5 | 17.8 | 14.3 | 11.1 | 10.5 | 7.2 | 5.7 | 7.1 |
| Rwanda | 12.7 | 12.6 | 13.0 | 14.0 | 15.0 | 16.5 | 16.7 | 18.6 | 18.2 | 18.1 |
| São Tomé & Príncipe | 27.7 | 16.3 | 17.5 | 18.6 | 16.3 | 20.6 | 15.6 | 16.5 | 18.0 | 16.8 |
| Senegal | 20.8 | 19.0 | 19.6 | 20.5 | 20.5 | 20.1 | 21.4 | 22.2 | 22.1 | 21.5 |
| Seychelles | 36.5 | 32.9 | 34.2 | 37.2 | 36.7 | 34.2 | 34.1 | 33.9 | 36.0 | 34.8 |
| Sierra Leone | 8.8 | 9.1 | 9.9 | 11.4 | 11.3 | 10.7 | 9.8 | 10.4 | 11.1 | 11.7 |
| South Africa | 26.9 | 26.9 | 26.9 | 27.1 | 27.3 | 27.6 | 28.2 | 29.6 | 29.9 | 30.0 |
| South Sudan | ... | ... | ... | 22.7 | 10.8 | 14.2 | 22.2 | 14.7 | 17.9 | 25.4 |
| Swaziland | 30.5 | 29.3 | 20.5 | 20.1 | 29.4 | 28.2 | 28.5 | 27.0 | 23.5 | 24.2 |
| Tanzania | 10.8 | 12.1 | 12.0 | 12.3 | 12.7 | 13.1 | 13.3 | 13.7 | 15.2 | 15.7 |
| Togo | 16.3 | 15.8 | 18.0 | 16.7 | 17.6 | 18.0 | 18.2 | 19.5 | 19.2 | 19.5 |
| Uganda | 12.2 | 10.8 | 10.6 | 12.8 | 11.6 | 11.7 | 12.5 | 13.9 | 13.9 | 14.8 |
| Zambia | 15.2 | 13.3 | 14.2 | 17.1 | 17.0 | 16.2 | 18.1 | 18.0 | 17.9 | 17.7 |
| Zimbabwe[2] | 6.1 | 11.4 | 23.3 | 26.7 | 28.0 | 27.7 | 26.6 | 27.5 | 25.1 | 23.4 |
| **Sub-Saharan Africa** | **23.2** | **19.2** | **20.7** | **23.2** | **21.9** | **20.1** | **19.4** | **17.4** | **17.0** | **17.8** |
| *Median* | 16.1 | 16.0 | 17.5 | 17.5 | 17.6 | 18.4 | 17.9 | 18.1 | 18.5 | 19.3 |
| Excluding Nigeria and South Africa | 21.8 | 20.0 | 22.0 | 24.1 | 23.8 | 22.7 | 21.8 | 19.2 | 18.6 | 19.1 |
| **Oil-exporting countries** | **25.3** | **16.4** | **19.0** | **24.4** | **21.3** | **17.9** | **16.2** | **11.3** | **9.8** | **11.4** |
| Excluding Nigeria | 34.2 | 29.3 | 34.0 | 37.2 | 36.0 | 32.7 | 29.8 | 22.2 | 19.9 | 20.9 |
| **Oil-importing countries** | **22.0** | **21.1** | **21.9** | **22.2** | **22.3** | **22.0** | **22.2** | **22.5** | **22.3** | **22.4** |
| Excluding South Africa | 16.6 | 16.0 | 16.8 | 17.3 | 18.0 | 18.0 | 18.2 | 18.1 | 18.2 | 18.5 |
| **Middle-income countries** | **25.4** | **20.6** | **21.9** | **24.8** | **23.3** | **21.2** | **20.2** | **17.9** | **17.3** | **18.2** |
| Excluding Nigeria and South Africa | 28.0 | 25.2 | 27.1 | 30.1 | 29.8 | 27.8 | 26.4 | 22.4 | 20.9 | 21.2 |
| **Low-income countries** | **13.0** | **13.2** | **14.8** | **15.8** | **15.6** | **15.8** | **16.1** | **15.7** | **16.2** | **16.7** |
| Excluding low-income countries in fragile situations | 13.7 | 13.3 | 14.1 | 14.7 | 15.0 | 15.8 | 15.8 | 16.3 | 16.9 | 17.0 |
| **Countries in fragile situations** | **15.8** | **15.4** | **18.3** | **18.9** | **19.1** | **18.7** | **18.6** | **16.4** | **16.9** | **18.0** |
| CFA franc zone | 21.1 | 20.0 | 20.3 | 21.4 | 22.2 | 21.7 | 20.6 | 19.0 | 18.7 | 18.8 |
| CEMAC | 25.2 | 23.3 | 23.5 | 26.4 | 26.3 | 25.5 | 23.4 | 19.4 | 18.4 | 18.5 |
| WAEMU | 16.8 | 16.7 | 17.0 | 15.6 | 17.6 | 17.8 | 17.7 | 18.6 | 19.0 | 19.0 |
| COMESA (SSA members) | 15.0 | 14.4 | 15.8 | 16.2 | 16.6 | 16.6 | 16.7 | 16.8 | 17.0 | 17.5 |
| EAC-5 | 14.5 | 14.3 | 14.7 | 15.2 | 15.1 | 15.5 | 15.8 | 16.4 | 17.0 | 17.3 |
| ECOWAS | 19.6 | 11.6 | 13.4 | 17.4 | 15.1 | 12.5 | 12.0 | 9.6 | 9.3 | 10.5 |
| SACU | 27.7 | 27.5 | 27.1 | 27.5 | 27.9 | 28.3 | 29.0 | 30.0 | 30.1 | 30.1 |
| SADC | 26.8 | 25.6 | 27.0 | 28.5 | 28.6 | 27.7 | 27.2 | 25.6 | 24.8 | 25.2 |

See sources and footnotes on page 90.

**Table SA11. Government Expenditure**
*(Percent of GDP)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 41.1 | 41.9 | 40.0 | 40.2 | 41.3 | 40.5 | 41.9 | 29.7 | 26.3 | 27.9 |
| Benin | 19.4 | 23.2 | 19.2 | 20.1 | 19.5 | 20.5 | 19.7 | 24.4 | 21.4 | 22.6 |
| Botswana | 37.6 | 50.3 | 39.9 | 36.3 | 35.4 | 32.4 | 35.3 | 37.5 | 38.3 | 36.4 |
| Burkina Faso | 23.3 | 24.2 | 22.8 | 22.1 | 25.5 | 27.8 | 23.4 | 21.9 | 25.1 | 26.1 |
| Burundi | 32.6 | 38.0 | 40.8 | 42.2 | 37.5 | 33.2 | 31.8 | 28.5 | 22.5 | 25.2 |
| Cabo Verde | 31.7 | 32.8 | 38.7 | 33.3 | 34.7 | 33.4 | 29.9 | 30.0 | 29.3 | 28.8 |
| Cameroon | 15.9 | 17.5 | 17.7 | 20.5 | 19.5 | 21.9 | 22.7 | 20.5 | 22.4 | 21.0 |
| Central African Rep. | 14.9 | 16.6 | 18.6 | 15.7 | 16.4 | 14.9 | 12.7 | 14.9 | 17.1 | 16.0 |
| Chad | 14.9 | 24.2 | 24.4 | 22.4 | 23.9 | 22.9 | 22.1 | 17.1 | 16.8 | 15.4 |
| Comoros | 21.9 | 23.0 | 22.1 | 22.1 | 25.3 | 25.2 | 24.4 | 27.3 | 30.5 | 31.2 |
| Congo, Dem. Rep. of | 10.6 | 13.9 | 17.7 | 15.7 | 15.4 | 12.2 | 13.3 | 14.7 | 15.4 | 15.1 |
| Congo, Rep. of | 26.4 | 24.7 | 21.4 | 26.1 | 35.2 | 48.7 | 50.2 | 46.2 | 38.9 | 34.2 |
| Côte d'Ivoire | 19.5 | 19.9 | 20.0 | 18.2 | 22.3 | 21.9 | 21.8 | 24.1 | 25.8 | 25.2 |
| Equatorial Guinea | 17.3 | 39.8 | 31.2 | 27.5 | 35.2 | 30.7 | 29.2 | 28.5 | 28.1 | 26.5 |
| Eritrea | 47.1 | 30.6 | 34.6 | 33.6 | 30.7 | 29.7 | 28.9 | 28.5 | 28.2 | 28.0 |
| Ethiopia[1] | 21.5 | 17.1 | 18.5 | 18.2 | 16.6 | 17.8 | 17.5 | 18.6 | 20.2 | 20.3 |
| Gabon | 20.2 | 22.6 | 23.1 | 26.5 | 28.5 | 28.4 | 23.5 | 22.6 | 22.4 | 22.8 |
| Gambia, The | 20.6 | 23.1 | 23.6 | 26.0 | 29.7 | 27.1 | 32.5 | 28.2 | 32.5 | 37.6 |
| Ghana | 21.8 | 23.6 | 26.5 | 27.1 | 29.8 | 28.8 | 29.3 | 23.9 | 23.2 | 21.2 |
| Guinea | 16.5 | 23.7 | 29.7 | 21.5 | 26.1 | 25.1 | 26.1 | 27.8 | 24.7 | 24.1 |
| Guinea-Bissau | 22.1 | 20.9 | 18.7 | 17.5 | 13.7 | 13.4 | 22.4 | 26.8 | 20.2 | 20.0 |
| Kenya | 21.6 | 23.1 | 24.2 | 23.6 | 24.2 | 25.4 | 27.2 | 27.8 | 27.0 | 26.2 |
| Lesotho | 49.8 | 67.4 | 56.2 | 62.8 | 61.5 | 62.9 | 58.2 | 59.0 | 58.4 | 56.3 |
| Liberia | 15.8 | 33.2 | 32.5 | 29.0 | 30.1 | 32.8 | 32.1 | 43.7 | 37.4 | 36.1 |
| Madagascar | 20.9 | 14.1 | 14.0 | 14.1 | 13.4 | 14.9 | 14.7 | 15.1 | 16.2 | 18.3 |
| Malawi | 28.6 | 30.5 | 30.0 | 26.1 | 28.9 | 34.7 | 29.8 | 28.9 | 31.5 | 29.7 |
| Mali | 21.2 | 22.8 | 20.3 | 20.6 | 15.5 | 19.7 | 20.0 | 20.9 | 23.1 | 22.9 |
| Mauritius | 23.7 | 26.3 | 25.1 | 24.6 | 23.3 | 24.9 | 23.9 | 26.1 | 25.7 | 25.8 |
| Mozambique | 22.5 | 28.9 | 30.0 | 32.2 | 30.7 | 34.0 | 42.5 | 35.4 | 31.7 | 31.7 |
| Namibia | 26.6 | 31.1 | 32.4 | 36.7 | 33.8 | 35.4 | 39.9 | 42.3 | 39.8 | 38.7 |
| Niger | 21.3 | 23.9 | 20.6 | 19.4 | 22.5 | 27.2 | 31.0 | 32.7 | 30.1 | 27.6 |
| Nigeria | 16.5 | 15.5 | 16.7 | 18.0 | 14.5 | 13.1 | 11.7 | 11.0 | 10.3 | 11.1 |
| Rwanda | 22.7 | 24.1 | 25.9 | 26.5 | 25.9 | 27.6 | 27.6 | 28.1 | 26.7 | 24.8 |
| São Tomé & Príncipe | 42.6 | 48.8 | 47.3 | 48.0 | 44.9 | 31.6 | 31.5 | 34.2 | 33.3 | 37.4 |
| Senegal | 25.3 | 26.6 | 27.0 | 28.8 | 28.5 | 28.1 | 29.8 | 29.9 | 29.1 | 28.1 |
| Seychelles | 38.3 | 32.1 | 34.6 | 36.3 | 38.6 | 38.2 | 33.6 | 32.8 | 37.9 | 34.4 |
| Sierra Leone | 16.4 | 17.5 | 20.2 | 21.5 | 20.3 | 15.7 | 17.6 | 20.0 | 19.1 | 17.7 |
| South Africa | 26.8 | 31.7 | 31.5 | 30.9 | 31.4 | 31.5 | 31.9 | 33.5 | 33.7 | 33.8 |
| South Sudan | ... | ... | ... | 21.0 | 31.6 | 26.4 | 37.5 | 50.2 | 57.4 | 56.7 |
| Swaziland | 29.6 | 32.7 | 29.4 | 23.9 | 26.1 | 28.0 | 31.3 | 33.3 | 36.5 | 36.6 |
| Tanzania | 18.0 | 20.2 | 20.2 | 19.1 | 19.8 | 19.4 | 17.9 | 18.0 | 20.4 | 21.5 |
| Togo | 19.0 | 21.2 | 22.5 | 23.8 | 26.4 | 25.5 | 25.0 | 28.5 | 28.1 | 28.3 |
| Uganda | 18.1 | 15.3 | 18.8 | 17.2 | 16.5 | 16.8 | 17.1 | 18.1 | 20.0 | 18.9 |
| Zambia | 21.0 | 17.8 | 18.1 | 19.5 | 21.5 | 23.8 | 24.8 | 27.2 | 27.1 | 26.1 |
| Zimbabwe[2] | 9.6 | 14.0 | 22.6 | 27.8 | 28.5 | 29.6 | 28.1 | 28.6 | 30.0 | 26.4 |
| **Sub-Saharan Africa** | **22.8** | **24.7** | **24.9** | **25.2** | **24.5** | **23.8** | **23.2** | **22.4** | **22.3** | **22.5** |
| *Median* | 21.5 | 23.8 | 23.9 | 23.9 | 26.1 | 27.2 | 27.6 | 28.1 | 27.0 | 26.2 |
| Excluding Nigeria and South Africa | 23.7 | 26.0 | 26.0 | 26.2 | 27.2 | 27.3 | 27.8 | 25.5 | 24.8 | 24.4 |
| **Oil-exporting countries** | **20.3** | **21.5** | **21.3** | **22.7** | **21.1** | **20.0** | **18.9** | **15.9** | **14.9** | **15.8** |
| Excluding Nigeria | 28.4 | 33.9 | 31.8 | 31.8 | 35.2 | 35.0 | 35.9 | 28.7 | 26.0 | 26.3 |
| **Oil-importing countries** | **24.3** | **26.8** | **27.5** | **27.1** | **27.1** | **27.0** | **27.2** | **27.8** | **27.6** | **27.2** |
| Excluding South Africa | 21.6 | 22.6 | 23.5 | 23.3 | 23.4 | 23.7 | 24.1 | 24.3 | 24.4 | 23.8 |
| **Middle-income countries** | **23.5** | **25.6** | **25.6** | **26.0** | **25.2** | **24.3** | **23.5** | **22.5** | **22.2** | **22.6** |
| Excluding Nigeria and South Africa | 26.7 | 30.1 | 29.1 | 29.7 | 31.5 | 31.7 | 32.4 | 28.3 | 27.0 | 26.5 |
| **Low-income countries** | **19.4** | **20.5** | **21.7** | **21.3** | **21.4** | **21.6** | **22.1** | **22.3** | **22.3** | **22.1** |
| Excluding low-income countries in fragile situations | 20.8 | 20.9 | 21.5 | 21.4 | 21.0 | 21.9 | 22.0 | 21.9 | 22.5 | 22.5 |
| **Countries in fragile situations** | **18.7** | **20.4** | **21.7** | **21.2** | **23.2** | **23.4** | **24.1** | **24.4** | **23.7** | **23.1** |
| CFA franc zone | 19.8 | 23.8 | 22.3 | 22.9 | 25.3 | 26.3 | 25.7 | 24.9 | 25.1 | 24.3 |
| CEMAC | 18.2 | 24.9 | 22.9 | 24.2 | 27.7 | 28.8 | 27.7 | 24.6 | 24.2 | 22.8 |
| WAEMU | 21.3 | 22.7 | 21.7 | 21.4 | 22.6 | 23.7 | 23.7 | 25.2 | 25.8 | 25.4 |
| COMESA (SSA members) | 20.4 | 19.7 | 21.5 | 21.0 | 20.8 | 21.4 | 21.8 | 22.7 | 23.1 | 22.5 |
| EAC-5 | 20.1 | 20.9 | 22.3 | 21.4 | 21.6 | 22.1 | 22.4 | 23.1 | 23.7 | 23.4 |
| ECOWAS | 17.7 | 17.5 | 18.4 | 19.3 | 17.0 | 16.0 | 14.6 | 14.2 | 14.3 | 14.9 |
| SACU | 27.3 | 32.5 | 31.9 | 31.3 | 31.7 | 31.8 | 32.4 | 34.1 | 34.3 | 34.2 |
| SADC | 27.4 | 31.2 | 30.9 | 30.7 | 31.1 | 31.0 | 31.5 | 30.1 | 29.5 | 29.6 |

See sources and footnotes on page 90.

**Table SA12. Government Debt**
*(Percent of GDP)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 27.8 | 22.7 | 44.3 | 33.8 | 29.5 | 32.9 | 40.7 | 64.2 | 77.7 | 73.6 |
| Benin | 24.4 | 25.6 | 28.7 | 29.9 | 26.8 | 25.4 | 30.9 | 39.3 | 42.5 | 43.9 |
| Botswana | 7.7 | 17.6 | 19.4 | 20.3 | 18.9 | 17.6 | 17.7 | 17.2 | 16.9 | 15.3 |
| Burkina Faso | 32.6 | 28.5 | 29.3 | 29.8 | 28.3 | 28.7 | 30.2 | 32.8 | 36.3 | 36.3 |
| Burundi | 134.4 | 25.7 | 46.9 | 39.8 | 39.9 | 36.6 | 33.9 | 42.4 | 60.4 | 45.6 |
| Cabo Verde | 73.8 | 65.2 | 72.4 | 78.8 | 91.1 | 100.0 | 110.3 | 120.5 | 119.2 | 117.8 |
| Cameroon | 30.1 | 10.1 | 11.5 | 13.2 | 15.4 | 18.7 | 27.5 | 29.0 | 31.6 | 33.8 |
| Central African Rep. | 69.6 | 21.1 | 21.4 | 21.8 | 23.5 | 38.5 | 51.1 | 48.5 | 47.2 | 41.2 |
| Chad | 24.8 | 31.7 | 30.1 | 30.5 | 28.8 | 30.3 | 39.2 | 42.6 | 45.0 | 39.3 |
| Comoros | 65.1 | 53.6 | 50.7 | 45.7 | 42.6 | 18.1 | 22.6 | 25.4 | 27.1 | 28.1 |
| Congo, Dem. Rep. of | 105.0 | 93.2 | 31.9 | 26.3 | 23.2 | 19.1 | 16.8 | 18.9 | 20.0 | 22.6 |
| Congo, Rep. of | 114.4 | 61.6 | 22.9 | 33.1 | 34.1 | 38.2 | 47.5 | 70.6 | 69.3 | 61.2 |
| Côte d'Ivoire | 76.6 | 64.2 | 63.0 | 69.2 | 45.0 | 43.4 | 46.5 | 48.9 | 49.0 | 48.3 |
| Equatorial Guinea | 1.9 | 4.3 | 7.9 | 5.9 | 7.3 | 6.1 | 8.7 | 14.0 | 19.6 | 21.9 |
| Eritrea | 146.3 | 144.6 | 143.8 | 133.0 | 127.6 | 128.4 | 126.5 | 127.1 | 125.5 | 127.4 |
| Ethiopia[1] | 67.8 | 37.6 | 40.5 | 44.0 | 36.9 | 42.4 | 46.3 | 56.1 | 57.4 | 60.3 |
| Gabon | 41.2 | 23.1 | 20.5 | 17.9 | 19.7 | 29.2 | 32.2 | 44.0 | 47.5 | 46.5 |
| Gambia, The | 107.3 | 62.6 | 69.6 | 77.3 | 77.0 | 83.3 | 101.1 | 91.6 | 99.4 | 104.3 |
| Ghana | 39.3 | 36.1 | 46.3 | 42.6 | 50.1 | 60.3 | 72.1 | 70.8 | 66.0 | 62.2 |
| Guinea | 117.9 | 89.3 | 99.6 | 78.0 | 35.4 | 45.7 | 45.4 | 53.0 | 52.6 | 50.3 |
| Guinea-Bissau | 197.4 | 159.2 | 62.9 | 49.5 | 52.1 | 53.6 | 50.4 | 52.9 | 47.3 | 45.7 |
| Kenya | 45.2 | 41.1 | 44.4 | 43.0 | 41.7 | 41.5 | 46.7 | 51.3 | 52.7 | 53.0 |
| Lesotho | 57.5 | 37.6 | 35.2 | 38.0 | 40.3 | 43.4 | 49.5 | 58.3 | 58.8 | 56.2 |
| Liberia | 548.8 | 173.9 | 33.4 | 29.6 | 27.0 | 27.5 | 33.3 | 39.2 | 42.8 | 46.2 |
| Madagascar | 56.6 | 33.7 | 31.7 | 32.2 | 33.0 | 33.9 | 34.7 | 35.5 | 42.3 | 43.2 |
| Malawi | 62.2 | 42.6 | 62.9 | 88.5 | 89.5 | 100.3 | 94.6 | 82.0 | 72.1 | 65.5 |
| Mali | 29.2 | 21.9 | 25.3 | 24.0 | 25.4 | 26.4 | 27.3 | 30.9 | 29.8 | 30.2 |
| Mauritius | 49.5 | 52.3 | 52.0 | 52.3 | 51.5 | 53.9 | 56.2 | 58.6 | 58.9 | 58.3 |
| Mozambique | 49.7 | 41.9 | 43.3 | 38.0 | 40.1 | 53.1 | 62.4 | 86.0 | 112.6 | 103.2 |
| Namibia | 23.0 | 15.9 | 15.5 | 23.2 | 23.4 | 23.2 | 23.6 | 33.7 | 42.0 | 46.9 |
| Niger | 43.3 | 27.7 | 24.3 | 27.8 | 26.8 | 27.2 | 33.4 | 45.1 | 48.9 | 50.4 |
| Nigeria | 15.5 | 8.6 | 9.6 | 10.2 | 10.4 | 10.5 | 10.6 | 11.5 | 14.6 | 15.5 |
| Rwanda | 47.1 | 22.4 | 22.6 | 23.1 | 21.5 | 28.7 | 31.1 | 37.3 | 44.2 | 48.2 |
| São Tomé & Príncipe | 207.2 | 68.0 | 75.3 | 71.7 | 78.3 | 71.4 | 68.9 | 82.3 | 90.8 | 96.5 |
| Senegal | 32.5 | 34.2 | 35.5 | 40.7 | 42.8 | 46.9 | 54.2 | 56.8 | 57.3 | 56.2 |
| Seychelles | 140.1 | 121.3 | 81.9 | 77.3 | 82.5 | 68.8 | 68.6 | 69.0 | 67.2 | 61.5 |
| Sierra Leone | 94.1 | 48.1 | 46.8 | 44.8 | 36.8 | 30.5 | 35.0 | 43.8 | 48.1 | 47.2 |
| South Africa | 30.5 | 30.1 | 34.7 | 38.2 | 41.0 | 44.0 | 46.9 | 49.8 | 51.7 | 53.3 |
| South Sudan | ... | ... | ... | 0.0 | 8.9 | 17.6 | 37.5 | 63.6 | 43.8 | 44.8 |
| Swaziland | 14.6 | 10.3 | 13.5 | 13.9 | 14.4 | 14.5 | 13.4 | 17.0 | 26.9 | 36.4 |
| Tanzania | 33.5 | 24.4 | 27.3 | 27.8 | 29.2 | 30.9 | 33.8 | 36.5 | 38.3 | 39.7 |
| Togo | 97.4 | 73.4 | 49.9 | 49.3 | 49.0 | 51.2 | 57.5 | 62.3 | 63.2 | 64.6 |
| Uganda | 39.4 | 19.2 | 22.9 | 23.6 | 24.2 | 27.7 | 31.2 | 34.4 | 36.5 | 38.5 |
| Zambia | 20.4 | 20.5 | 18.9 | 20.8 | 24.9 | 25.9 | 33.6 | 56.3 | 56.1 | 58.8 |
| Zimbabwe[2] | 50.6 | 68.3 | 63.2 | 51.8 | 56.7 | 54.6 | 55.3 | 58.9 | 58.9 | 57.6 |
| **Sub-Saharan Africa** | **33.0** | **26.5** | **28.1** | **28.3** | **28.1** | **29.5** | **31.7** | **37.1** | **41.1** | **42.1** |
| *Median* | 49.6 | 35.1 | 35.0 | 33.8 | 34.1 | 33.9 | 39.2 | 48.9 | 48.9 | 48.2 |
| Excluding Nigeria and South Africa | 46.6 | 35.3 | 36.3 | 33.8 | 32.7 | 35.5 | 40.5 | 49.5 | 52.6 | 52.4 |
| **Oil-exporting countries** | **21.2** | **13.0** | **16.1** | **15.0** | **14.8** | **15.8** | **18.0** | **22.9** | **27.8** | **28.7** |
| Excluding Nigeria | 33.6 | 22.0 | 31.0 | 24.2 | 23.9 | 27.5 | 35.5 | 52.7 | 59.9 | 57.8 |
| **Oil-importing countries** | **40.6** | **35.9** | **36.6** | **38.5** | **38.8** | **41.3** | **44.4** | **48.9** | **50.7** | **51.5** |
| Excluding South Africa | 52.0 | 41.0 | 38.6 | 38.7 | 36.9 | 39.3 | 42.8 | 48.3 | 50.2 | 50.6 |
| **Middle-income countries** | **27.8** | **22.9** | **26.3** | **27.0** | **26.9** | **27.9** | **29.7** | **34.6** | **39.0** | **40.0** |
| Excluding Nigeria and South Africa | 38.5 | 30.4 | 35.9 | 33.3 | 31.9 | 35.1 | 40.9 | 52.5 | 56.7 | 55.9 |
| **Low-income countries** | **57.7** | **41.6** | **37.0** | **34.4** | **33.7** | **36.0** | **39.9** | **46.2** | **48.0** | **48.5** |
| Excluding low-income countries in fragile situations | 42.9 | 30.0 | 31.9 | 33.3 | 32.2 | 36.2 | 40.6 | 48.1 | 51.2 | 52.1 |
| **Countries in fragile situations** | **81.8** | **61.7** | **46.5** | **41.1** | **37.4** | **37.4** | **41.0** | **45.9** | **45.5** | **45.0** |
| CFA franc zone | 45.0 | 32.5 | 29.0 | 30.1 | 27.3 | 29.6 | 34.9 | 40.9 | 42.9 | 42.8 |
| CEMAC | 38.6 | 21.1 | 16.9 | 17.9 | 18.9 | 22.3 | 29.0 | 36.1 | 39.2 | 38.8 |
| WAEMU | 52.0 | 43.7 | 41.9 | 44.0 | 36.6 | 37.0 | 40.9 | 45.0 | 46.0 | 46.0 |
| COMESA (SSA members) | 56.8 | 43.6 | 38.6 | 38.7 | 37.1 | 38.2 | 41.4 | 47.9 | 49.5 | 51.2 |
| EAC-5 | 42.2 | 30.0 | 33.5 | 33.0 | 33.0 | 34.6 | 38.5 | 42.8 | 45.2 | 46.1 |
| ECOWAS | 27.6 | 18.6 | 18.4 | 18.8 | 17.7 | 18.6 | 19.0 | 20.9 | 25.1 | 26.0 |
| SACU | 29.5 | 29.1 | 33.4 | 36.9 | 39.4 | 42.0 | 44.6 | 47.6 | 49.9 | 51.6 |
| SADC | 33.5 | 31.7 | 35.4 | 36.2 | 36.9 | 39.0 | 42.4 | 49.7 | 53.5 | 53.9 |

See sources and footnotes on page 90.

**Table SA13. Broad Money**
*(Percent of GDP)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 21.9 | 42.5 | 35.3 | 37.6 | 35.0 | 36.5 | 41.0 | 46.4 | 48.7 | 46.6 |
| Benin | 30.4 | 38.7 | 41.9 | 42.8 | 41.5 | 44.8 | 49.7 | 50.7 | 51.7 | 52.7 |
| Botswana | 46.7 | 52.7 | 46.6 | 43.4 | 47.8 | 46.6 | 45.3 | 49.2 | 55.3 | 53.6 |
| Burkina Faso | 23.9 | 28.0 | 29.7 | 29.7 | 30.5 | 31.9 | 34.8 | 39.4 | 41.6 | 44.3 |
| Burundi | 22.3 | 24.3 | 23.9 | 22.6 | 21.0 | 20.1 | 19.4 | 20.5 | 20.9 | 20.5 |
| Cabo Verde | 75.1 | 77.5 | 80.1 | 78.5 | 82.1 | 89.4 | 94.4 | 98.4 | 101.9 | 103.7 |
| Cameroon | 19.4 | 22.3 | 23.4 | 24.2 | 22.7 | 23.3 | 23.8 | 24.4 | 25.0 | 25.1 |
| Central African Rep. | 15.9 | 16.1 | 17.8 | 19.2 | 18.3 | 28.5 | 29.1 | 27.5 | 27.6 | 28.1 |
| Chad | 9.0 | 11.1 | 11.5 | 12.1 | 12.4 | 13.3 | 15.7 | 15.9 | 16.8 | 16.3 |
| Comoros | 25.6 | 30.4 | 34.1 | 34.9 | 38.3 | 36.9 | 38.4 | 43.6 | 43.6 | 43.6 |
| Congo, Dem. Rep. of | 6.6 | 10.2 | 10.5 | 10.7 | 11.6 | 11.5 | 11.9 | 11.6 | 11.6 | 12.2 |
| Congo, Rep. of | 16.0 | 22.5 | 23.8 | 28.0 | 33.0 | 34.8 | 39.2 | 44.4 | 46.6 | 43.0 |
| Côte d'Ivoire | 11.3 | 14.1 | 15.7 | 18.7 | 15.3 | 14.9 | 15.6 | 16.5 | 15.8 | 16.8 |
| Equatorial Guinea | 6.4 | 10.5 | 12.3 | 10.6 | 14.8 | 16.7 | 14.6 | 17.0 | 16.6 | 16.4 |
| Eritrea | 130.2 | 121.6 | 123.2 | 114.7 | 114.1 | 118.3 | 119.9 | 118.6 | 119.7 | 122.3 |
| Ethiopia[1] | 34.6 | 24.8 | 27.0 | 27.6 | 25.3 | 27.1 | 28.1 | 29.9 | 30.7 | 32.7 |
| Gabon | 17.0 | 20.3 | 19.5 | 20.5 | 23.2 | 24.8 | 24.4 | 25.9 | 26.8 | 25.8 |
| Gambia, The | 39.0 | 48.7 | 49.9 | 55.7 | 54.5 | 56.6 | 59.2 | 52.8 | 52.6 | 53.9 |
| Ghana | 22.8 | 28.0 | 29.9 | 30.4 | 30.0 | 28.8 | 32.5 | 32.5 | 31.2 | 30.3 |
| Guinea | 20.2 | 26.9 | 38.2 | 33.7 | 28.9 | 30.4 | 30.8 | 34.4 | 33.7 | 35.7 |
| Guinea-Bissau | 19.1 | 24.6 | 29.7 | 33.2 | 32.0 | 39.3 | 44.5 | 50.8 | 50.8 | 50.8 |
| Kenya | 35.7 | 36.5 | 40.1 | 40.6 | 40.5 | 42.1 | 43.2 | 42.7 | 43.8 | 45.7 |
| Lesotho | 32.6 | 39.1 | 39.9 | 36.2 | 36.1 | 39.4 | 37.4 | 37.7 | 38.4 | 39.2 |
| Liberia | 19.5 | 31.4 | 35.5 | 42.0 | 36.3 | 34.8 | 34.6 | 34.8 | 33.6 | 33.4 |
| Madagascar | 23.6 | 24.5 | 24.7 | 26.1 | 25.7 | 25.2 | 25.4 | 26.2 | 27.8 | 28.1 |
| Malawi | 15.8 | 19.8 | 22.1 | 25.1 | 25.7 | 26.0 | 24.5 | 24.3 | 23.5 | 23.5 |
| Mali | 25.6 | 24.7 | 24.5 | 24.4 | 27.0 | 28.2 | 27.8 | 28.9 | 30.8 | 32.0 |
| Mauritius | 98.5 | 99.5 | 100.4 | 98.9 | 100.5 | 99.8 | 102.9 | 105.5 | 107.6 | 107.2 |
| Mozambique | 17.0 | 24.2 | 24.7 | 27.7 | 30.6 | 33.4 | 38.5 | 42.1 | 39.9 | 38.8 |
| Namibia | 39.7 | 63.5 | 62.4 | 64.0 | 57.4 | 56.2 | 53.3 | 55.9 | 55.9 | 55.9 |
| Niger | 15.6 | 18.5 | 20.3 | 20.2 | 22.6 | 23.3 | 27.2 | 27.1 | 29.4 | 30.2 |
| Nigeria | 16.0 | 24.3 | 20.8 | 18.8 | 21.3 | 19.3 | 20.9 | 20.9 | 21.4 | 21.1 |
| Rwanda | 16.7 | 17.5 | 18.5 | 20.3 | 20.1 | 21.1 | 22.7 | 25.4 | 26.5 | 27.6 |
| São Tomé & Príncipe | 33.2 | 34.9 | 36.6 | 34.9 | 38.0 | 38.4 | 40.1 | 40.2 | 40.5 | 40.8 |
| Senegal | 34.7 | 36.9 | 39.7 | 40.0 | 39.9 | 42.6 | 46.0 | 48.9 | 47.4 | 46.7 |
| Seychelles | 84.6 | 55.5 | 62.1 | 60.2 | 52.0 | 58.9 | 68.3 | 67.7 | 67.7 | 67.7 |
| Sierra Leone | 16.7 | 22.6 | 23.5 | 23.1 | 21.9 | 19.8 | 21.7 | 24.6 | 24.0 | 24.2 |
| South Africa | 72.5 | 77.7 | 75.8 | 74.6 | 72.9 | 70.8 | 70.7 | 74.1 | 74.1 | 74.1 |
| South Sudan | ... | ... | ... | 9.5 | 19.8 | 14.7 | 18.9 | 27.1 | 23.3 | 22.2 |
| Swaziland | 19.8 | 25.4 | 25.0 | 24.4 | 23.9 | 25.4 | 24.3 | 25.8 | 25.8 | 24.8 |
| Tanzania | 21.8 | 23.3 | 25.1 | 24.7 | 23.8 | 22.7 | 23.3 | 24.3 | 24.2 | 24.5 |
| Togo | 33.3 | 41.3 | 45.6 | 46.9 | 45.3 | 46.5 | 48.2 | 53.5 | 55.5 | 57.7 |
| Uganda | 18.5 | 17.9 | 21.7 | 19.8 | 19.7 | 20.0 | 21.4 | 21.7 | 21.3 | 21.9 |
| Zambia | 18.0 | 17.8 | 18.4 | 19.1 | 19.6 | 20.5 | 20.9 | 25.0 | 23.9 | 24.2 |
| Zimbabwe[2] | 10.7 | 16.9 | 24.7 | 28.3 | 29.8 | 28.8 | 30.8 | 33.4 | 34.3 | 25.7 |
| **Sub-Saharan Africa** | **34.9** | **39.3** | **37.6** | **36.5** | **36.7** | **35.6** | **36.5** | **38.0** | **38.4** | **38.3** |
| *Median* | 21.8 | 24.8 | 26.1 | 28.0 | 29.8 | 28.8 | 30.8 | 33.4 | 33.6 | 32.7 |
| Excluding Nigeria and South Africa | 25.0 | 28.9 | 29.6 | 29.7 | 29.6 | 30.2 | 31.7 | 33.6 | 34.1 | 34.2 |
| **Oil-exporting countries** | **16.5** | **25.7** | **22.3** | **20.9** | **22.9** | **21.8** | **23.6** | **24.7** | **25.5** | **24.9** |
| Excluding Nigeria | 17.7 | 29.3 | 26.6 | 26.1 | 27.2 | 28.2 | 30.9 | 34.7 | 36.1 | 34.8 |
| **Oil-importing countries** | **46.6** | **48.9** | **48.8** | **48.2** | **46.8** | **45.9** | **46.2** | **47.9** | **47.6** | **47.5** |
| Excluding South Africa | 27.2 | 28.8 | 30.6 | 30.9 | 30.4 | 30.8 | 32.0 | 33.3 | 33.5 | 34.0 |
| **Middle-income countries** | **38.0** | **43.5** | **40.8** | **39.8** | **39.9** | **38.4** | **39.2** | **40.7** | **41.3** | **41.0** |
| Excluding Nigeria and South Africa | 26.2 | 33.2 | 32.7 | 33.7 | 33.1 | 33.8 | 35.5 | 37.7 | 38.5 | 38.1 |
| **Low-income countries** | **23.5** | **24.1** | **26.2** | **25.5** | **25.9** | **26.4** | **27.8** | **29.4** | **29.7** | **30.2** |
| Excluding low-income countries in fragile situations | 25.3 | 24.7 | 26.9 | 26.9 | 26.3 | 27.2 | 29.0 | 30.6 | 30.8 | 31.7 |
| **Countries in fragile situations** | **18.5** | **21.2** | **23.0** | **22.9** | **24.0** | **23.8** | **24.8** | **26.5** | **26.7** | **26.3** |
| CFA franc zone | 18.4 | 21.7 | 23.2 | 24.2 | 24.5 | 25.8 | 27.2 | 29.1 | 29.8 | 30.1 |
| CEMAC | 14.5 | 17.7 | 18.8 | 19.6 | 21.0 | 22.5 | 23.3 | 25.1 | 26.0 | 25.4 |
| WAEMU | 22.1 | 25.3 | 27.2 | 28.6 | 27.8 | 28.9 | 30.7 | 32.5 | 32.9 | 33.8 |
| COMESA (SSA members) | 29.9 | 28.6 | 30.7 | 30.9 | 30.4 | 31.2 | 32.0 | 33.0 | 33.6 | 34.4 |
| EAC-5 | 26.3 | 26.7 | 29.6 | 29.2 | 28.8 | 29.1 | 30.1 | 30.5 | 30.8 | 31.8 |
| ECOWAS | 17.9 | 25.0 | 22.9 | 21.7 | 23.4 | 22.0 | 23.7 | 24.1 | 24.6 | 24.6 |
| SACU | 69.7 | 75.4 | 73.4 | 72.1 | 70.6 | 68.5 | 68.2 | 71.5 | 71.7 | 71.6 |
| SADC | 53.3 | 58.5 | 56.5 | 55.9 | 54.4 | 52.9 | 53.3 | 56.0 | 56.1 | 55.3 |

See sources and footnotes on page 90.

**Table SA14. Broad Money Growth**
*(Percent)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 64.6 | 21.5 | 5.3 | 37.1 | 4.9 | 14.1 | 16.2 | 11.8 | 37.2 | 36.3 |
| Benin | 15.6 | 6.2 | 11.6 | 9.1 | 9.0 | 17.3 | 16.7 | 7.9 | 7.2 | 9.6 |
| Botswana | 17.4 | –1.3 | 12.4 | 4.3 | 17.6 | 8.5 | 11.3 | 11.1 | 6.3 | 9.4 |
| Burkina Faso | 6.9 | 18.2 | 19.1 | 13.8 | 15.9 | 10.6 | 11.3 | 19.7 | 13.9 | 15.1 |
| Burundi | 21.1 | 19.8 | 12.5 | 6.6 | 11.3 | 13.2 | 9.8 | 4.9 | 11.0 | 8.2 |
| Cabo Verde | 12.5 | 3.5 | 5.4 | 4.6 | 6.3 | 11.4 | 7.4 | 6.3 | 8.4 | 7.4 |
| Cameroon | 10.5 | 6.9 | 11.3 | 10.6 | 1.4 | 10.8 | 10.8 | 9.1 | 9.6 | 6.5 |
| Central African Rep. | 7.5 | 11.7 | 16.1 | 13.8 | 1.6 | 5.6 | 14.6 | 5.3 | 11.8 | 12.8 |
| Chad | 23.6 | –4.6 | 25.3 | 14.2 | 13.4 | 8.6 | 26.5 | –4.7 | 1.0 | 7.3 |
| Comoros | 8.1 | 13.3 | 19.4 | 9.6 | 16.0 | 2.8 | 8.1 | 17.1 | 5.3 | 5.6 |
| Congo, Dem. Rep. of | 52.5 | 50.4 | 30.8 | 23.1 | 21.2 | 18.1 | 14.2 | 4.9 | 4.5 | 11.4 |
| Congo, Rep. of | 28.7 | 5.0 | 38.9 | 34.5 | 21.1 | 0.7 | 13.1 | –11.5 | 4.5 | 7.2 |
| Côte d'Ivoire | 12.0 | 24.4 | 19.3 | 17.2 | –7.6 | 9.7 | 13.8 | 17.0 | 4.9 | 17.2 |
| Equatorial Guinea | 30.7 | 29.9 | 33.5 | 7.7 | 57.8 | 7.3 | –14.1 | –10.9 | –18.0 | –2.5 |
| Eritrea | 11.2 | 15.7 | 15.6 | 14.6 | 17.9 | 17.5 | 17.2 | 13.9 | 15.7 | 15.5 |
| Ethiopia[1] | 18.1 | 19.9 | 24.4 | 36.5 | 32.9 | 24.2 | 26.9 | 24.2 | 21.2 | 25.3 |
| Gabon | 14.2 | 2.2 | 19.2 | 26.5 | 15.7 | 6.1 | 1.6 | –0.1 | 5.1 | 5.2 |
| Gambia, The | 16.5 | 19.4 | 13.7 | 11.0 | 7.8 | 15.1 | 11.2 | –0.9 | 10.1 | 13.5 |
| Ghana | 31.3 | 26.0 | 34.4 | 32.2 | 24.3 | 19.1 | 36.8 | 23.3 | 14.4 | 15.1 |
| Guinea | 35.5 | 25.9 | 74.4 | 9.4 | 1.0 | 14.1 | 12.3 | 20.3 | 11.1 | 19.4 |
| Guinea-Bissau | 25.7 | 4.4 | 29.6 | 39.1 | –6.0 | 22.5 | 22.4 | 30.0 | 10.2 | 6.0 |
| Kenya | 14.9 | 16.0 | 21.6 | 19.1 | 14.1 | 15.6 | 16.7 | 14.1 | 15.9 | 17.4 |
| Lesotho | 16.8 | 17.7 | 14.5 | 1.6 | 7.0 | 21.2 | 4.0 | 9.2 | 12.9 | 12.4 |
| Liberia | 33.6 | 30.6 | 28.0 | 41.3 | –2.1 | 7.6 | 2.1 | 1.7 | 2.7 | 7.0 |
| Madagascar | 17.2 | 10.2 | 9.6 | 16.4 | 6.9 | 5.3 | 11.1 | 14.6 | 17.9 | 12.7 |
| Malawi | 27.6 | 23.9 | 33.9 | 35.7 | 22.9 | 35.1 | 20.7 | 23.7 | 16.9 | 18.1 |
| Mali | 5.6 | 16.0 | 9.0 | 15.3 | 15.2 | 7.4 | 7.1 | 13.2 | 14.6 | 11.7 |
| Mauritius | 13.0 | 2.4 | 6.9 | 6.4 | 8.2 | 5.8 | 8.7 | 7.1 | 8.0 | 6.0 |
| Mozambique | 22.2 | 34.6 | 17.6 | 23.9 | 25.6 | 21.2 | 27.3 | 21.7 | 10.0 | 12.7 |
| Namibia | 16.7 | 63.2 | 8.0 | 11.9 | 6.3 | 12.4 | 7.8 | 10.2 | 11.1 | 11.6 |
| Niger | 15.7 | 18.3 | 22.0 | 6.2 | 31.2 | 10.1 | 25.7 | 3.6 | 13.7 | 10.6 |
| Nigeria | 37.2 | 17.1 | 6.9 | 4.0 | 29.1 | 1.0 | 20.4 | 5.9 | 14.0 | 16.2 |
| Rwanda | 23.6 | 13.0 | 16.9 | 26.7 | 14.0 | 15.5 | 19.0 | 21.1 | 15.8 | 15.6 |
| São Tomé & Príncipe | 29.8 | 8.2 | 25.1 | 10.4 | 20.3 | 13.9 | 16.8 | 13.1 | 11.3 | 6.8 |
| Senegal | 9.5 | 10.9 | 14.1 | 6.7 | 6.8 | 8.0 | 11.4 | 13.4 | 5.1 | 7.2 |
| Seychelles | 7.9 | 7.0 | 13.5 | 4.5 | –0.6 | 23.7 | 25.8 | 4.3 | 4.4 | 6.2 |
| Sierra Leone | 24.5 | 31.3 | 28.5 | 22.6 | 22.5 | 16.7 | 16.6 | 11.3 | 12.9 | 15.3 |
| South Africa | 18.9 | 1.8 | 6.9 | 8.3 | 5.2 | 5.9 | 7.3 | 10.3 | 6.5 | 7.0 |
| South Sudan | ... | ... | ... | ... | 33.9 | –1.6 | 21.2 | 62.4 | 188.0 | 31.6 |
| Swaziland | 15.7 | 26.8 | 7.9 | 5.5 | 10.0 | 15.9 | 3.9 | 13.6 | 6.9 | 2.2 |
| Tanzania | 22.0 | 17.7 | 25.4 | 18.2 | 12.5 | 10.0 | 15.6 | 18.8 | 12.3 | 14.1 |
| Togo | 15.7 | 16.2 | 16.3 | 15.9 | 8.9 | 10.3 | 9.8 | 20.2 | 11.7 | 11.6 |
| Uganda | 19.1 | 16.6 | 41.5 | 10.5 | 14.9 | 9.5 | 15.2 | 11.7 | 8.8 | 13.4 |
| Zambia | 25.6 | 7.7 | 29.9 | 21.7 | 17.9 | 20.8 | 12.6 | 35.2 | 16.4 | 15.8 |
| Zimbabwe[2] | 1.4 | 340.0 | 68.6 | 33.1 | 19.9 | 4.6 | 12.6 | 8.2 | 2.7 | –23.0 |
| **Sub-Saharan Africa** | **25.4** | **14.7** | **13.4** | **12.6** | **16.8** | **7.8** | **15.5** | **10.9** | **12.8** | **13.9** |
| *Median* | 17.3 | 16.4 | 18.4 | 14.0 | 14.0 | 10.8 | 13.1 | 11.7 | 11.0 | 11.6 |
| Excluding Nigeria and South Africa | 22.6 | 20.5 | 21.6 | 21.1 | 15.0 | 13.4 | 16.1 | 14.5 | 14.8 | 15.4 |
| **Oil-exporting countries** | **...** | **...** | **...** | **...** | **...** | **...** | **...** | **...** | **...** | **...** |
| Excluding Nigeria | 36.2 | 14.8 | 14.2 | 25.6 | 13.1 | 9.8 | 11.6 | 7.4 | 22.9 | 19.5 |
| **Oil-importing countries** | **18.7** | **13.5** | **16.9** | **15.1** | **11.5** | **11.2** | **13.7** | **14.5** | **10.4** | **11.8** |
| Excluding South Africa | 18.6 | 22.5 | 24.1 | 19.8 | 15.6 | 14.5 | 17.6 | 16.9 | 12.5 | 14.3 |
| **Middle-income countries** | **27.3** | **12.2** | **10.2** | **10.6** | **16.5** | **6.1** | **14.8** | **9.3** | **12.2** | **13.9** |
| Excluding Nigeria and South Africa | 26.1 | 17.4 | 18.2 | 22.1 | 12.3 | 13.2 | 14.6 | 12.7 | 14.8 | 16.8 |
| **Low-income countries** | **18.8** | **24.0** | **25.5** | **20.1** | **17.9** | **13.5** | **17.6** | **16.3** | **14.8** | **14.1** |
| Excluding low-income countries in fragile situations | 17.8 | 17.8 | 24.6 | 20.0 | 19.2 | 14.8 | 19.3 | 18.1 | 13.7 | 16.4 |
| **Countries in fragile situations** | **19.1** | **30.7** | **26.5** | **20.7** | **11.5** | **10.2** | **14.4** | **12.0** | **13.3** | **11.1** |
| CFA franc zone | 14.4 | 13.2 | 19.2 | 14.6 | 12.0 | 8.9 | 10.0 | 6.9 | 5.7 | 9.5 |
| CEMAC | 18.6 | 9.2 | 22.6 | 16.2 | 18.3 | 7.5 | 6.6 | –1.3 | 2.2 | 5.3 |
| WAEMU | 10.7 | 17.1 | 16.1 | 13.2 | 6.3 | 10.1 | 13.2 | 14.5 | 8.7 | 12.9 |
| COMESA (SSA members) | 19.1 | 24.6 | 26.1 | 22.0 | 18.8 | 16.4 | 17.2 | 16.9 | 14.2 | 15.2 |
| EAC-5 | 18.6 | 16.7 | 26.5 | 17.0 | 13.6 | 12.2 | 16.0 | 15.4 | 13.0 | 15.1 |
| ECOWAS | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| SACU | 18.7 | 3.4 | 7.2 | 8.1 | 5.8 | 6.4 | 7.4 | 10.4 | 6.7 | 7.2 |
| SADC | 23.6 | 11.9 | 11.6 | 14.7 | 8.3 | 9.4 | 10.7 | 12.6 | 11.7 | 11.7 |

See sources and footnotes on page 90.

**Table SA15. Claims on Nonfinancial Private Sector**
*(Percent change)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|
| Angola | 71.9 | 60.5 | 19.2 | 28.8 | 24.2 | 15.0 | 1.1 | 17.6 |
| Benin | 16.4 | 11.9 | 8.5 | 11.5 | 9.4 | 10.6 | 6.0 | –1.8 |
| Botswana | 21.2 | 10.3 | 11.1 | 21.8 | 21.5 | 13.8 | 13.7 | 9.0 |
| Burkina Faso | 14.4 | 1.7 | 14.7 | 23.5 | 24.1 | 26.3 | 18.9 | 7.0 |
| Burundi | 8.4 | 25.5 | 38.8 | 41.7 | 7.1 | 9.8 | 7.4 | 1.0 |
| Cabo Verde | 20.4 | 11.8 | 9.0 | 13.3 | –0.6 | 2.0 | –0.9 | 0.2 |
| Cameroon | 8.2 | 9.1 | 8.2 | 28.3 | 2.6 | 14.9 | 14.4 | 12.8 |
| Central African Rep. | 8.7 | 8.7 | 30.2 | 19.2 | 31.0 | –18.1 | 5.4 | –2.1 |
| Chad | 17.3 | 21.0 | 30.2 | 24.4 | 32.1 | 6.1 | 37.8 | 0.7 |
| Comoros | 11.4 | 44.1 | 25.9 | 8.9 | 22.4 | 12.6 | 10.0 | 16.2 |
| Congo, Dem. Rep. of | 91.1 | 41.1 | 19.0 | 16.7 | 25.6 | 26.5 | 22.7 | –1.3 |
| Congo, Rep. of | 26.6 | 30.4 | 49.3 | 42.3 | 44.3 | 17.0 | 25.6 | 9.2 |
| Côte d'Ivoire | 9.3 | 10.8 | 8.7 | 0.4 | 12.2 | 22.9 | 21.7 | 29.7 |
| Equatorial Guinea | 50.1 | 13.8 | 30.6 | 30.7 | –13.6 | 34.3 | 18.4 | 14.1 |
| Eritrea | 6.3 | 1.2 | 1.6 | 14.6 | –1.5 | 4.4 | 7.3 | 7.5 |
| Ethiopia[1] | 42.1 | 11.0 | 28.1 | 25.0 | 37.7 | 10.8 | 19.9 | 31.0 |
| Gabon | 10.0 | –7.9 | 1.9 | 42.0 | 24.1 | 23.6 | –2.0 | –5.2 |
| Gambia, The | 13.2 | 10.3 | 14.8 | 8.8 | 4.3 | 20.5 | –7.5 | –7.9 |
| Ghana | 44.1 | 16.2 | 24.8 | 29.0 | 32.9 | 29.0 | 42.0 | 24.7 |
| Guinea | 19.2 | 15.8 | 43.8 | 93.4 | –3.2 | 35.0 | 44.0 | 27.1 |
| Guinea-Bissau | 50.9 | 24.9 | 58.2 | 46.7 | 27.2 | 3.6 | –8.2 | 2.4 |
| Kenya | 19.9 | 13.9 | 20.3 | 30.9 | 10.4 | 20.1 | 22.2 | 18.0 |
| Lesotho | 29.2 | 20.7 | 26.9 | 25.1 | 42.2 | 10.3 | 11.8 | 9.2 |
| Liberia | 36.0 | 31.5 | 40.1 | 32.4 | 11.2 | 27.2 | 5.6 | 8.1 |
| Madagascar | 24.8 | 6.5 | 11.2 | 7.0 | 4.8 | 16.2 | 18.4 | 16.5 |
| Malawi | 41.2 | 39.5 | 52.4 | 20.5 | 25.4 | 14.4 | 20.0 | 43.0 |
| Mali | 7.2 | 11.0 | 13.5 | 24.1 | 4.8 | 11.7 | 18.7 | 19.9 |
| Mauritius | 15.4 | 0.5 | 12.5 | 12.3 | 17.4 | 14.2 | –2.2 | 8.7 |
| Mozambique | 27.5 | 58.6 | 18.3 | 19.4 | 16.7 | 15.4 | 25.2 | 22.1 |
| Namibia | 16.9 | 10.0 | 11.1 | 9.3 | 16.9 | 14.5 | 16.5 | 11.0 |
| Niger | 26.1 | 18.4 | 11.7 | 16.0 | 24.2 | 4.0 | 10.4 | 13.2 |
| Nigeria | 47.0 | 22.0 | –5.6 | 2.6 | 6.6 | 9.4 | 18.0 | 4.4 |
| Rwanda | 30.2 | 5.7 | 9.9 | 27.6 | 35.0 | 11.1 | 19.6 | 30.1 |
| São Tomé & Príncipe | 53.5 | 39.3 | 35.8 | 15.4 | 11.0 | –3.3 | –1.4 | 7.3 |
| Senegal | 13.1 | 3.8 | 10.1 | 19.0 | 10.0 | 12.6 | 6.4 | 7.1 |
| Seychelles | 21.9 | –9.2 | 23.6 | 5.2 | 8.5 | 4.5 | 25.7 | 6.9 |
| Sierra Leone | 35.5 | 45.4 | 31.5 | 21.8 | –6.9 | 11.9 | 5.4 | 3.2 |
| South Africa | 17.8 | 3.0 | 3.3 | 5.7 | 9.3 | 6.6 | 7.2 | 8.3 |
| South Sudan | ... | ... | ... | –34.0 | 125.7 | 45.4 | 49.8 | 51.2 |
| Swaziland | 21.4 | 13.1 | –0.5 | 26.0 | –1.7 | 20.2 | 9.8 | 4.2 |
| Tanzania | 35.8 | 9.6 | 20.0 | 27.2 | 18.2 | 15.3 | 19.4 | 24.8 |
| Togo | 8.4 | 21.3 | 21.6 | 41.1 | 18.9 | 13.5 | 11.6 | 16.1 |
| Uganda | 27.5 | 17.3 | 41.8 | 28.3 | 11.8 | 6.2 | 14.1 | 15.3 |
| Zambia | 43.2 | –5.7 | 15.4 | 28.2 | 37.0 | 12.6 | 26.4 | 29.3 |
| Zimbabwe[2] | 5.8 | 388.2 | 143.3 | 62.8 | 27.1 | 3.7 | 4.7 | –2.3 |
| **Sub-Saharan Africa** | **30.3** | **16.5** | **8.2** | **12.7** | **13.3** | **12.2** | **15.4** | **11.4** |
| *Median* | 21.3 | 13.4 | 19.1 | 23.5 | 16.9 | 13.5 | 14.1 | 9.2 |
| Excluding Nigeria and South Africa | 28.7 | 20.6 | 21.5 | 23.5 | 19.9 | 16.7 | 17.5 | 17.6 |
| **Oil-exporting countries** | **44.1** | **24.8** | **0.5** | **7.7** | **10.4** | **11.8** | **16.1** | **6.9** |
| Excluding Nigeria | 38.0 | 32.2 | 19.6 | 21.8 | 20.9 | 18.6 | 11.2 | 14.1 |
| **Oil-importing countries** | **22.3** | **11.0** | **14.2** | **16.5** | **15.5** | **12.4** | **14.9** | **14.9** |
| Excluding South Africa | 25.9 | 16.9 | 22.1 | 24.1 | 19.6 | 16.0 | 19.7 | 18.7 |
| **Middle-income countries** | **31.4** | **15.1** | **3.7** | **10.3** | **10.9** | **11.6** | **14.5** | **9.5** |
| Excluding Nigeria and South Africa | 30.7 | 19.6 | 17.5 | 25.9 | 18.3 | 19.2 | 16.6 | 17.4 |
| **Low-income countries** | **26.6** | **21.6** | **26.0** | **21.1** | **21.6** | **14.0** | **18.5** | **17.8** |
| Excluding low-income countries in fragile situations | 28.6 | 13.0 | 22.8 | 24.2 | 22.1 | 12.3 | 17.0 | 21.0 |
| **Countries in fragile situations** | **21.2** | **31.7** | **28.3** | **15.2** | **20.8** | **18.0** | **21.6** | **15.2** |
| CFA franc zone | 15.2 | 10.6 | 15.7 | 22.8 | 12.4 | 17.3 | 15.9 | 11.8 |
| CEMAC | 18.7 | 11.4 | 20.2 | 32.1 | 11.5 | 18.2 | 16.8 | 7.2 |
| WAEMU | 12.2 | 9.8 | 11.7 | 14.7 | 13.3 | 16.5 | 15.0 | 16.0 |
| COMESA (SSA members) | 28.6 | 20.0 | 26.7 | 25.8 | 21.3 | 13.9 | 18.3 | 18.7 |
| EAC-5 | 26.7 | 12.9 | 24.4 | 29.1 | 14.5 | 14.7 | 19.0 | 20.1 |
| ECOWAS | 38.9 | 19.5 | –0.2 | 7.2 | 9.2 | 12.2 | 19.2 | 7.8 |
| SACU | 18.0 | 3.7 | 3.9 | 6.8 | 10.0 | 7.4 | 7.8 | 8.4 |
| SADC | 26.4 | 15.2 | 11.0 | 13.7 | 14.8 | 10.5 | 9.9 | 12.3 |

See sources and footnotes on page 90.

**Table SA16. Claims on Nonfinancial Private Sector**
*(Percent of GDP)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|
| Angola | 8.5 | 21.5 | 20.2 | 20.2 | 22.3 | 23.4 | 22.9 | 27.2 |
| Benin | 16.3 | 20.8 | 22.0 | 22.9 | 22.3 | 22.7 | 22.9 | 21.2 |
| Botswana | 22.1 | 28.9 | 25.3 | 27.5 | 31.3 | 32.0 | 31.8 | 33.9 |
| Burkina Faso | 16.7 | 17.0 | 17.3 | 18.8 | 20.7 | 24.8 | 28.8 | 29.2 |
| Burundi | 14.1 | 13.7 | 16.6 | 20.8 | 18.7 | 17.3 | 16.3 | 16.6 |
| Cabo Verde | 41.4 | 58.0 | 61.9 | 65.7 | 64.3 | 64.2 | 62.5 | 61.4 |
| Cameroon | 9.5 | 10.8 | 11.0 | 13.1 | 12.5 | 13.3 | 14.0 | 14.9 |
| Central African Rep. | 6.9 | 7.2 | 8.9 | 10.1 | 12.3 | 14.9 | 14.0 | 12.3 |
| Chad | 2.6 | 3.9 | 4.2 | 4.8 | 5.8 | 6.1 | 7.8 | 8.4 |
| Comoros | 8.9 | 14.8 | 17.5 | 17.8 | 20.6 | 21.7 | 23.0 | 25.9 |
| Congo, Dem. Rep. of | 2.1 | 4.4 | 4.2 | 4.0 | 4.5 | 4.8 | 5.4 | 4.9 |
| Congo, Rep. of | 2.6 | 4.8 | 5.5 | 6.8 | 9.6 | 11.7 | 14.6 | 20.5 |
| Côte d'Ivoire | 14.3 | 16.4 | 16.6 | 16.9 | 16.8 | 18.3 | 20.4 | 24.0 |
| Equatorial Guinea | 2.7 | 5.8 | 6.7 | 7.0 | 5.3 | 7.5 | 9.1 | 13.5 |
| Eritrea | 24.5 | 16.6 | 14.8 | 13.7 | 11.4 | 10.5 | 9.8 | 9.1 |
| Ethiopia[1] | 10.9 | 9.3 | 10.4 | 9.8 | 9.3 | 8.8 | 8.7 | 9.7 |
| Gabon | 9.1 | 10.1 | 8.3 | 9.8 | 11.9 | 14.8 | 14.0 | 14.2 |
| Gambia, The | 12.6 | 15.4 | 15.9 | 17.4 | 16.5 | 17.9 | 15.6 | 12.9 |
| Ghana | 11.7 | 15.5 | 15.4 | 15.3 | 16.1 | 16.8 | 19.7 | 19.9 |
| Guinea | 5.8 | 5.2 | 6.0 | 9.4 | 7.8 | 9.6 | 12.5 | 14.8 |
| Guinea-Bissau | 2.3 | 5.6 | 8.2 | 9.7 | 12.6 | 13.1 | 11.1 | 10.0 |
| Kenya | 23.5 | 25.8 | 28.0 | 31.2 | 30.1 | 32.5 | 34.9 | 35.7 |
| Lesotho | 9.4 | 12.5 | 14.1 | 15.8 | 20.9 | 20.8 | 21.2 | 21.4 |
| Liberia | 6.9 | 12.0 | 14.8 | 16.4 | 16.1 | 18.3 | 18.8 | 20.1 |
| Madagascar | 10.1 | 11.3 | 11.5 | 11.2 | 10.8 | 11.7 | 12.6 | 13.2 |
| Malawi | 6.7 | 10.9 | 13.8 | 13.9 | 14.6 | 12.5 | 11.7 | 13.4 |
| Mali | 15.9 | 15.5 | 16.0 | 17.1 | 17.3 | 18.8 | 20.5 | 22.6 |
| Mauritius | 75.1 | 82.7 | 87.9 | 91.4 | 100.8 | 108.1 | 100.3 | 104.3 |
| Mozambique | 12.4 | 23.8 | 24.5 | 26.4 | 27.2 | 28.2 | 32.0 | 35.1 |
| Namibia | 48.6 | 48.6 | 49.2 | 49.3 | 48.6 | 48.5 | 49.7 | 52.5 |
| Niger | 8.4 | 12.2 | 12.3 | 13.3 | 14.1 | 13.7 | 14.1 | 15.3 |
| Nigeria | 12.0 | 21.1 | 15.9 | 14.2 | 13.3 | 13.0 | 13.8 | 13.7 |
| Rwanda | 10.0 | 11.9 | 11.9 | 13.1 | 15.3 | 15.6 | 16.8 | 20.2 |
| São Tomé & Príncipe | 24.9 | 32.8 | 37.4 | 37.3 | 37.4 | 32.1 | 28.3 | 26.9 |
| Senegal | 22.5 | 24.7 | 25.6 | 28.8 | 29.5 | 32.9 | 33.9 | 34.1 |
| Seychelles | 25.1 | 20.1 | 24.4 | 23.9 | 22.5 | 21.5 | 24.9 | 25.3 |
| Sierra Leone | 4.0 | 7.2 | 7.7 | 7.5 | 5.4 | 4.7 | 4.7 | 4.9 |
| South Africa | 71.4 | 74.6 | 70.4 | 67.6 | 68.6 | 67.1 | 66.9 | 68.9 |
| South Sudan | ... | ... | ... | 0.2 | 0.6 | 0.7 | 1.1 | 1.4 |
| Swaziland | 18.7 | 20.6 | 18.7 | 21.7 | 19.1 | 21.0 | 21.2 | 20.6 |
| Tanzania | 10.4 | 13.2 | 13.7 | 14.4 | 14.7 | 14.6 | 15.6 | 17.1 |
| Togo | 18.0 | 19.8 | 22.8 | 28.6 | 30.1 | 31.8 | 33.5 | 35.9 |
| Uganda | 9.2 | 10.6 | 12.9 | 13.7 | 13.2 | 13.0 | 13.8 | 14.4 |
| Zambia | 8.8 | 10.0 | 9.2 | 10.0 | 12.0 | 11.7 | 13.4 | 15.3 |
| Zimbabwe[2] | 3.8 | 8.4 | 17.6 | 24.7 | 27.6 | 26.5 | 26.4 | 25.8 |
| **Sub-Saharan Africa** | **28.2** | **31.9** | **29.2** | **27.9** | **28.0** | **27.7** | **28.0** | **28.9** |
| *Median* | 10.7 | 14.2 | 15.7 | 15.8 | 16.1 | 17.3 | 16.8 | 20.1 |
| Excluding Nigeria and South Africa | 13.4 | 16.6 | 17.2 | 17.7 | 18.5 | 19.3 | 20.1 | 21.7 |
| **Oil-exporting countries** | **10.7** | **19.2** | **15.3** | **13.8** | **13.7** | **13.8** | **14.5** | **15.2** |
| Excluding Nigeria | 7.2 | 14.2 | 13.7 | 12.9 | 14.7 | 16.0 | 16.3 | 19.4 |
| **Oil-importing countries** | **39.4** | **40.9** | **39.2** | **38.4** | **38.6** | **38.0** | **38.1** | **39.1** |
| Excluding South Africa | 15.4 | 17.4 | 18.3 | 19.4 | 19.7 | 20.4 | 21.4 | 22.5 |
| **Middle-income countries** | **33.1** | **37.4** | **33.5** | **32.2** | **32.2** | **31.8** | **31.9** | **33.0** |
| Excluding Nigeria and South Africa | 16.0 | 20.5 | 20.6 | 21.8 | 22.6 | 24.0 | 25.0 | 27.4 |
| **Low-income countries** | **10.5** | **12.3** | **13.4** | **13.5** | **14.1** | **14.3** | **15.1** | **16.0** |
| Excluding low-income countries in fragile situations | 12.2 | 13.9 | 14.8 | 15.4 | 15.5 | 15.9 | 16.6 | 17.6 |
| **Countries in fragile situations** | **8.9** | **10.5** | **11.6** | **11.4** | **12.6** | **13.0** | **14.1** | **15.7** |
| CFA franc zone | 11.3 | 13.0 | 13.4 | 14.7 | 15.1 | 16.9 | 18.4 | 20.3 |
| CEMAC | 6.2 | 7.8 | 7.9 | 9.2 | 9.6 | 11.2 | 12.3 | 14.3 |
| WAEMU | 15.9 | 17.8 | 18.4 | 19.9 | 20.3 | 22.2 | 23.8 | 25.4 |
| COMESA (SSA members) | 15.5 | 16.6 | 18.1 | 19.3 | 19.4 | 19.9 | 20.2 | 21.0 |
| EAC-5 | 15.3 | 17.2 | 18.8 | 20.5 | 20.2 | 21.0 | 22.4 | 23.5 |
| ECOWAS | 12.7 | 19.9 | 16.2 | 15.2 | 14.6 | 14.8 | 15.9 | 16.1 |
| SACU | 67.8 | 71.1 | 66.9 | 64.5 | 65.5 | 64.1 | 63.9 | 65.8 |
| SADC | 48.1 | 50.8 | 48.1 | 46.7 | 47.6 | 46.6 | 46.1 | 47.8 |

See sources and footnotes on page 90.

**Table SA17. Exports of Goods and Services**
*(Percent of GDP)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 77.3 | 54.9 | 62.4 | 65.4 | 62.3 | 55.7 | 48.0 | 33.9 | 32.2 | 33.6 |
| Benin | 13.7 | 14.3 | 17.9 | 16.0 | 13.3 | 15.0 | 15.6 | 17.1 | 17.1 | 18.3 |
| Botswana | 50.9 | 40.5 | 40.6 | 50.0 | 47.0 | 61.9 | 62.1 | 52.4 | 59.0 | 68.2 |
| Burkina Faso | 10.6 | 12.6 | 21.0 | 26.2 | 23.5 | 25.9 | 25.7 | 25.3 | 26.1 | 26.8 |
| Burundi | 7.8 | 6.7 | 8.9 | 10.1 | 9.4 | 8.8 | 7.2 | 6.8 | 8.6 | 9.4 |
| Cabo Verde | 35.8 | 33.2 | 38.3 | 42.2 | 45.0 | 47.0 | 47.5 | 42.0 | 42.7 | 43.4 |
| Cameroon | 27.8 | 22.0 | 24.4 | 28.1 | 27.9 | 27.1 | 26.8 | 23.6 | 21.8 | 21.6 |
| Central African Rep. | 13.2 | 10.7 | 11.8 | 13.5 | 12.5 | 14.4 | 13.0 | 12.6 | 13.1 | 13.2 |
| Chad | 45.7 | 35.4 | 37.9 | 40.7 | 38.3 | 33.5 | 31.5 | 26.6 | 22.9 | 25.0 |
| Comoros | 14.8 | 14.5 | 15.7 | 16.6 | 15.0 | 15.6 | 16.5 | 18.3 | 18.4 | 18.5 |
| Congo, Dem. Rep. of | 29.5 | 27.4 | 43.0 | 41.6 | 32.8 | 44.8 | 42.8 | 27.3 | 27.8 | 34.4 |
| Congo, Rep. of | 79.1 | 67.4 | 76.7 | 81.5 | 75.2 | 77.5 | 75.1 | 66.9 | 66.2 | 70.8 |
| Côte d'Ivoire | 48.5 | 50.7 | 50.5 | 53.1 | 48.9 | 41.5 | 40.8 | 40.7 | 40.4 | 41.8 |
| Equatorial Guinea | 82.2 | 73.4 | 86.1 | 82.1 | 90.1 | 73.8 | 70.4 | 64.8 | 57.4 | 58.8 |
| Eritrea | 5.8 | 4.5 | 4.8 | 14.4 | 19.1 | 17.0 | 18.0 | 13.2 | 15.8 | 17.6 |
| Ethiopia[1] | 14.6 | 10.6 | 15.5 | 18.2 | 13.9 | 12.4 | 11.6 | 9.8 | 8.6 | 8.9 |
| Gabon | 59.1 | 52.0 | 59.2 | 61.3 | 64.5 | 60.4 | 53.7 | 43.1 | 35.8 | 36.0 |
| Gambia, The | 30.6 | 25.4 | 23.8 | 26.5 | 30.9 | 29.4 | 29.6 | 24.7 | 31.4 | 35.4 |
| Ghana | 23.8 | 29.7 | 29.3 | 36.9 | 40.1 | 33.9 | 39.5 | 43.8 | 39.8 | 41.5 |
| Guinea | 32.6 | 27.8 | 32.3 | 34.2 | 36.8 | 31.0 | 28.8 | 24.4 | 30.7 | 34.3 |
| Guinea-Bissau | 16.0 | 18.9 | 20.1 | 25.6 | 15.4 | 18.6 | 18.8 | 28.0 | 28.7 | 27.9 |
| Kenya | 23.5 | 19.9 | 22.5 | 23.6 | 21.9 | 19.6 | 18.1 | 16.5 | 16.2 | 16.3 |
| Lesotho | 52.1 | 46.8 | 43.8 | 44.5 | 41.9 | 37.1 | 37.7 | 45.7 | 50.3 | 49.3 |
| Liberia | 57.3 | 40.2 | 42.1 | 46.3 | 50.0 | 47.0 | 42.1 | 34.8 | 31.2 | 26.5 |
| Madagascar | 26.9 | 22.4 | 24.1 | 26.8 | 29.0 | 30.0 | 32.8 | 32.1 | 33.0 | 32.2 |
| Malawi | 17.1 | 17.0 | 19.6 | 17.6 | 23.8 | 30.5 | 28.7 | 25.2 | 28.4 | 27.5 |
| Mali | 24.0 | 22.9 | 22.9 | 21.6 | 26.9 | 24.9 | 22.5 | 21.4 | 20.9 | 20.6 |
| Mauritius | 55.6 | 47.0 | 50.9 | 51.8 | 52.9 | 47.3 | 49.8 | 48.0 | 49.1 | 49.2 |
| Mozambique | 29.0 | 24.5 | 24.7 | 26.5 | 30.6 | 29.8 | 27.5 | 27.9 | 33.7 | 43.5 |
| Namibia | 38.5 | 42.6 | 41.7 | 41.4 | 42.0 | 43.7 | 44.1 | 43.1 | 50.2 | 57.0 |
| Niger | 17.6 | 20.3 | 22.2 | 20.9 | 21.9 | 22.6 | 21.0 | 18.8 | 17.0 | 17.0 |
| Nigeria | 28.4 | 19.6 | 21.9 | 24.1 | 21.3 | 18.9 | 14.9 | 9.9 | 9.3 | 11.3 |
| Rwanda | 11.4 | 11.2 | 10.9 | 14.2 | 14.1 | 15.6 | 16.9 | 17.3 | 16.8 | 18.0 |
| São Tomé & Príncipe | 11.2 | 9.8 | 11.7 | 11.6 | 12.7 | 17.8 | 26.2 | 25.2 | 26.1 | 27.0 |
| Senegal | 26.3 | 24.4 | 24.9 | 26.4 | 27.9 | 28.3 | 28.3 | 29.1 | 26.3 | 27.0 |
| Seychelles | 85.1 | 108.0 | 93.8 | 100.2 | 105.2 | 95.6 | 101.8 | 95.4 | 98.4 | 98.9 |
| Sierra Leone | 15.0 | 15.0 | 16.2 | 18.3 | 32.4 | 35.9 | 30.2 | 17.2 | 20.6 | 25.0 |
| South Africa | 29.6 | 27.9 | 28.6 | 30.5 | 29.7 | 30.8 | 31.2 | 30.7 | 34.7 | 35.2 |
| South Sudan | ... | ... | ... | 72.5 | 9.3 | 28.0 | 37.4 | 28.1 | 61.7 | 53.4 |
| Swaziland | 59.9 | 49.4 | 45.4 | 44.4 | 44.1 | 45.8 | 47.4 | 49.6 | 46.0 | 48.5 |
| Tanzania | 18.2 | 18.9 | 20.6 | 22.4 | 20.9 | 19.4 | 18.8 | 20.7 | 21.3 | 21.8 |
| Togo | 37.3 | 37.8 | 40.9 | 44.9 | 44.7 | 46.2 | 39.4 | 38.1 | 37.0 | 36.6 |
| Uganda | 16.3 | 18.1 | 17.2 | 20.4 | 20.0 | 20.8 | 17.2 | 20.4 | 18.8 | 19.1 |
| Zambia | 35.1 | 32.0 | 39.7 | 40.1 | 41.2 | 41.4 | 40.8 | 37.5 | 35.8 | 37.4 |
| Zimbabwe[2] | 27.3 | 22.3 | 37.0 | 44.2 | 34.1 | 30.5 | 28.1 | 27.2 | 26.4 | 25.6 |
| **Sub-Saharan Africa** | **32.7** | **28.0** | **30.5** | **33.6** | **31.3** | **29.8** | **27.3** | **23.2** | **23.8** | **25.4** |
| *Median* | 28.1 | 24.5 | 24.8 | 28.1 | 30.6 | 30.5 | 29.6 | 27.3 | 28.7 | 27.9 |
| Excluding Nigeria and South Africa | 38.3 | 33.2 | 37.8 | 42.0 | 39.0 | 37.0 | 34.7 | 29.2 | 28.0 | 29.4 |
| **Oil-exporting countries** | **39.5** | **29.9** | **32.9** | **37.1** | **33.1** | **29.4** | **24.6** | **17.2** | **16.5** | **18.7** |
| Excluding Nigeria | 63.6 | 50.8 | 58.3 | 62.3 | 57.9 | 52.4 | 47.6 | 36.2 | 34.0 | 35.1 |
| **Oil-importing countries** | **28.8** | **26.7** | **28.8** | **31.0** | **29.9** | **30.2** | **29.7** | **28.2** | **29.1** | **30.0** |
| Excluding South Africa | 28.1 | 25.6 | 29.0 | 31.5 | 30.0 | 29.7 | 28.8 | 26.6 | 26.1 | 27.4 |
| **Middle-income countries** | **34.9** | **30.0** | **31.9** | **34.6** | **33.0** | **30.9** | **28.0** | **23.7** | **24.6** | **26.3** |
| Excluding Nigeria and South Africa | 49.8 | 43.4 | 47.6 | 51.3 | 50.3 | 45.7 | 43.1 | 36.2 | 34.3 | 35.6 |
| **Low-income countries** | **22.4** | **19.8** | **23.9** | **29.0** | **23.8** | **25.3** | **24.2** | **21.3** | **21.1** | **22.4** |
| Excluding low-income countries in fragile situations | 18.3 | 16.9 | 19.2 | 21.5 | 20.1 | 19.7 | 18.4 | 18.3 | 17.6 | 18.4 |
| **Countries in fragile situations** | **37.0** | **33.8** | **39.4** | **44.7** | **36.5** | **38.2** | **37.2** | **30.6** | **31.6** | **34.0** |
| CFA franc zone | 41.8 | 38.1 | 43.0 | 45.4 | 45.5 | 41.3 | 39.0 | 34.4 | 31.8 | 32.7 |
| CEMAC | 52.6 | 45.4 | 52.9 | 56.0 | 57.2 | 51.4 | 47.8 | 39.6 | 34.7 | 35.6 |
| WAEMU | 30.4 | 30.9 | 32.5 | 33.3 | 32.5 | 30.9 | 30.0 | 30.0 | 29.5 | 30.3 |
| COMESA (SSA members) | 26.3 | 22.0 | 27.4 | 29.4 | 26.6 | 27.3 | 25.7 | 21.9 | 21.0 | 21.9 |
| EAC-5 | 19.5 | 18.5 | 19.8 | 21.7 | 20.5 | 19.3 | 17.9 | 18.3 | 18.1 | 18.4 |
| ECOWAS | 28.4 | 22.5 | 24.2 | 26.6 | 24.6 | 22.1 | 18.7 | 15.2 | 15.6 | 17.7 |
| SACU | 31.0 | 29.1 | 29.7 | 31.7 | 30.9 | 32.6 | 33.1 | 32.3 | 36.3 | 37.3 |
| SADC | 35.4 | 32.4 | 34.7 | 37.2 | 36.4 | 37.0 | 35.8 | 31.7 | 33.8 | 35.2 |

See sources and footnotes on page 90.

**Table SA18. Imports of Goods and Services**
*(Percent of GDP)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 48.3 | 55.4 | 42.9 | 42.2 | 39.7 | 39.4 | 42.2 | 36.1 | 31.9 | 33.0 |
| Benin | 24.9 | 27.0 | 29.2 | 26.1 | 25.3 | 28.4 | 31.0 | 33.6 | 33.0 | 36.1 |
| Botswana | 40.3 | 52.7 | 47.7 | 53.7 | 60.2 | 61.4 | 55.2 | 54.4 | 62.5 | 70.8 |
| Burkina Faso | 25.4 | 23.2 | 28.5 | 33.0 | 34.7 | 39.0 | 34.7 | 33.7 | 33.2 | 34.1 |
| Burundi | 34.3 | 28.2 | 43.4 | 43.5 | 46.7 | 41.5 | 37.3 | 33.6 | 20.4 | 28.7 |
| Cabo Verde | 64.5 | 63.4 | 66.8 | 73.8 | 68.1 | 62.8 | 65.6 | 58.8 | 62.5 | 63.9 |
| Cameroon | 28.4 | 26.9 | 27.5 | 30.9 | 30.8 | 29.9 | 30.2 | 27.3 | 24.6 | 24.7 |
| Central African Rep. | 22.1 | 23.2 | 26.5 | 24.4 | 23.9 | 25.0 | 37.6 | 34.6 | 32.3 | 31.3 |
| Chad | 44.4 | 47.9 | 49.1 | 48.0 | 49.0 | 43.2 | 44.1 | 43.1 | 39.5 | 37.9 |
| Comoros | 39.5 | 47.9 | 49.9 | 50.3 | 54.3 | 52.0 | 49.9 | 44.7 | 47.1 | 47.5 |
| Congo, Dem. Rep. of | 34.9 | 36.9 | 51.9 | 48.0 | 39.9 | 38.0 | 44.0 | 32.8 | 29.2 | 30.5 |
| Congo, Rep. of | 52.6 | 69.2 | 58.6 | 55.5 | 50.9 | 58.9 | 64.2 | 78.2 | 64.7 | 60.7 |
| Côte d'Ivoire | 41.2 | 39.8 | 43.2 | 36.8 | 44.7 | 39.3 | 35.8 | 39.6 | 39.4 | 41.1 |
| Equatorial Guinea | 33.2 | 47.3 | 61.2 | 39.3 | 48.4 | 39.2 | 40.7 | 49.9 | 39.7 | 35.2 |
| Eritrea | 41.6 | 23.4 | 23.3 | 23.2 | 22.8 | 22.1 | 21.8 | 19.5 | 18.9 | 20.0 |
| Ethiopia[1] | 36.3 | 27.9 | 33.1 | 36.5 | 32.8 | 28.8 | 29.2 | 31.7 | 29.9 | 28.3 |
| Gabon | 27.5 | 34.6 | 29.5 | 30.6 | 37.0 | 37.5 | 38.8 | 37.8 | 32.3 | 31.9 |
| Gambia, The | 45.5 | 41.9 | 42.7 | 41.1 | 44.3 | 41.1 | 49.1 | 50.6 | 53.2 | 59.6 |
| Ghana | 40.1 | 42.9 | 43.5 | 49.3 | 52.5 | 47.1 | 49.8 | 55.1 | 49.4 | 49.7 |
| Guinea | 36.0 | 30.8 | 36.7 | 58.0 | 57.9 | 42.6 | 42.7 | 38.8 | 41.3 | 41.8 |
| Guinea-Bissau | 27.8 | 35.3 | 35.3 | 34.3 | 28.5 | 29.3 | 31.2 | 33.6 | 34.8 | 35.5 |
| Kenya | 31.9 | 30.5 | 33.8 | 39.0 | 35.5 | 33.5 | 33.5 | 28.0 | 27.3 | 26.8 |
| Lesotho | 117.6 | 123.3 | 110.5 | 104.7 | 107.3 | 97.7 | 95.4 | 99.2 | 95.3 | 95.4 |
| Liberia | 191.2 | 135.9 | 134.7 | 132.1 | 119.8 | 108.4 | 129.6 | 127.4 | 110.9 | 82.6 |
| Madagascar | 43.4 | 46.0 | 37.5 | 38.0 | 38.7 | 38.7 | 37.2 | 35.5 | 36.9 | 37.7 |
| Malawi | 35.0 | 31.7 | 34.9 | 28.0 | 38.1 | 42.6 | 39.6 | 35.7 | 46.6 | 38.8 |
| Mali | 33.7 | 34.0 | 37.9 | 29.7 | 31.8 | 39.9 | 38.0 | 36.9 | 37.9 | 36.7 |
| Mauritius | 64.2 | 57.5 | 63.0 | 65.6 | 66.0 | 61.6 | 62.3 | 58.8 | 59.8 | 60.0 |
| Mozambique | 38.6 | 39.7 | 45.2 | 58.0 | 81.7 | 81.2 | 72.6 | 71.2 | 68.0 | 72.5 |
| Namibia | 41.8 | 55.8 | 52.1 | 50.6 | 55.7 | 59.4 | 66.3 | 68.5 | 72.1 | 72.9 |
| Niger | 31.2 | 46.7 | 49.0 | 47.8 | 39.4 | 39.1 | 38.8 | 39.1 | 38.0 | 37.4 |
| Nigeria | 17.7 | 16.6 | 18.4 | 20.8 | 16.8 | 14.3 | 15.1 | 14.6 | 12.7 | 14.2 |
| Rwanda | 26.3 | 29.1 | 29.0 | 34.6 | 34.4 | 32.5 | 33.5 | 34.9 | 37.6 | 33.6 |
| São Tomé & Príncipe | 55.2 | 51.4 | 57.8 | 58.0 | 52.5 | 59.0 | 68.1 | 59.6 | 58.8 | 63.8 |
| Senegal | 45.1 | 41.3 | 40.3 | 44.7 | 48.9 | 49.1 | 47.5 | 45.9 | 43.9 | 44.3 |
| Seychelles | 94.7 | 117.0 | 108.1 | 116.6 | 122.5 | 102.5 | 117.4 | 104.5 | 108.9 | 108.9 |
| Sierra Leone | 24.4 | 30.5 | 43.9 | 84.4 | 65.7 | 46.2 | 57.4 | 41.4 | 43.7 | 45.2 |
| South Africa | 30.6 | 27.5 | 27.4 | 29.7 | 31.2 | 33.2 | 32.9 | 31.7 | 35.1 | 35.3 |
| South Sudan | ... | ... | ... | 30.4 | 34.1 | 27.2 | 30.9 | 39.4 | 74.7 | 69.8 |
| Swaziland | 69.2 | 62.9 | 57.8 | 56.7 | 54.4 | 52.4 | 52.9 | 50.8 | 55.0 | 54.4 |
| Tanzania | 26.8 | 28.4 | 29.5 | 34.2 | 33.0 | 30.2 | 28.3 | 28.8 | 29.2 | 29.7 |
| Togo | 54.7 | 53.4 | 57.6 | 66.4 | 58.6 | 65.8 | 57.3 | 53.0 | 52.0 | 52.0 |
| Uganda | 27.0 | 28.1 | 30.6 | 35.3 | 31.5 | 30.3 | 28.4 | 31.9 | 28.7 | 29.1 |
| Zambia | 30.4 | 26.7 | 27.6 | 32.2 | 36.3 | 39.3 | 37.7 | 40.5 | 38.9 | 37.4 |
| Zimbabwe[2] | 36.5 | 76.1 | 63.4 | 79.5 | 62.8 | 59.3 | 53.2 | 48.6 | 44.6 | 42.5 |
| **Sub-Saharan Africa** | **30.4** | **30.6** | **30.5** | **32.6** | **31.9** | **30.6** | **30.6** | **29.6** | **29.4** | **30.2** |
| *Median* | 36.4 | 39.8 | 43.1 | 42.2 | 44.3 | 39.9 | 40.7 | 39.4 | 39.5 | 37.9 |
| Excluding Nigeria and South Africa | 38.3 | 41.1 | 41.2 | 42.4 | 42.6 | 40.7 | 40.9 | 39.4 | 37.1 | 37.0 |
| **Oil-exporting countries** | **24.8** | **27.1** | **25.8** | **27.3** | **24.3** | **22.0** | **22.8** | **21.2** | **18.9** | **20.4** |
| Excluding Nigeria | 40.1 | 48.6 | 42.9 | 39.8 | 40.3 | 38.6 | 40.9 | 38.5 | 33.9 | 34.1 |
| **Oil-importing countries** | **33.9** | **33.0** | **33.9** | **36.7** | **37.9** | **38.1** | **37.7** | **36.6** | **37.0** | **37.0** |
| Excluding South Africa | 37.6 | 37.9 | 40.5 | 43.8 | 43.8 | 41.8 | 40.9 | 39.7 | 38.1 | 38.0 |
| **Middle-income countries** | **29.4** | **29.4** | **28.8** | **30.7** | **29.8** | **28.6** | **28.6** | **27.6** | **27.5** | **28.6** |
| Excluding Nigeria and South Africa | 40.8 | 45.3 | 42.8 | 43.0 | 43.9 | 42.1 | 43.0 | 41.4 | 38.5 | 38.8 |
| **Low-income countries** | **34.9** | **35.5** | **38.9** | **41.6** | **41.0** | **38.9** | **38.4** | **37.0** | **35.4** | **35.0** |
| Excluding low-income countries in fragile situations | 32.0 | 30.9 | 33.6 | 38.1 | 38.5 | 36.8 | 34.9 | 35.7 | 33.9 | 33.5 |
| **Countries in fragile situations** | **40.8** | **44.7** | **47.4** | **45.3** | **45.2** | **42.8** | **43.6** | **41.2** | **39.7** | **39.6** |
| CFA franc zone | 35.7 | 39.0 | 41.2 | 38.1 | 40.8 | 40.0 | 39.5 | 40.3 | 37.2 | 37.2 |
| CEMAC | 34.1 | 40.8 | 42.4 | 38.5 | 41.3 | 39.1 | 40.6 | 41.3 | 35.0 | 33.8 |
| WAEMU | 37.3 | 37.1 | 39.8 | 37.7 | 40.3 | 40.9 | 38.5 | 39.4 | 39.0 | 39.8 |
| COMESA (SSA members) | 36.7 | 35.7 | 38.9 | 42.3 | 39.1 | 37.3 | 37.2 | 34.6 | 32.9 | 32.1 |
| EAC-5 | 29.1 | 29.3 | 31.7 | 36.5 | 34.1 | 31.9 | 30.9 | 29.4 | 28.6 | 28.5 |
| ECOWAS | 23.9 | 22.8 | 24.1 | 26.6 | 23.8 | 21.3 | 21.3 | 21.4 | 21.1 | 22.7 |
| SACU | 32.1 | 30.0 | 29.5 | 31.8 | 33.6 | 35.6 | 35.5 | 34.5 | 37.9 | 38.4 |
| SADC | 34.5 | 35.8 | 33.7 | 36.0 | 37.3 | 38.4 | 38.8 | 36.3 | 37.1 | 37.5 |

See sources and footnotes on page 90.

**Table SA19. Trade Balance on Goods**
*(Percent of GDP)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 50.4 | 24.1 | 41.1 | 45.2 | 41.1 | 33.5 | 24.1 | 12.8 | 13.6 | 14.7 |
| Benin | –10.7 | –9.9 | –10.2 | –9.9 | –11.1 | –10.1 | –10.9 | –11.5 | –11.2 | –12.2 |
| Botswana | 9.5 | –12.7 | –7.3 | –4.6 | –14.9 | –1.9 | 3.3 | –6.2 | –9.7 | –9.1 |
| Burkina Faso | –9.5 | –5.8 | –1.5 | 0.0 | –4.1 | –5.5 | –2.1 | –1.8 | –0.9 | –1.2 |
| Burundi | –16.4 | –14.5 | –30.2 | –29.0 | –32.2 | –29.1 | –24.4 | –20.3 | –7.7 | –16.0 |
| Cabo Verde | –39.0 | –39.6 | –40.9 | –45.1 | –36.6 | –33.6 | –32.1 | –29.9 | –32.2 | –32.6 |
| Cameroon | 1.9 | –1.8 | –0.9 | –2.5 | –1.0 | –0.7 | –1.4 | –1.3 | –1.5 | –1.8 |
| Central African Rep. | –4.0 | –7.8 | –8.8 | –5.7 | –6.2 | –7.3 | –18.5 | –16.4 | –14.0 | –13.2 |
| Chad | 24.5 | 4.8 | 8.0 | 10.9 | 7.7 | 6.6 | 2.8 | 0.5 | –0.0 | 2.9 |
| Comoros | –22.9 | –28.2 | –28.8 | –28.6 | –33.3 | –31.8 | –29.2 | –26.1 | –27.3 | –27.5 |
| Congo, Dem. Rep. of | 0.2 | –3.2 | 2.1 | 2.3 | 0.2 | 6.6 | –1.3 | –0.7 | –1.2 | 2.0 |
| Congo, Rep. of | 49.1 | 25.7 | 42.3 | 48.0 | 43.0 | 35.1 | 27.3 | 6.3 | 14.7 | 19.3 |
| Côte d'Ivoire | 15.0 | 17.5 | 14.5 | 23.2 | 11.4 | 9.6 | 11.4 | 11.8 | 12.8 | 12.6 |
| Equatorial Guinea | 59.9 | 42.0 | 41.2 | 54.9 | 56.4 | 46.6 | 43.3 | 33.3 | 31.9 | 34.1 |
| Eritrea | –33.9 | –19.9 | –19.6 | –10.3 | –4.6 | –5.7 | –4.2 | –6.4 | –3.1 | –2.2 |
| Ethiopia[1] | –20.6 | –15.8 | –16.3 | –16.6 | –16.9 | –17.6 | –18.9 | –21.9 | –20.6 | –18.8 |
| Gabon | 41.7 | 29.8 | 38.7 | 40.2 | 39.8 | 34.2 | 27.9 | 18.4 | 14.5 | 14.9 |
| Gambia, The | –21.3 | –22.4 | –22.8 | –21.2 | –22.0 | –19.1 | –25.7 | –29.5 | –27.1 | –31.3 |
| Ghana | –14.9 | –8.6 | –9.2 | –7.7 | –10.0 | –8.0 | –3.6 | –8.2 | –7.3 | –5.8 |
| Guinea | 3.2 | 2.6 | 2.6 | –12.4 | –4.6 | –0.6 | –6.4 | –8.3 | –3.4 | –0.7 |
| Guinea-Bissau | –6.0 | –9.8 | –8.3 | –3.7 | –8.0 | –6.0 | –7.8 | 0.9 | 0.7 | –0.7 |
| Kenya | –12.1 | –13.4 | –15.6 | –20.0 | –18.5 | –18.5 | –18.6 | –14.3 | –14.2 | –13.6 |
| Lesotho | –43.1 | –54.8 | –48.4 | –43.0 | –49.3 | –46.2 | –44.1 | –41.0 | –32.9 | –33.9 |
| Liberia | –33.1 | –30.8 | –30.1 | –33.3 | –26.9 | –23.5 | –37.0 | –46.9 | –39.8 | –32.1 |
| Madagascar | –13.4 | –19.5 | –12.3 | –10.1 | –11.2 | –8.0 | –5.1 | –3.4 | –4.1 | –5.7 |
| Malawi | –12.8 | –10.3 | –10.7 | –7.9 | –11.0 | –8.1 | –7.7 | –7.1 | –13.5 | –7.4 |
| Mali | –4.4 | –6.0 | –8.6 | –2.6 | 0.9 | –1.9 | –3.5 | –3.0 | –3.9 | –3.5 |
| Mauritius | –15.2 | –17.5 | –19.5 | –20.9 | –21.5 | –19.0 | –18.0 | –16.0 | –16.3 | –16.3 |
| Mozambique | –5.5 | –11.3 | –11.3 | –17.1 | –26.7 | –31.1 | –27.7 | –28.1 | –24.7 | –19.7 |
| Namibia | –4.0 | –14.0 | –9.9 | –8.8 | –16.4 | –15.6 | –21.4 | –25.0 | –21.9 | –15.6 |
| Niger | –6.9 | –14.7 | –14.2 | –14.4 | –6.6 | –5.6 | –8.6 | –11.0 | –12.0 | –11.5 |
| Nigeria | 15.3 | 8.5 | 8.5 | 8.4 | 9.2 | 8.5 | 3.7 | –1.3 | –1.4 | –0.5 |
| Rwanda | –10.4 | –14.4 | –13.8 | –17.4 | –19.1 | –15.3 | –15.9 | –15.2 | –19.0 | –15.3 |
| São Tomé & Príncipe | –35.4 | –37.3 | –40.9 | –41.3 | –37.2 | –38.3 | –37.8 | –34.1 | –30.9 | –34.9 |
| Senegal | –18.4 | –15.9 | –14.9 | –17.5 | –20.2 | –20.0 | –18.3 | –16.0 | –16.8 | –16.5 |
| Seychelles | –29.5 | –37.6 | –39.3 | –43.0 | –38.5 | –30.0 | –40.2 | –34.8 | –37.1 | –37.1 |
| Sierra Leone | –7.5 | –14.3 | –20.2 | –56.9 | –24.1 | –0.6 | –6.8 | –16.5 | –16.4 | –12.4 |
| South Africa | –0.6 | 1.1 | 2.2 | 1.6 | –1.1 | –2.0 | –1.7 | –0.9 | –0.1 | –0.1 |
| South Sudan | ... | ... | ... | 49.2 | –19.6 | 4.5 | 13.1 | –2.6 | 9.6 | –0.7 |
| Swaziland | –3.6 | –3.7 | –3.3 | –0.8 | 1.6 | 3.7 | 2.6 | 8.4 | 1.1 | 4.5 |
| Tanzania | –9.8 | –10.0 | –9.5 | –12.2 | –13.0 | –12.2 | –11.2 | –10.4 | –10.1 | –10.2 |
| Togo | –14.2 | –13.0 | –14.3 | –22.4 | –14.2 | –20.0 | –19.3 | –16.2 | –16.4 | –16.7 |
| Uganda | –8.9 | –8.1 | –10.9 | –11.7 | –10.0 | –8.4 | –8.6 | –9.3 | –7.5 | –8.1 |
| Zambia | 4.7 | 6.3 | 13.7 | 9.8 | 6.3 | 5.9 | 6.0 | –0.3 | –1.3 | 0.9 |
| Zimbabwe[2] | –7.3 | –46.9 | –20.0 | –27.3 | –21.8 | –22.0 | –18.3 | –17.6 | –14.8 | –14.1 |
| **Sub-Saharan Africa** | **6.1** | **2.4** | **4.7** | **5.8** | **3.8** | **3.2** | **0.8** | **–2.9** | **–2.9** | **–2.1** |
| *Median* | –8.2 | –10.8 | –10.5 | –10.1 | –11.1 | –8.0 | –7.8 | –9.3 | –9.7 | –9.1 |
| Excluding Nigeria and South Africa | 5.8 | –0.6 | 3.8 | 6.9 | 3.0 | 2.2 | –0.2 | –4.9 | –4.9 | –3.7 |
| **Oil-exporting countries** | **22.7** | **12.7** | **15.8** | **18.6** | **16.7** | **14.4** | **8.8** | **2.0** | **2.3** | **3.5** |
| Excluding Nigeria | 39.0 | 21.1 | 32.6 | 38.4 | 32.6 | 27.3 | 21.0 | 10.8 | 11.4 | 12.2 |
| **Oil-importing countries** | **–4.0** | **–4.7** | **–3.2** | **–3.8** | **–6.5** | **–6.4** | **–6.6** | **–6.9** | **–6.6** | **–6.0** |
| Excluding South Africa | –7.6 | –9.8 | –8.6 | –9.3 | –11.1 | –9.7 | –9.8 | –10.7 | –10.1 | –9.0 |
| **Middle-income countries** | **9.2** | **5.8** | **7.7** | **8.7** | **7.4** | **6.4** | **3.7** | **–0.4** | **–0.2** | **0.6** |
| Excluding Nigeria and South Africa | 16.0 | 7.9 | 13.5 | 17.2 | 14.0 | 11.1 | 8.1 | 1.3 | 0.9 | 2.1 |
| **Low-income countries** | **–8.4** | **–11.7** | **–9.9** | **–7.2** | **–11.9** | **–9.7** | **–10.4** | **–11.8** | **–11.3** | **–10.2** |
| Excluding low-income countries in fragile situations | –12.2 | –12.1 | –11.9 | –13.4 | –14.7 | –14.6 | –14.4 | –15.5 | –14.7 | –13.7 |
| **Countries in fragile situations** | **5.4** | **–2.0** | **2.1** | **8.4** | **–0.1** | **2.3** | **0.6** | **–2.4** | **–1.0** | **0.5** |
| CFA franc zone | 14.0 | 7.9 | 10.7 | 15.2 | 13.3 | 9.6 | 7.6 | 3.4 | 2.9 | 3.3 |
| CEMAC | 29.3 | 17.2 | 22.6 | 27.9 | 27.5 | 22.2 | 17.5 | 9.2 | 8.2 | 9.2 |
| WAEMU | –2.0 | –1.2 | –1.9 | 0.7 | –2.5 | –3.4 | –2.4 | –1.7 | –1.4 | –1.4 |
| COMESA (SSA members) | –9.8 | –12.5 | –10.0 | –11.4 | –11.8 | –10.4 | –11.7 | –12.0 | –12.0 | –10.8 |
| EAC-5 | –10.7 | –11.4 | –12.9 | –15.9 | –15.3 | –14.5 | –14.3 | –12.4 | –11.9 | –11.8 |
| ECOWAS | 9.2 | 5.1 | 5.2 | 5.2 | 5.6 | 5.3 | 2.1 | –2.2 | –2.3 | –1.4 |
| SACU | –0.6 | –0.1 | 1.2 | 0.9 | –2.3 | –2.7 | –2.3 | –2.0 | –1.3 | –1.1 |
| SADC | 3.8 | 1.2 | 5.2 | 5.8 | 3.3 | 2.6 | 0.9 | –1.4 | –1.0 | –0.1 |

See sources and footnotes on page 90.

**Table SA20. External Current Account**[1]
*(Percent of GDP)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 14.7 | –10.0 | 9.1 | 12.6 | 12.0 | 6.7 | –2.9 | –8.5 | –5.4 | –5.4 |
| Benin | –6.7 | –8.3 | –8.2 | –7.3 | –7.4 | –8.0 | –8.7 | –10.5 | –10.0 | –11.8 |
| Botswana | 10.7 | –6.3 | –2.6 | 3.1 | –1.1 | 9.3 | 15.6 | 7.2 | 4.1 | 3.7 |
| Burkina Faso | –10.4 | –4.7 | –2.2 | –1.5 | –7.2 | –11.0 | –8.0 | –6.4 | –6.0 | –5.0 |
| Burundi | –7.8 | 1.7 | –12.2 | –14.4 | –18.6 | –19.3 | –18.5 | –15.9 | –4.6 | –9.6 |
| Cabo Verde | –9.5 | –14.6 | –12.4 | –16.3 | –12.6 | –4.9 | –9.0 | –4.3 | –7.7 | –9.2 |
| Cameroon | –1.0 | –3.5 | –2.8 | –3.0 | –3.6 | –3.9 | –4.3 | –4.2 | –4.2 | –4.0 |
| Central African Rep. | –5.5 | –9.1 | –10.2 | –7.6 | –4.6 | –3.0 | –5.6 | –9.0 | –10.0 | –9.7 |
| Chad | 0.5 | –9.2 | –9.0 | –5.6 | –8.7 | –9.2 | –9.0 | –12.4 | –8.7 | –7.8 |
| Comoros | –6.3 | –6.2 | –0.2 | –4.9 | –7.2 | –8.1 | –6.3 | 0.8 | –9.0 | –9.7 |
| Congo, Dem. Rep. of | –0.2 | –6.1 | –10.5 | –5.2 | –4.6 | 1.8 | 4.0 | –3.7 | –0.8 | 5.2 |
| Congo, Rep. of | –2.9 | –14.1 | 7.5 | 4.9 | 17.7 | 1.6 | –3.3 | –21.0 | –8.2 | –2.1 |
| Côte d'Ivoire | 1.1 | 6.6 | 1.9 | 10.4 | –1.2 | –2.0 | 1.5 | –1.8 | –1.8 | –2.1 |
| Equatorial Guinea | 19.4 | –8.4 | –19.4 | 6.7 | 4.1 | 0.1 | –5.6 | –16.8 | –11.8 | –6.7 |
| Eritrea | –3.1 | –7.6 | –5.6 | 0.6 | 2.3 | –0.1 | 0.6 | –2.2 | 0.2 | 0.9 |
| Ethiopia[2] | –8.4 | –6.7 | –1.4 | –2.5 | –6.9 | –5.9 | –7.9 | –12.0 | –10.7 | –9.3 |
| Gabon | 17.3 | 4.4 | 14.9 | 15.2 | 15.9 | 11.6 | 8.1 | –2.3 | –5.3 | –4.7 |
| Gambia, The | –8.5 | –12.5 | –16.3 | –12.3 | –7.9 | –10.2 | –10.9 | –15.2 | –12.7 | –13.7 |
| Ghana | –8.1 | –5.5 | –8.6 | –9.0 | –11.7 | –11.9 | –9.6 | –7.5 | –6.3 | –6.0 |
| Guinea | –5.9 | –8.2 | –9.3 | –24.7 | –26.0 | –16.9 | –17.3 | –18.7 | –13.2 | –11.3 |
| Guinea-Bissau | –1.2 | –5.4 | –8.7 | –4.2 | –11.8 | –7.4 | –3.3 | –1.1 | –1.7 | –2.8 |
| Kenya | –2.5 | –4.6 | –5.9 | –9.1 | –8.4 | –8.8 | –10.3 | –6.8 | –6.4 | –6.1 |
| Lesotho | 17.3 | 3.9 | –10.0 | –14.7 | –9.8 | –10.3 | –7.9 | –8.7 | –8.0 | –9.0 |
| Liberia | –14.0 | –23.2 | –32.0 | –27.5 | –21.5 | –28.4 | –32.7 | –34.7 | –30.5 | –26.5 |
| Madagascar | –12.0 | –21.1 | –9.7 | –6.9 | –6.9 | –5.9 | –0.3 | –1.9 | –2.3 | –3.7 |
| Malawi | –12.9 | –10.2 | –8.6 | –8.6 | –9.3 | –8.7 | –8.5 | –8.3 | –15.8 | –9.3 |
| Mali | –7.3 | –10.8 | –10.7 | –5.1 | –2.2 | –2.9 | –4.7 | –5.1 | –6.0 | –5.2 |
| Mauritius | –6.3 | –7.4 | –10.3 | –13.8 | –7.3 | –6.3 | –5.7 | –4.9 | –4.3 | –4.5 |
| Mozambique | –8.9 | –10.9 | –16.1 | –25.3 | –44.7 | –42.9 | –38.2 | –39.0 | –33.5 | –28.3 |
| Namibia | 6.7 | –1.5 | –3.5 | –3.0 | –5.7 | –4.0 | –10.7 | –12.9 | –12.4 | –6.9 |
| Niger | –9.2 | –24.4 | –19.8 | –22.3 | –14.7 | –15.0 | –14.1 | –17.2 | –17.8 | –17.5 |
| Nigeria | 14.0 | 4.7 | 3.9 | 3.0 | 4.4 | 3.9 | 0.2 | –3.1 | –0.7 | –0.4 |
| Rwanda | –3.3 | –7.1 | –7.3 | –7.5 | –11.4 | –7.4 | –10.5 | –13.5 | –16.6 | –11.9 |
| São Tomé & Príncipe | –27.1 | –23.2 | –21.7 | –25.5 | –21.3 | –13.8 | –22.6 | –17.2 | –12.7 | –13.3 |
| Senegal | –9.9 | –6.7 | –4.4 | –8.1 | –10.8 | –10.4 | –8.9 | –7.6 | –8.4 | –8.2 |
| Seychelles | –13.7 | –14.8 | –19.4 | –23.0 | –21.1 | –12.1 | –23.0 | –18.6 | –18.7 | –18.3 |
| Sierra Leone | –6.9 | –13.3 | –22.7 | –65.0 | –31.8 | –17.5 | –18.2 | –15.5 | –16.2 | –16.3 |
| South Africa | –4.3 | –2.7 | –1.5 | –2.2 | –5.1 | –5.9 | –5.3 | –4.3 | –3.3 | –3.2 |
| South Sudan | ... | ... | ... | 18.4 | –15.9 | –1.2 | 2.1 | –11.1 | –0.5 | –8.6 |
| Swaziland | –3.2 | –11.6 | –8.6 | –6.8 | 3.1 | 5.1 | 3.3 | 9.2 | –4.9 | –2.4 |
| Tanzania | –6.5 | –7.6 | –7.7 | –10.8 | –11.6 | –10.6 | –9.5 | –8.8 | –8.8 | –8.8 |
| Togo | –8.8 | –5.6 | –6.3 | –8.0 | –7.5 | –13.1 | –9.9 | –7.1 | –8.0 | –8.2 |
| Uganda | –2.8 | –5.7 | –8.0 | –10.0 | –6.8 | –7.0 | –8.7 | –9.4 | –8.7 | –8.9 |
| Zambia | –1.1 | 6.0 | 7.5 | 4.7 | 5.4 | –0.6 | 2.1 | –3.5 | –4.5 | –2.2 |
| Zimbabwe[3] | –8.5 | –43.6 | –13.3 | –22.2 | –14.6 | –18.2 | –15.2 | –10.7 | –7.5 | –6.1 |
| **Sub-Saharan Africa** | **2.1** | **–2.6** | **–0.7** | **–0.5** | **–1.5** | **–2.1** | **–3.7** | **–5.9** | **–4.5** | **–3.9** |
| *Median* | –6.1 | –7.5 | –8.6 | –7.3 | –7.4 | –7.4 | –8.0 | –8.5 | –8.0 | –7.8 |
| Excluding Nigeria and South Africa | –0.1 | –7.1 | –3.3 | –1.7 | –3.5 | –4.4 | –5.8 | –8.5 | –7.2 | –6.2 |
| **Oil-exporting countries** | **12.8** | **0.6** | **3.8** | **5.1** | **5.4** | **3.8** | **–0.6** | **–4.7** | **–2.2** | **–1.9** |
| Excluding Nigeria | 10.0 | –7.8 | 3.6 | 9.2 | 7.4 | 3.4 | –2.6 | –8.9 | –5.9 | –5.2 |
| **Oil-importing countries** | **–4.3** | **–4.9** | **–3.9** | **–4.7** | **–7.0** | **–7.1** | **–6.5** | **–6.8** | **–6.2** | **–5.4** |
| Excluding South Africa | –4.3 | –6.7 | –6.3 | –7.3 | –8.7 | –8.0 | –7.2 | –8.3 | –7.7 | –6.5 |
| **Middle-income countries** | **4.0** | **–0.9** | **0.9** | **1.2** | **0.7** | **–0.3** | **–2.4** | **–4.5** | **–3.0** | **–2.7** |
| Excluding Nigeria and South Africa | 4.5 | –4.8 | 0.2 | 3.0 | 2.2 | –0.5 | –3.4 | –6.5 | –5.4 | –4.7 |
| **Low-income countries** | **–6.5** | **–10.0** | **–8.4** | **–8.1** | **–11.2** | **–9.5** | **–8.8** | **–10.7** | **–9.3** | **–7.7** |
| Excluding low-income countries in fragile situations | –7.3 | –7.9 | –6.9 | –9.4 | –12.2 | –11.6 | –11.4 | –12.6 | –11.4 | –10.3 |
| **Countries in fragile situations** | **–3.8** | **–9.2** | **–6.4** | **–2.7** | **–6.0** | **–5.1** | **–3.7** | **–7.5** | **–5.1** | **–3.1** |
| CFA franc zone | 0.7 | –4.7 | –3.5 | 0.9 | –0.6 | –3.4 | –4.0 | –7.5 | –6.4 | –5.6 |
| CEMAC | 6.3 | –5.5 | –2.5 | 3.4 | 4.2 | –0.1 | –2.9 | –9.2 | –6.7 | –4.9 |
| WAEMU | –5.3 | –4.0 | –4.6 | –2.0 | –5.9 | –6.9 | –5.0 | –6.0 | –6.2 | –6.2 |
| COMESA (SSA members) | –4.6 | –7.7 | –5.6 | –6.8 | –6.1 | –5.7 | –5.9 | –7.5 | –7.0 | –5.4 |
| EAC-5 | –4.0 | –5.8 | –7.1 | –9.8 | –9.5 | –9.2 | –9.9 | –8.4 | –8.1 | –7.8 |
| ECOWAS | 8.3 | 2.0 | 1.3 | 0.6 | 1.2 | 0.8 | –1.4 | –4.2 | –2.5 | –2.3 |
| SACU | –3.3 | –2.9 | –1.7 | –2.2 | –4.9 | –5.1 | –4.5 | –4.0 | –3.4 | –3.1 |
| SADC | –1.8 | –5.4 | –1.3 | –1.4 | –3.3 | –4.0 | –4.9 | –6.1 | –5.0 | –4.1 |

See sources and footnotes on page 90.

**Table SA21. Net Foreign Direct Investment**
*(Percent of GDP)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | –0.6 | 2.9 | –5.5 | –4.9 | –8.4 | –10.5 | –1.8 | 5.6 | –3.2 | 0.7 |
| Benin | 2.1 | 1.5 | 2.8 | 1.3 | 2.6 | 3.3 | 3.9 | 3.9 | 3.9 | 4.2 |
| Botswana | 4.2 | 1.9 | 1.6 | 9.0 | 5.8 | 5.4 | 2.5 | 2.1 | 2.7 | 2.8 |
| Burkina Faso | 1.6 | 1.1 | 0.4 | 0.4 | 2.3 | 3.5 | 2.3 | 1.9 | 2.1 | 2.1 |
| Burundi | 0.1 | 0.0 | 0.0 | 0.2 | 0.0 | 2.6 | 2.4 | 1.6 | 1.7 | 1.9 |
| Cabo Verde | 9.4 | 7.0 | 6.7 | 5.6 | 3.8 | 3.5 | 6.7 | 5.7 | 5.8 | 5.9 |
| Cameroon | 1.8 | 2.1 | 1.8 | 1.8 | 3.1 | 2.9 | 2.9 | 2.1 | 1.8 | 1.6 |
| Central African Rep. | 3.3 | 2.1 | 3.1 | 1.7 | 3.2 | 0.1 | 0.1 | 0.3 | 1.6 | 1.8 |
| Chad | 3.5 | 2.7 | 2.0 | 1.5 | 3.4 | 2.8 | –3.4 | 4.3 | 4.5 | 3.8 |
| Comoros | 0.6 | 2.6 | 1.5 | 3.8 | 1.7 | 1.4 | 1.3 | 0.9 | 1.3 | 1.3 |
| Congo, Dem. Rep. of | 5.3 | –1.5 | 13.3 | 6.5 | 10.5 | 5.2 | 4.2 | 3.0 | 1.7 | 1.9 |
| Congo, Rep. of | 22.8 | 20.2 | 18.2 | 21.1 | –2.1 | 18.7 | 19.6 | 10.6 | 10.8 | 12.0 |
| Côte d'Ivoire | 1.8 | 1.6 | 1.3 | 1.1 | 1.2 | 1.3 | 2.0 | 2.1 | 2.9 | 3.3 |
| Equatorial Guinea | 7.9 | –6.5 | –4.2 | –2.2 | –4.4 | –3.3 | –1.5 | –1.7 | –0.5 | –2.6 |
| Eritrea | 1.4 | 4.9 | 4.3 | 1.5 | 1.3 | 1.3 | 1.1 | 1.1 | 1.0 | 0.9 |
| Ethiopia[1] | 1.4 | 0.7 | 1.0 | 2.0 | 0.6 | 2.6 | 2.6 | 3.6 | 4.6 | 5.8 |
| Gabon | 4.2 | 5.2 | 3.5 | 4.0 | 3.6 | 4.4 | 5.6 | 4.4 | 5.1 | 5.0 |
| Gambia, The | 9.6 | 8.1 | 9.0 | 6.7 | 11.2 | 9.5 | 9.3 | 8.2 | 10.1 | 9.4 |
| Ghana | 2.9 | 11.3 | 7.9 | 8.1 | 7.9 | 6.7 | 8.7 | 7.9 | 6.7 | 6.5 |
| Guinea | 5.1 | 3.0 | 2.2 | 5.6 | 11.4 | 2.1 | 0.9 | 1.3 | 3.3 | 5.1 |
| Guinea-Bissau | 1.9 | 2.1 | 3.3 | 2.2 | 0.7 | 1.9 | 1.9 | 1.7 | 1.6 | 2.2 |
| Kenya | 0.5 | 0.2 | 0.4 | 0.8 | 0.5 | 0.9 | 1.7 | 1.7 | 2.4 | 2.2 |
| Lesotho | –2.7 | –4.6 | –1.7 | –2.4 | –2.3 | –2.2 | –2.0 | –5.3 | –6.0 | –2.7 |
| Liberia | 5.8 | 13.4 | 22.7 | 22.8 | 19.3 | 22.1 | 13.7 | 12.6 | 11.8 | 11.5 |
| Madagascar | 3.6 | 8.1 | 3.9 | 7.8 | 7.8 | 5.2 | 2.9 | 4.5 | 5.0 | 5.1 |
| Malawi | 1.8 | 0.9 | 2.3 | 0.8 | 1.4 | 1.7 | 0.8 | 1.8 | 3.1 | 3.0 |
| Mali | 1.8 | 7.3 | 3.7 | 4.2 | 3.1 | 2.3 | 1.0 | 0.8 | 0.7 | 0.7 |
| Mauritius | 1.6 | 2.5 | 127.6 | –9.0 | 49.5 | 10.1 | 4.4 | 2.9 | 3.2 | 3.4 |
| Mozambique | 3.8 | 8.0 | 9.8 | 27.1 | 37.1 | 38.6 | 29.1 | 26.1 | 15.8 | 26.1 |
| Namibia | 6.3 | 5.7 | 7.0 | 7.0 | 8.6 | 6.5 | 4.7 | 9.0 | 3.9 | 3.8 |
| Niger | 2.3 | 13.4 | 17.5 | 16.5 | 12.1 | 8.1 | 8.9 | 5.9 | 8.6 | 9.6 |
| Nigeria | 2.1 | 2.4 | 1.4 | 1.9 | 1.2 | 0.8 | 0.5 | 0.3 | 0.5 | 0.7 |
| Rwanda | 1.2 | 2.2 | 0.7 | 1.7 | 2.2 | 3.4 | 3.4 | 3.9 | 3.8 | 4.0 |
| São Tomé & Príncipe | 16.6 | 7.6 | 24.2 | 12.4 | 8.3 | 1.5 | 5.6 | 6.3 | 1.2 | 2.6 |
| Senegal | 1.6 | 2.0 | 2.0 | 2.0 | 1.5 | 1.9 | 2.0 | 2.3 | 2.4 | 2.5 |
| Seychelles | 11.8 | 20.2 | 19.2 | 19.5 | 23.8 | 12.3 | 16.0 | 8.1 | 9.7 | 14.7 |
| Sierra Leone | 3.9 | 4.5 | 9.2 | 32.3 | 19.0 | 7.3 | 7.7 | 6.0 | 12.1 | 12.7 |
| South Africa | 1.1 | 2.1 | 1.0 | 1.1 | 0.4 | 0.4 | –0.5 | –1.1 | –0.4 | –0.3 |
| South Sudan | ... | ... | ... | –0.4 | –0.5 | –3.8 | –0.2 | –2.0 | 2.1 | 6.6 |
| Swaziland | 1.9 | 1.6 | 2.9 | 2.1 | 2.0 | 0.6 | 0.6 | 1.6 | 0.6 | 0.6 |
| Tanzania | 3.5 | 3.7 | 4.0 | 4.5 | 4.4 | 4.5 | 4.4 | 4.4 | 4.4 | 4.2 |
| Togo | 3.1 | 0.4 | 1.5 | –14.3 | –7.6 | 4.7 | –6.6 | –3.5 | –0.5 | –0.1 |
| Uganda | 4.7 | 4.4 | 2.5 | 4.3 | 4.7 | 4.5 | 3.7 | 4.3 | 3.7 | 4.3 |
| Zambia | 5.9 | 2.8 | 3.1 | 4.7 | 9.5 | 6.0 | 11.8 | 7.9 | 5.5 | 5.5 |
| Zimbabwe[2] | 0.7 | 1.3 | 1.3 | 3.4 | 2.8 | 2.8 | 3.3 | 2.8 | 1.9 | 1.3 |
| **Sub-Saharan Africa** | **2.1** | **2.7** | **2.7** | **2.1** | **1.9** | **1.3** | **1.6** | **1.9** | **1.5** | **2.1** |
| *Median* | 2.6 | 2.5 | 2.8 | 2.2 | 3.1 | 2.9 | 2.6 | 2.9 | 2.9 | 3.3 |
| Excluding Nigeria and South Africa | 2.9 | 3.3 | 4.7 | 2.9 | 3.2 | 2.1 | 3.4 | 4.3 | 3.0 | 3.8 |
| **Oil-exporting countries** | **2.5** | **2.6** | **0.6** | **1.1** | **–0.5** | **–0.7** | **0.6** | **1.4** | **0.3** | **1.1** |
| Excluding Nigeria | 3.3 | 3.1 | –1.2 | –0.6 | –4.2 | –4.2 | 0.6 | 4.2 | –0.1 | 2.0 |
| **Oil-importing countries** | **1.9** | **2.8** | **4.1** | **2.9** | **3.8** | **3.2** | **2.6** | **2.2** | **2.4** | **2.8** |
| Excluding South Africa | 2.9 | 3.3 | 7.3 | 4.7 | 6.7 | 5.1 | 4.7 | 4.3 | 3.9 | 4.4 |
| **Middle-income countries** | **1.9** | **2.6** | **2.3** | **1.5** | **1.0** | **0.4** | **1.0** | **1.2** | **0.7** | **1.2** |
| Excluding Nigeria and South Africa | 3.0 | 3.4 | 5.0 | 1.4 | 1.2 | –0.2 | 2.8 | 4.3 | 2.0 | 2.9 |
| **Low-income countries** | **3.0** | **3.1** | **4.3** | **4.9** | **5.9** | **5.3** | **4.1** | **4.3** | **4.1** | **4.7** |
| Excluding low-income countries in fragile situations | 2.8 | 3.3 | 3.5 | 5.6 | 6.2 | 6.7 | 5.7 | 5.5 | 4.9 | 5.8 |
| **Countries in fragile situations** | **4.7** | **4.0** | **6.0** | **5.1** | **4.1** | **4.0** | **3.2** | **2.8** | **3.2** | **3.5** |
| CFA franc zone | 4.2 | 3.3 | 3.3 | 3.3 | 1.4 | 3.3 | 3.0 | 2.6 | 3.1 | 3.1 |
| CEMAC | 6.4 | 3.3 | 3.4 | 4.2 | 0.7 | 3.9 | 3.8 | 3.1 | 3.4 | 3.3 |
| WAEMU | 1.9 | 3.2 | 3.1 | 2.2 | 2.3 | 2.7 | 2.2 | 2.1 | 2.8 | 3.1 |
| COMESA (SSA members) | 2.6 | 1.7 | 9.9 | 2.6 | 6.2 | 3.6 | 3.8 | 3.3 | 3.3 | 3.6 |
| EAC-5 | 2.3 | 2.2 | 2.0 | 2.7 | 2.7 | 2.9 | 3.0 | 3.1 | 3.3 | 3.3 |
| ECOWAS | 2.2 | 3.2 | 2.2 | 2.7 | 2.1 | 1.7 | 1.3 | 1.1 | 1.5 | 1.8 |
| SACU | 1.3 | 2.2 | 1.2 | 1.5 | 0.8 | 0.8 | –0.2 | –0.7 | –0.2 | –0.1 |
| SADC | 1.5 | 2.5 | 3.2 | 1.4 | 2.0 | 0.6 | 1.5 | 2.2 | 0.7 | 1.6 |

See sources and footnotes on page 90.

**Table SA22. Real Effective Exchange Rates**[1]
*(Annual average; index, 2000 = 100)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|
| Angola | 179.2 | 249.4 | 235.1 | 242.6 | 268.4 | 285.6 | 297.7 | 300.1 |
| Benin | 119.4 | 123.2 | 115.2 | 114.4 | 112.4 | 114.1 | 112.8 | 100.3 |
| Botswana | 98.2 | 100.4 | 108.8 | 108.0 | 104.2 | 99.6 | 94.5 | 94.8 |
| Burkina Faso | 111.7 | 120.4 | 110.4 | 112.3 | 111.5 | 113.5 | 118.2 | 111.1 |
| Burundi | 71.3 | 80.4 | 82.5 | 82.0 | 84.3 | 84.4 | 87.9 | 99.2 |
| Cabo Verde | 97.1 | 101.6 | 99.0 | 101.0 | 98.6 | 102.0 | 101.9 | 99.0 |
| Cameroon | 110.1 | 116.0 | 108.6 | 108.8 | 105.0 | 108.1 | 109.6 | 106.8 |
| Central African Rep. | 112.4 | 124.3 | 118.5 | 117.3 | 117.5 | 121.2 | 151.2 | 197.1 |
| Chad | 118.6 | 133.6 | 123.6 | 116.2 | 125.7 | 125.8 | 127.5 | 124.8 |
| Comoros | 119.3 | 121.4 | 115.6 | 115.8 | 110.3 | 114.4 | 113.3 | 94.4 |
| Congo, Dem. Rep. of | ... | ... | ... | ... | ... | ... | ... | ... |
| Congo, Rep. of | 118.4 | 128.7 | 124.8 | 124.0 | 120.8 | 129.7 | 129.2 | 125.6 |
| Côte d'Ivoire | 117.2 | 122.1 | 114.7 | 117.0 | 112.2 | 117.2 | 118.4 | 113.3 |
| Equatorial Guinea | 153.6 | 176.0 | 177.7 | 187.9 | 185.5 | 199.3 | 208.4 | 200.3 |
| Eritrea | 107.2 | 164.9 | 182.4 | 190.4 | 211.2 | 230.1 | 251.1 | 301.8 |
| Ethiopia | 100.1 | 115.1 | 98.4 | 103.4 | 122.7 | 124.2 | 130.0 | 156.9 |
| Gabon | 106.1 | 111.5 | 107.3 | 105.8 | 103.5 | 105.4 | 110.3 | 106.7 |
| Gambia, The | 56.2 | 56.7 | 55.0 | 50.9 | 49.6 | 45.9 | 41.9 | 41.7 |
| Ghana | 108.9 | 99.6 | 106.3 | 101.0 | 94.5 | 95.2 | 73.8 | 74.8 |
| Guinea | 72.8 | 81.9 | 75.9 | 73.3 | 81.6 | 91.6 | 99.4 | 111.8 |
| Guinea-Bissau | 112.5 | 119.3 | 115.7 | 118.1 | 115.3 | 117.6 | 116.1 | 113.2 |
| Kenya | 120.6 | 133.2 | 131.4 | 125.7 | 142.7 | 147.6 | 152.6 | 158.9 |
| Lesotho | 65.9 | 64.1 | 73.1 | 73.5 | 69.2 | 61.9 | 57.8 | 53.9 |
| Liberia | 85.1 | 91.4 | 92.9 | 92.7 | 101.2 | 100.0 | 100.2 | 122.4 |
| Madagascar | 91.1 | 106.6 | 106.3 | 111.9 | 110.6 | 114.6 | 110.8 | 107.9 |
| Malawi | 71.6 | 78.4 | 73.7 | 71.3 | 58.2 | 49.2 | 53.6 | 61.4 |
| Mali | 109.6 | 117.6 | 111.4 | 111.8 | 112.4 | 113.0 | 115.1 | 111.2 |
| Mauritius | 89.1 | 91.7 | 94.6 | 100.5 | 102.0 | 101.9 | 105.0 | 103.8 |
| Mozambique | 84.4 | 84.7 | 71.9 | 86.3 | 92.4 | 91.3 | 90.0 | 82.6 |
| Namibia | 105.0 | 101.9 | 114.4 | 112.5 | 108.1 | 98.7 | 92.9 | 91.3 |
| Niger | 111.3 | 118.1 | 110.1 | 110.1 | 104.2 | 108.1 | 107.7 | 101.3 |
| Nigeria | 126.2 | 131.9 | 143.1 | 143.6 | 159.4 | 170.0 | 181.9 | 180.3 |
| Rwanda | 77.0 | 90.7 | 88.5 | 85.3 | 87.1 | 85.8 | 81.5 | 88.3 |
| São Tomé & Príncipe | 94.2 | 117.5 | 114.2 | 127.6 | 134.0 | 146.6 | 156.9 | 158.0 |
| Senegal | 107.3 | 108.9 | 102.1 | 103.2 | 99.3 | 101.6 | 100.8 | 94.6 |
| Seychelles | 81.8 | 60.3 | 63.0 | 58.3 | 57.7 | 68.0 | 65.8 | 73.3 |
| Sierra Leone | 72.3 | 78.8 | 76.1 | 76.5 | 89.2 | 96.5 | 99.5 | 108.2 |
| South Africa | 100.0 | 94.1 | 108.6 | 106.4 | 100.6 | 90.0 | 84.3 | 83.8 |
| South Sudan | ... | ... | ... | ... | ... | ... | ... | ... |
| Swaziland | 106.7 | 105.3 | 113.6 | 113.7 | 113.7 | 106.9 | 102.7 | 101.6 |
| Tanzania | 69.0 | 72.3 | 68.5 | 63.9 | 74.5 | 80.3 | 82.3 | 78.5 |
| Togo | 112.2 | 118.8 | 111.5 | 112.3 | 107.8 | 110.2 | 111.5 | 103.6 |
| Uganda | 89.6 | 92.9 | 86.6 | 82.9 | 94.4 | 96.0 | 99.0 | 91.4 |
| Zambia | 149.5 | 155.6 | 164.7 | 160.4 | 165.6 | 171.7 | 164.8 | 149.7 |
| Zimbabwe | ... | ... | ... | ... | ... | ... | ... | ... |
| **Sub-Saharan Africa** | **109.5** | **113.8** | **118.8** | **118.2** | **123.3** | **124.3** | **125.2** | **124.9** |
| *Median* | 106.4 | 110.2 | 108.7 | 109.4 | 106.4 | 107.5 | 108.6 | 105.2 |
| Excluding Nigeria and South Africa | 107.5 | 118.1 | 113.6 | 113.3 | 119.0 | 122.2 | 122.1 | 122.6 |
| **Oil-exporting countries** | **129.0** | **140.7** | **147.5** | **148.4** | **162.0** | **172.1** | **182.4** | **180.7** |
| Excluding Nigeria | 137.3 | 167.1 | 159.0 | 161.4 | 168.2 | 176.7 | 182.3 | 180.2 |
| **Oil-importing countries** | **99.7** | **100.2** | **104.3** | **102.9** | **103.7** | **100.5** | **97.3** | **97.6** |
| Excluding South Africa | 99.8 | 105.6 | 102.1 | 101.2 | 106.5 | 108.6 | 107.4 | 108.4 |
| **Middle-income countries** | **114.7** | **117.8** | **126.7** | **126.0** | **130.2** | **130.7** | **131.1** | **130.1** |
| Excluding Nigeria and South Africa | 123.2 | 136.2 | 135.3 | 134.7 | 138.0 | 142.2 | 139.2 | 138.1 |
| **Low-income countries** | **90.7** | **98.6** | **91.3** | **91.2** | **98.7** | **101.1** | **103.4** | **105.4** |
| Excluding low-income countries in fragile situations | 89.2 | 95.5 | 87.0 | 86.9 | 96.5 | 99.2 | 101.4 | 103.0 |
| **Countries in fragile situations** | **101.8** | **112.5** | **107.7** | **108.0** | **107.6** | **110.3** | **112.5** | **113.0** |
| CFA franc zone | 115.2 | 123.0 | 116.5 | 117.1 | 114.9 | 118.6 | 120.6 | 115.6 |
| CEMAC | 117.4 | 127.8 | 122.5 | 122.5 | 121.2 | 125.9 | 129.0 | 125.9 |
| WAEMU | 113.3 | 118.8 | 111.3 | 112.5 | 109.4 | 112.3 | 113.4 | 107.0 |
| COMESA (SSA members) | 104.1 | 114.8 | 110.0 | 109.6 | 120.1 | 121.8 | 124.5 | 131.0 |
| EAC-5 | 91.2 | 98.3 | 94.5 | 89.7 | 102.1 | 106.4 | 109.1 | 107.9 |
| ECOWAS | 119.9 | 124.3 | 131.2 | 131.1 | 140.7 | 148.6 | 153.5 | 151.6 |
| SACU | 99.8 | 94.4 | 108.5 | 106.4 | 100.8 | 90.6 | 85.0 | 84.4 |
| SADC | 101.9 | 103.6 | 111.9 | 110.7 | 110.0 | 104.5 | 101.1 | 99.8 |

See sources and footnotes on page 90.

**Table SA23. Nominal Effective Exchange Rates**[1]
*(Annual average; index, 2000 = 100)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|
| Angola | 8.8 | 9.2 | 7.7 | 7.3 | 7.5 | 7.5 | 7.4 | 6.9 |
| Benin | 116.4 | 118.3 | 111.8 | 113.1 | 107.5 | 111.4 | 114.3 | 104.1 |
| Botswana | 77.8 | 64.4 | 67.3 | 64.2 | 59.2 | 54.8 | 50.8 | 50.0 |
| Burkina Faso | 119.8 | 134.5 | 130.1 | 135.6 | 135.3 | 143.6 | 158.4 | 157.3 |
| Burundi | 57.0 | 52.1 | 52.6 | 50.5 | 46.2 | 44.4 | 45.8 | 50.9 |
| Cabo Verde | 105.1 | 105.8 | 103.3 | 104.4 | 102.3 | 106.2 | 107.9 | 106.2 |
| Cameroon | 110.6 | 115.3 | 110.2 | 111.5 | 108.1 | 112.1 | 113.9 | 109.7 |
| Central African Rep. | 108.4 | 111.3 | 106.7 | 107.5 | 104.3 | 108.0 | 109.9 | 105.2 |
| Chad | 114.3 | 119.6 | 116.1 | 117.5 | 114.7 | 117.0 | 118.6 | 114.4 |
| Comoros | 115.2 | 120.8 | 115.6 | 119.0 | 115.7 | 121.6 | 123.4 | 114.8 |
| Congo, Dem. Rep. of | ... | ... | ... | ... | ... | ... | ... | ... |
| Congo, Rep. of | 117.5 | 121.5 | 115.5 | 116.8 | 113.4 | 117.8 | 119.5 | 112.2 |
| Côte d'Ivoire | 114.8 | 118.8 | 113.0 | 113.7 | 110.6 | 115.3 | 118.3 | 113.7 |
| Equatorial Guinea | 122.9 | 130.1 | 124.3 | 126.7 | 120.4 | 123.6 | 123.4 | 112.1 |
| Eritrea | 48.9 | 49.5 | 50.4 | 49.8 | 51.8 | 52.5 | 53.2 | 59.5 |
| Ethiopia | 78.7 | 58.7 | 48.0 | 39.3 | 39.1 | 37.6 | 37.6 | 42.3 |
| Gabon | 109.1 | 111.2 | 107.4 | 107.7 | 105.0 | 108.2 | 109.6 | 106.2 |
| Gambia, The | 40.7 | 39.7 | 37.7 | 34.6 | 33.2 | 29.8 | 26.2 | 25.0 |
| Ghana | 45.2 | 29.4 | 29.1 | 26.4 | 23.4 | 21.6 | 14.9 | 13.0 |
| Guinea | 39.6 | 28.7 | 23.7 | 19.5 | 19.4 | 19.9 | 20.2 | 21.4 |
| Guinea-Bissau | 117.0 | 120.0 | 115.9 | 116.4 | 113.9 | 116.7 | 118.1 | 114.3 |
| Kenya | 93.3 | 89.0 | 86.9 | 77.3 | 84.0 | 84.7 | 84.4 | 84.3 |
| Lesotho | 99.4 | 82.9 | 93.0 | 91.9 | 83.6 | 72.7 | 65.8 | 60.0 |
| Liberia | 56.4 | 47.5 | 45.9 | 43.6 | 45.8 | 42.9 | 39.6 | 45.3 |
| Madagascar | 58.9 | 55.8 | 52.1 | 51.9 | 49.9 | 49.9 | 46.3 | 42.4 |
| Malawi | 40.3 | 38.5 | 34.9 | 32.9 | 23.6 | 15.8 | 14.4 | 14.1 |
| Mali | 112.9 | 117.9 | 113.5 | 114.9 | 112.7 | 116.8 | 120.2 | 116.8 |
| Mauritius | 74.2 | 68.5 | 70.7 | 73.0 | 73.5 | 72.7 | 74.1 | 73.4 |
| Mozambique | 53.6 | 48.0 | 37.3 | 41.9 | 45.1 | 44.3 | 44.5 | 40.8 |
| Namibia | 86.3 | 74.7 | 82.5 | 80.5 | 74.9 | 66.8 | 61.3 | 59.5 |
| Niger | 115.4 | 121.4 | 115.7 | 116.8 | 113.5 | 118.2 | 121.5 | 116.6 |
| Nigeria | 67.4 | 57.9 | 56.9 | 53.5 | 54.5 | 55.0 | 55.7 | 51.8 |
| Rwanda | 61.1 | 60.5 | 59.4 | 57.7 | 58.3 | 56.9 | 54.6 | 59.2 |
| São Tomé & Príncipe | 52.7 | 38.4 | 33.6 | 33.9 | 33.1 | 34.1 | 34.6 | 33.5 |
| Senegal | 112.0 | 116.7 | 111.4 | 112.9 | 110.4 | 114.9 | 117.8 | 113.1 |
| Seychelles | 80.5 | 36.6 | 40.1 | 37.5 | 35.6 | 41.1 | 39.8 | 43.5 |
| Sierra Leone | 55.6 | 47.5 | 39.8 | 35.0 | 36.8 | 37.1 | 36.0 | 36.4 |
| South Africa | 84.0 | 67.1 | 76.1 | 73.3 | 67.2 | 58.0 | 52.1 | 50.0 |
| South Sudan | ... | ... | ... | ... | ... | ... | ... | ... |
| Swaziland | 90.9 | 80.6 | 86.0 | 84.5 | 80.8 | 75.0 | 70.9 | 69.0 |
| Tanzania | 59.2 | 53.4 | 48.8 | 42.7 | 44.2 | 45.3 | 45.0 | 41.7 |
| Togo | 120.6 | 126.1 | 120.3 | 122.3 | 118.6 | 123.1 | 127.9 | 120.0 |
| Uganda | 82.3 | 72.6 | 67.0 | 57.2 | 59.4 | 59.2 | 60.3 | 54.3 |
| Zambia | 65.7 | 54.8 | 55.0 | 52.2 | 52.1 | 52.0 | 47.7 | 40.6 |
| Zimbabwe | ... | ... | ... | ... | ... | ... | ... | ... |
| **Sub-Saharan Africa** | **72.1** | **62.8** | **62.3** | **58.9** | **57.8** | **55.9** | **54.1** | **51.4** |
| *Median* | 83.2 | 70.6 | 73.4 | 73.2 | 70.3 | 63.0 | 60.8 | 59.5 |
| Excluding Nigeria and South Africa | 69.0 | 63.9 | 59.4 | 55.8 | 55.3 | 54.9 | 53.1 | 51.1 |
| **Oil-exporting countries** | **61.2** | **55.5** | **53.3** | **50.6** | **51.3** | **51.8** | **52.3** | **48.8** |
| Excluding Nigeria | 47.9 | 49.9 | 45.0 | 44.0 | 43.8 | 44.5 | 44.5 | 41.9 |
| **Oil-importing countries** | **79.6** | **67.4** | **68.6** | **64.6** | **61.9** | **57.9** | **54.1** | **52.2** |
| Excluding South Africa | 76.4 | 67.8 | 63.8 | 59.1 | 58.4 | 57.5 | 55.1 | 53.3 |
| **Middle-income countries** | **71.3** | **61.3** | **62.2** | **59.2** | **57.9** | **55.6** | **53.3** | **50.1** |
| Excluding Nigeria and South Africa | 64.2 | 60.0 | 57.2 | 54.5 | 53.8 | 53.4 | 50.2 | 47.2 |
| **Low-income countries** | **75.6** | **69.1** | **62.6** | **57.6** | **57.3** | **56.9** | **57.0** | **56.3** |
| Excluding low-income countries in fragile situations | 77.9 | 69.6 | 62.2 | 56.1 | 56.8 | 56.9 | 57.3 | 56.7 |
| **Countries in fragile situations** | **84.9** | **83.9** | **79.0** | **77.7** | **74.4** | **74.0** | **73.9** | **71.8** |
| CFA franc zone | 114.6 | 119.7 | 114.5 | 116.0 | 112.7 | 116.9 | 119.9 | 114.6 |
| CEMAC | 113.8 | 118.5 | 113.6 | 114.9 | 111.2 | 114.6 | 116.0 | 110.3 |
| WAEMU | 115.2 | 120.6 | 115.3 | 116.9 | 114.1 | 119.0 | 123.4 | 118.5 |
| COMESA (SSA members) | 75.6 | 66.3 | 61.9 | 55.4 | 55.9 | 54.4 | 53.5 | 53.5 |
| EAC-5 | 75.7 | 69.9 | 66.0 | 58.2 | 61.1 | 61.7 | 61.6 | 59.0 |
| ECOWAS | 72.1 | 62.7 | 61.1 | 57.9 | 58.0 | 58.4 | 57.6 | 53.7 |
| SACU | 83.9 | 67.5 | 76.1 | 73.3 | 67.3 | 58.4 | 52.6 | 50.5 |
| SADC | 65.7 | 55.8 | 58.1 | 55.5 | 52.7 | 48.0 | 44.5 | 42.1 |

See sources and footnotes on page 90.

**Table SA24. External Debt, Official Debt, Debtor Based**
*(Percent of GDP)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 28.2 | 20.2 | 20.6 | 19.5 | 18.8 | 23.6 | 27.4 | 34.7 | 48.1 | 47.3 |
| Benin | 20.2 | 15.0 | 17.0 | 15.8 | 15.7 | 17.3 | 18.6 | 20.0 | 21.3 | 22.3 |
| Botswana | 3.5 | 12.7 | 10.5 | 10.9 | 12.4 | 12.0 | 10.3 | 9.4 | 9.8 | 9.3 |
| Burkina Faso | 29.4 | 25.6 | 26.2 | 22.8 | 23.1 | 22.1 | 20.2 | 23.5 | 23.8 | 23.2 |
| Burundi | 120.2 | 21.2 | 22.4 | 21.8 | 21.7 | 20.9 | 19.0 | 20.2 | 28.1 | 15.6 |
| Cabo Verde | 46.0 | 45.5 | 51.2 | 53.2 | 70.0 | 78.7 | 77.7 | 89.9 | 89.6 | 88.4 |
| Cameroon | 19.6 | 5.5 | 6.2 | 7.0 | 9.0 | 12.1 | 17.5 | 22.2 | 23.6 | 24.8 |
| Central African Rep. | 61.0 | 9.0 | 9.0 | 8.0 | 9.9 | 15.0 | 13.8 | 14.5 | 17.0 | 15.1 |
| Chad | 23.5 | 27.5 | 24.6 | 20.7 | 20.5 | 21.9 | 27.1 | 24.6 | 23.9 | 20.2 |
| Comoros | 73.0 | 51.9 | 48.9 | 44.9 | 40.7 | 18.5 | 20.0 | 24.2 | 26.0 | 26.6 |
| Congo, Dem. Rep. of | 88.9 | 74.8 | 24.2 | 20.7 | 18.3 | 15.0 | 13.0 | 15.2 | 16.6 | 19.7 |
| Congo, Rep. of | 95.5 | 57.2 | 20.2 | 22.2 | 26.2 | 33.0 | 33.8 | 50.9 | 51.2 | 43.5 |
| Côte d'Ivoire | 67.1 | 53.6 | 46.5 | 49.0 | 28.9 | 26.9 | 25.4 | 29.5 | 29.6 | 28.9 |
| Equatorial Guinea | 2.0 | 4.5 | 7.9 | 5.5 | 7.5 | 6.4 | 4.8 | 7.4 | 11.9 | 14.3 |
| Eritrea | 60.0 | 49.1 | 45.8 | 35.8 | 29.1 | 25.2 | 22.1 | 21.5 | 19.2 | 19.3 |
| Ethiopia[1] | 37.0 | 14.4 | 18.8 | 24.4 | 20.6 | 23.5 | 25.2 | 31.0 | 32.6 | 34.0 |
| Gabon | 30.2 | 10.3 | 9.8 | 8.8 | 6.9 | 8.6 | 25.3 | 34.9 | 38.4 | 38.8 |
| Gambia, The | 83.7 | 41.0 | 39.7 | 43.0 | 41.3 | 43.8 | 49.9 | 43.5 | 37.9 | 48.4 |
| Ghana | 24.1 | 19.6 | 19.4 | 19.3 | 21.8 | 24.9 | 35.9 | 41.9 | 38.4 | 36.8 |
| Guinea | 91.4 | 69.6 | 66.6 | 71.5 | 23.3 | 25.4 | 26.9 | 27.4 | 30.8 | 32.6 |
| Guinea-Bissau | 161.7 | 128.8 | 33.2 | 24.4 | 27.1 | 26.2 | 21.6 | 22.9 | 22.6 | 23.0 |
| Kenya | 25.2 | 20.9 | 21.5 | 22.2 | 19.0 | 19.3 | 23.1 | 26.6 | 29.1 | 28.8 |
| Lesotho | 44.6 | 39.4 | 32.8 | 30.2 | 33.6 | 36.9 | 41.3 | 45.4 | 53.0 | 50.9 |
| Liberia | 511.9 | 148.0 | 10.7 | 10.7 | 10.3 | 11.7 | 17.9 | 25.6 | 30.0 | 33.8 |
| Madagascar | 46.0 | 26.0 | 23.5 | 21.6 | 22.8 | 22.5 | 22.7 | 26.0 | 30.1 | 32.1 |
| Malawi | 42.2 | 12.9 | 12.4 | 15.0 | 24.2 | 33.2 | 29.4 | 30.9 | 37.0 | 33.7 |
| Mali | 27.6 | 19.9 | 21.4 | 20.1 | 21.8 | 21.5 | 22.8 | 28.4 | 28.8 | 29.1 |
| Mauritius | 12.4 | 10.1 | 11.8 | 13.0 | 13.5 | 16.1 | 15.7 | 16.3 | 16.2 | 15.5 |
| Mozambique | 46.6 | 36.8 | 38.4 | 33.7 | 33.2 | 47.0 | 52.4 | 64.7 | 82.5 | 89.3 |
| Namibia | 4.7 | 4.9 | 4.3 | 6.4 | 7.8 | 7.9 | 7.6 | 13.1 | 18.5 | 18.7 |
| Niger | 31.2 | 19.6 | 16.9 | 15.5 | 17.1 | 18.2 | 20.5 | 28.7 | 32.7 | 34.3 |
| Nigeria | 8.8 | 1.3 | 1.4 | 1.4 | 1.4 | 1.7 | 1.7 | 2.2 | 3.2 | 3.8 |
| Rwanda | 36.8 | 13.9 | 13.6 | 15.7 | 14.2 | 20.7 | 22.3 | 26.9 | 35.8 | 39.6 |
| São Tomé & Príncipe | 207.2 | 68.0 | 75.3 | 71.7 | 78.3 | 71.4 | 68.9 | 82.3 | 90.8 | 96.5 |
| Senegal | 28.7 | 28.2 | 27.2 | 27.8 | 31.2 | 33.6 | 37.3 | 40.2 | 41.3 | 40.3 |
| Seychelles | 61.5 | 87.6 | 49.3 | 48.1 | 48.3 | 39.6 | 37.1 | 35.7 | 35.0 | 33.5 |
| Sierra Leone | 71.4 | 28.2 | 30.4 | 32.4 | 25.8 | 21.3 | 22.5 | 28.4 | 32.1 | 31.8 |
| South Africa | 7.9 | 7.2 | 9.6 | 9.4 | 11.4 | 11.8 | 13.1 | 12.6 | 15.3 | 15.2 |
| South Sudan | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Swaziland | 12.7 | 9.9 | 7.9 | 7.1 | 6.9 | 7.5 | 7.0 | 7.3 | 8.9 | 9.3 |
| Tanzania | 26.7 | 17.4 | 19.3 | 21.1 | 21.7 | 22.8 | 23.6 | 27.1 | 29.4 | 30.7 |
| Togo | 75.9 | 55.1 | 19.8 | 15.2 | 17.9 | 20.8 | 25.0 | 30.0 | 33.5 | 33.3 |
| Uganda | 26.6 | 11.1 | 11.7 | 12.4 | 12.6 | 14.1 | 14.1 | 18.9 | 21.9 | 24.3 |
| Zambia | 41.6 | 9.0 | 7.3 | 8.0 | 13.2 | 12.4 | 17.2 | 29.5 | 38.6 | 44.7 |
| Zimbabwe[2] | 56.1 | 66.5 | 62.2 | 52.0 | 48.4 | 46.6 | 45.5 | 48.1 | 50.0 | 51.2 |
| **Sub-Saharan Africa** | **19.5** | **13.3** | **11.9** | **11.8** | **11.9** | **12.9** | **14.2** | **16.7** | **20.4** | **21.3** |
| *Median* | 39.3 | 21.0 | 20.4 | 20.7 | 21.2 | 21.4 | 22.6 | 27.0 | 29.8 | 31.2 |
| Excluding Nigeria and South Africa | 36.1 | 24.4 | 20.8 | 20.4 | 19.5 | 21.5 | 24.1 | 29.1 | 32.8 | 33.3 |
| **Oil-exporting countries** | **15.0** | **6.9** | **5.9** | **5.9** | **5.9** | **7.1** | **8.1** | **9.8** | **13.5** | **14.5** |
| Excluding Nigeria | 28.7 | 18.2 | 16.5 | 15.5 | 15.9 | 19.6 | 24.0 | 30.8 | 38.9 | 38.6 |
| **Oil-importing countries** | **22.5** | **17.8** | **16.1** | **16.0** | **16.6** | **17.9** | **19.7** | **22.4** | **25.4** | **26.0** |
| Excluding South Africa | 39.1 | 27.0 | 22.6 | 22.6 | 21.1 | 22.3 | 24.1 | 28.5 | 30.8 | 31.6 |
| **Middle-income countries** | **13.9** | **9.4** | **9.3** | **9.3** | **9.6** | **10.4** | **11.6** | **13.5** | **17.2** | **17.9** |
| Excluding Nigeria and South Africa | 29.1 | 20.6 | 18.4 | 18.1 | 17.4 | 19.8 | 23.5 | 29.5 | 34.4 | 34.4 |
| **Low-income countries** | **45.6** | **29.4** | **24.1** | **23.6** | **22.4** | **23.9** | **24.8** | **28.6** | **30.9** | **32.0** |
| Excluding low-income countries in fragile situations | 31.4 | 19.0 | 20.5 | 21.8 | 21.3 | 24.3 | 25.7 | 30.7 | 33.2 | 34.5 |
| **Countries in fragile situations** | **68.4** | **49.1** | **32.1** | **30.1** | **25.3** | **24.9** | **24.6** | **27.7** | **29.0** | **29.0** |
| CFA franc zone | 37.2 | 25.9 | 21.0 | 19.8 | 18.2 | 19.5 | 22.3 | 27.4 | 29.0 | 28.8 |
| CEMAC | 30.0 | 16.0 | 11.9 | 11.1 | 12.3 | 14.4 | 19.7 | 25.4 | 27.6 | 27.4 |
| WAEMU | 44.9 | 35.7 | 30.7 | 29.8 | 24.7 | 24.7 | 25.1 | 29.2 | 30.2 | 29.9 |
| COMESA (SSA members) | 40.2 | 25.2 | 20.0 | 20.3 | 19.4 | 20.0 | 21.4 | 25.9 | 28.7 | 30.1 |
| EAC-5 | 28.4 | 17.4 | 18.4 | 19.5 | 18.3 | 19.6 | 21.4 | 25.3 | 28.3 | 29.0 |
| ECOWAS | 19.7 | 10.2 | 8.1 | 8.0 | 6.8 | 7.2 | 7.4 | 9.1 | 11.4 | 12.2 |
| SACU | 7.9 | 7.5 | 9.6 | 9.5 | 11.4 | 11.8 | 12.9 | 12.6 | 15.3 | 15.3 |
| SADC | 16.5 | 14.6 | 13.7 | 13.4 | 15.0 | 16.8 | 18.6 | 20.8 | 25.7 | 26.4 |

See sources and footnotes on page 90.

**Table SA25. Terms of Trade on Goods**
*(Index, 2000 = 100)*

| | 2004-08 | 2009 | 2010 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|
| Angola | 131.3 | 120.4 | 144.0 | 189.0 | 185.5 | 169.6 | 99.5 | 85.0 | 97.8 |
| Benin | 155.1 | 289.4 | 368.5 | 273.7 | 234.5 | 224.1 | 218.3 | 211.3 | 200.4 |
| Botswana | 90.5 | 83.6 | 86.0 | 118.8 | 159.9 | 172.3 | 136.5 | 151.1 | 169.3 |
| Burkina Faso | 63.4 | 56.0 | 39.9 | 47.7 | 43.1 | 35.6 | 36.7 | 38.1 | 38.3 |
| Burundi | 116.1 | 111.2 | 168.7 | 121.9 | 110.2 | 138.2 | 160.1 | 159.4 | 161.9 |
| Cabo Verde | 137.6 | 119.2 | 137.0 | 145.3 | 128.4 | 121.1 | 91.9 | 77.2 | 83.4 |
| Cameroon | 115.6 | 92.8 | 105.2 | 116.2 | 114.6 | 106.1 | 102.1 | 99.4 | 98.5 |
| Central African Rep. | 62.4 | 67.7 | 67.8 | 69.5 | 83.0 | 89.8 | 115.9 | 122.7 | 113.4 |
| Chad | 176.5 | 186.5 | 237.5 | 275.0 | 298.3 | 286.0 | 152.6 | 140.5 | 157.6 |
| Comoros | 105.0 | 91.3 | 95.9 | 132.3 | 112.2 | 105.6 | 108.1 | 112.6 | 120.4 |
| Congo, Dem. Rep. of | 623.6 | 580.1 | 682.5 | 570.5 | 536.9 | 587.5 | 592.2 | 578.7 | 564.9 |
| Congo, Rep. of | 125.9 | 86.3 | 131.0 | 133.7 | 149.6 | 137.0 | 96.4 | 92.4 | 94.3 |
| Côte d'Ivoire | 89.3 | 95.7 | 103.2 | 105.2 | 106.9 | 100.6 | 100.2 | 102.9 | 102.7 |
| Equatorial Guinea | 133.2 | 133.4 | 177.5 | 213.0 | 186.8 | 161.9 | 131.1 | 166.4 | 192.6 |
| Eritrea | 50.7 | 38.1 | 38.3 | 38.6 | 38.8 | 38.8 | 38.8 | 38.8 | 38.8 |
| Ethiopia[1] | 57.7 | 70.4 | 91.7 | 117.2 | 97.6 | 102.2 | 103.1 | 103.0 | 108.1 |
| Gabon | 130.7 | 123.0 | 143.4 | 166.8 | 162.6 | 150.2 | 92.1 | 81.9 | 94.1 |
| Gambia, The | 102.8 | 76.2 | 65.0 | 76.8 | 89.1 | 78.0 | 62.5 | 85.3 | 83.6 |
| Ghana | 148.1 | 203.1 | 247.4 | 290.1 | 269.7 | 251.9 | 211.7 | 217.6 | 220.2 |
| Guinea | 78.7 | 72.4 | 81.3 | 96.7 | 104.1 | 109.1 | 126.1 | 148.3 | 149.3 |
| Guinea-Bissau | 82.6 | 57.5 | 71.8 | 74.0 | 55.1 | 74.4 | 118.3 | 137.1 | 128.5 |
| Kenya | 82.7 | 95.7 | 94.9 | 74.7 | 75.2 | 73.3 | 97.9 | 96.8 | 96.0 |
| Lesotho | 63.8 | 49.6 | 49.6 | 48.6 | 47.2 | 46.6 | 49.6 | 46.6 | 46.1 |
| Liberia | 141.8 | 137.5 | 194.7 | 149.2 | 164.7 | 146.3 | 108.9 | 116.6 | 99.0 |
| Madagascar | 91.0 | 82.5 | 98.6 | 106.9 | 117.9 | 132.7 | 135.2 | 144.1 | 137.5 |
| Malawi | 76.6 | 86.1 | 93.1 | 80.4 | 77.9 | 78.8 | 80.5 | 75.3 | 72.6 |
| Mali | 157.7 | 190.0 | 207.4 | 300.6 | 253.1 | 268.5 | 271.8 | 277.1 | 285.4 |
| Mauritius | 109.1 | 97.5 | 102.0 | 98.9 | 98.1 | 96.5 | 112.7 | 111.3 | 110.9 |
| Mozambique | 105.0 | 102.7 | 114.6 | 107.0 | 106.5 | 105.1 | 104.3 | 104.8 | 102.6 |
| Namibia | 103.1 | 115.0 | 132.0 | 141.7 | 148.3 | 153.5 | 140.8 | 149.0 | 149.0 |
| Niger | 120.6 | 164.6 | 189.9 | 179.0 | 173.4 | 140.3 | 135.8 | 133.9 | 138.2 |
| Nigeria | 129.2 | 123.4 | 134.9 | 151.5 | 152.1 | 148.3 | 111.0 | 101.1 | 110.6 |
| Rwanda | 94.4 | 108.4 | 125.8 | 118.0 | 140.9 | 137.2 | 146.2 | 134.5 | 152.7 |
| São Tomé & Príncipe | 119.6 | 79.2 | 86.8 | 116.7 | 87.7 | 99.0 | 89.1 | 125.9 | 124.3 |
| Senegal | 105.7 | 126.3 | 126.2 | 120.1 | 111.0 | 113.0 | 120.3 | 116.8 | 118.0 |
| Seychelles | 105.9 | 105.7 | 108.0 | 110.2 | 110.2 | 109.5 | 104.3 | 102.8 | 104.3 |
| Sierra Leone | 103.7 | 98.2 | 104.9 | 103.1 | 98.2 | 82.7 | 64.0 | 62.9 | 62.0 |
| South Africa | 118.2 | 138.2 | 148.2 | 144.4 | 141.8 | 138.5 | 144.2 | 147.1 | 145.3 |
| South Sudan | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Swaziland | 102.8 | 116.1 | 102.8 | 110.2 | 125.4 | 125.2 | 120.6 | 124.6 | 122.4 |
| Tanzania | 59.8 | 83.7 | 89.6 | 92.4 | 89.8 | 92.2 | 100.0 | 104.7 | 105.6 |
| Togo | 95.5 | 96.4 | 98.0 | 98.8 | 93.7 | 100.0 | 108.5 | 109.7 | 110.5 |
| Uganda | 83.5 | 98.4 | 81.9 | 87.4 | 89.3 | 96.3 | 99.1 | 107.1 | 106.2 |
| Zambia | 184.1 | 170.8 | 233.5 | 213.9 | 200.8 | 195.5 | 189.9 | 178.6 | 176.1 |
| Zimbabwe[2] | 85.4 | 126.4 | 133.4 | 135.6 | 133.4 | 130.8 | 131.7 | 138.5 | 142.6 |
| **Sub-Saharan Africa** | **126.5** | **131.7** | **147.7** | **156.9** | **155.1** | **151.1** | **133.9** | **132.4** | **136.2** |
| *Median* | 105.0 | 100.6 | 106.6 | 117.6 | 113.4 | 117.0 | 109.9 | 114.6 | 112.1 |
| Excluding Nigeria and South Africa | 130.7 | 132.8 | 156.3 | 168.1 | 164.1 | 159.1 | 145.6 | 145.1 | 146.9 |
| **Oil-exporting countries** | **130.1** | **122.1** | **138.6** | **160.9** | **160.1** | **152.6** | **109.3** | **99.9** | **109.5** |
| Excluding Nigeria | 131.9 | 119.5 | 146.9 | 181.9 | 178.7 | 163.5 | 104.8 | 96.8 | 107.1 |
| **Oil-importing countries** | **123.9** | **138.3** | **154.2** | **153.8** | **150.9** | **149.7** | **153.9** | **155.9** | **154.9** |
| Excluding South Africa | 129.9 | 138.4 | 160.4 | 161.9 | 157.7 | 157.3 | 160.0 | 160.6 | 159.9 |
| **Middle-income countries** | **122.5** | **127.3** | **142.1** | **153.5** | **152.5** | **145.7** | **122.7** | **119.2** | **124.1** |
| Excluding Nigeria and South Africa | 120.3 | 119.7 | 143.4 | 165.3 | 162.3 | 148.1 | 120.2 | 118.3 | 122.8 |
| **Low-income countries** | **145.4** | **149.8** | **174.5** | **172.2** | **166.7** | **173.5** | **175.2** | **175.0** | **174.0** |
| Excluding low-income countries in fragile situations | 83.3 | 102.0 | 111.4 | 111.8 | 104.4 | 104.6 | 107.2 | 108.2 | 110.3 |
| **Countries in fragile situations** | **192.9** | **187.9** | **223.8** | **226.9** | **225.7** | **237.2** | **238.5** | **238.0** | **232.9** |
| CFA franc zone | 119.0 | 125.4 | 146.7 | 161.1 | 152.8 | 144.1 | 124.4 | 124.6 | 127.8 |
| CEMAC | 129.8 | 117.0 | 147.9 | 170.7 | 168.5 | 154.6 | 112.1 | 111.4 | 118.4 |
| WAEMU | 107.4 | 133.7 | 145.4 | 150.4 | 136.6 | 133.4 | 135.0 | 135.2 | 135.3 |
| COMESA (SSA members) | 159.9 | 151.7 | 179.0 | 167.3 | 164.2 | 171.2 | 180.8 | 176.7 | 174.1 |
| EAC-5 | 76.8 | 93.6 | 93.9 | 86.2 | 87.0 | 88.5 | 102.7 | 104.1 | 104.7 |
| ECOWAS | 125.8 | 129.4 | 143.3 | 160.1 | 157.4 | 150.8 | 120.0 | 115.9 | 123.8 |
| SACU | 116.3 | 135.0 | 144.6 | 142.5 | 141.9 | 139.7 | 143.0 | 146.5 | 145.4 |
| SADC | 133.7 | 144.1 | 160.2 | 164.3 | 164.9 | 165.0 | 159.6 | 162.1 | 162.0 |

See sources and footnotes on page 90.

**Table SA26. Reserves**
*(Months of imports of goods and services)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 3.1 | 4.4 | 5.0 | 7.1 | 7.7 | 7.2 | 9.0 | 9.9 | 8.2 | 7.2 |
| Benin | 6.5 | 7.4 | 7.2 | 7.0 | 4.1 | 2.9 | 2.9 | 2.9 | 2.5 | 2.3 |
| Botswana | 20.7 | 15.9 | 11.5 | 10.9 | 10.1 | 10.6 | 12.7 | 13.2 | 12.5 | 13.0 |
| Burkina Faso | 4.9 | 6.0 | 3.6 | 3.1 | 2.5 | 3.6 | 5.0 | 3.2 | 2.6 | 1.9 |
| Burundi | 3.6 | 4.4 | 4.1 | 3.3 | 3.5 | 3.5 | 4.0 | 2.9 | 1.3 | 2.1 |
| Cabo Verde | 3.2 | 4.1 | 3.4 | 3.7 | 4.0 | 4.5 | 7.1 | 5.7 | 5.8 | 5.6 |
| Cameroon | 3.6 | 6.9 | 5.3 | 4.7 | 4.5 | 4.2 | 4.9 | 5.5 | 5.1 | 4.4 |
| Central African Rep. | 4.2 | 4.6 | 4.1 | 4.3 | 5.4 | 3.7 | 6.1 | 4.2 | 4.0 | 4.4 |
| Chad | 2.0 | 1.4 | 1.3 | 1.9 | 2.5 | 2.3 | 2.7 | 1.1 | 0.6 | 0.6 |
| Comoros | 6.3 | 6.4 | 5.7 | 6.3 | 6.7 | 5.9 | 8.6 | 8.4 | 6.8 | 6.2 |
| Congo, Dem. Rep. of | 0.3 | 1.1 | 1.3 | 1.4 | 1.6 | 1.3 | 1.5 | 1.2 | 1.1 | 0.9 |
| Congo, Rep. of | 3.7 | 6.3 | 6.7 | 10.5 | 8.2 | 7.0 | 9.5 | 4.9 | 2.8 | 2.4 |
| Côte d'Ivoire | 2.6 | 3.6 | 4.6 | 3.5 | 2.5 | 2.6 | 3.0 | 2.7 | 2.5 | 2.8 |
| Equatorial Guinea | 6.8 | 3.9 | 3.4 | 3.4 | 6.1 | 6.3 | 5.1 | 3.1 | 1.8 | 0.9 |
| Eritrea | 1.0 | 2.2 | 2.4 | 2.8 | 4.1 | 4.0 | 4.7 | 3.5 | 3.7 | 4.6 |
| Ethiopia[1] | 2.3 | 1.9 | 2.0 | 2.6 | 2.0 | 1.8 | 1.5 | 1.9 | 1.9 | 1.9 |
| Gabon | 4.5 | 5.4 | 3.7 | 4.4 | 4.2 | 4.9 | 6.1 | 4.9 | 3.6 | 3.4 |
| Gambia, The | 3.7 | 5.3 | 5.1 | 5.1 | 6.0 | 4.8 | 3.0 | 1.9 | 1.2 | 2.4 |
| Ghana | 2.7 | 2.7 | 2.9 | 2.9 | 2.9 | 2.9 | 2.5 | 2.5 | 2.5 | 2.8 |
| Guinea | 0.5 | 2.4 | 1.2 | 3.2 | 2.9 | 2.9 | 3.4 | 2.0 | 2.6 | 3.0 |
| Guinea-Bissau | 5.3 | 7.0 | 5.0 | 9.3 | 6.4 | 6.0 | 10.2 | 11.0 | 12.3 | 12.9 |
| Kenya | 2.9 | 3.4 | 2.9 | 2.8 | 3.7 | 3.8 | 5.3 | 4.8 | 4.8 | 4.6 |
| Lesotho | 5.0 | 5.7 | 4.9 | 4.4 | 5.5 | 5.9 | 7.3 | 9.3 | 8.3 | 7.6 |
| Liberia | 0.4 | 2.2 | 2.3 | 2.3 | 2.2 | 1.8 | 1.9 | 2.2 | 2.9 | 3.1 |
| Madagascar | 2.5 | 3.6 | 2.6 | 3.6 | 3.1 | 2.3 | 2.7 | 2.8 | 3.0 | 3.2 |
| Malawi | 1.4 | 0.6 | 1.5 | 1.0 | 1.1 | 2.0 | 3.1 | 3.2 | 2.9 | 3.0 |
| Mali | 4.2 | 4.7 | 4.2 | 4.2 | 3.0 | 2.9 | 2.4 | 1.8 | 1.5 | 1.5 |
| Mauritius | 3.8 | 4.5 | 4.3 | 4.5 | 5.0 | 5.3 | 6.9 | 7.2 | 7.3 | 7.3 |
| Mozambique | 4.2 | 5.0 | 3.4 | 2.3 | 2.6 | 3.1 | 3.5 | 3.6 | 2.5 | 1.9 |
| Namibia | 2.0 | 3.9 | 3.0 | 2.9 | 2.8 | 2.1 | 1.8 | 2.9 | 1.9 | 1.9 |
| Niger | 3.2 | 2.8 | 3.0 | 2.2 | 3.1 | 3.3 | 4.8 | 3.2 | 3.3 | 3.3 |
| Nigeria | 10.7 | 7.5 | 4.5 | 5.1 | 7.2 | 6.0 | 5.7 | 6.4 | 5.3 | 4.9 |
| Rwanda | 3.5 | 6.5 | 5.2 | 6.5 | 5.6 | 5.1 | 4.2 | 3.5 | 3.2 | 2.5 |
| São Tomé & Príncipe | 4.6 | 6.6 | 3.9 | 4.6 | 3.5 | 3.3 | 4.0 | 4.2 | 3.9 | 4.1 |
| Senegal | 3.5 | 4.9 | 3.8 | 3.4 | 3.4 | 3.7 | 4.5 | 4.5 | 4.2 | 4.2 |
| Seychelles | 0.8 | 2.2 | 2.6 | 2.6 | 2.7 | 3.2 | 3.9 | 4.2 | 3.8 | 3.8 |
| Sierra Leone | 3.8 | 3.4 | 1.6 | 1.8 | 2.2 | 2.0 | 3.6 | 3.7 | 3.5 | 3.4 |
| South Africa | 3.5 | 4.6 | 4.3 | 4.7 | 5.0 | 5.1 | 5.9 | 5.6 | 5.4 | 5.2 |
| South Sudan | ... | ... | ... | 6.3 | 3.9 | 2.7 | 1.4 | 1.4 | 0.2 | 0.2 |
| Swaziland | 2.5 | 4.0 | 2.9 | 2.3 | 3.3 | 3.9 | 4.0 | 3.5 | 2.0 | 1.0 |
| Tanzania | 4.8 | 4.6 | 4.1 | 3.5 | 3.6 | 3.9 | 4.1 | 3.8 | 3.6 | 3.6 |
| Togo | 3.2 | 4.6 | 3.4 | 4.4 | 1.8 | 2.2 | 3.1 | 2.7 | 2.6 | 2.6 |
| Uganda | 5.6 | 4.9 | 3.9 | 3.7 | 4.5 | 4.8 | 5.0 | 4.7 | 4.6 | 4.5 |
| Zambia | 1.7 | 3.8 | 3.0 | 2.8 | 2.7 | 2.6 | 3.4 | 3.3 | 2.3 | 2.3 |
| Zimbabwe[2] | 0.2 | 0.9 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.6 | 0.3 | 0.3 |
| **Sub-Saharan Africa** | **5.1** | **5.2** | **4.2** | **4.6** | **5.3** | **4.9** | **5.3** | **5.4** | **4.6** | **4.3** |
| *Median* | 3.5 | 4.4 | 3.7 | 3.5 | 3.5 | 3.6 | 4.0 | 3.5 | 3.0 | 3.1 |
| Excluding Nigeria and South Africa | 3.8 | 4.2 | 3.9 | 4.3 | 4.3 | 4.1 | 4.8 | 4.5 | 3.9 | 3.7 |
| **Oil-exporting countries** | **7.3** | **6.6** | **4.5** | **5.4** | **6.9** | **6.0** | **6.1** | **6.6** | **5.5** | **5.0** |
| Excluding Nigeria | 3.7 | 4.8 | 4.7 | 6.1 | 6.4 | 6.0 | 7.1 | 7.2 | 6.0 | 5.2 |
| **Oil-importing countries** | **3.6** | **4.3** | **3.9** | **4.1** | **4.1** | **4.0** | **4.6** | **4.3** | **4.0** | **3.9** |
| Excluding South Africa | 3.7 | 4.0 | 3.5 | 3.4 | 3.2 | 3.2 | 3.7 | 3.5 | 3.2 | 3.2 |
| **Middle-income countries** | **5.5** | **5.6** | **4.4** | **5.0** | **5.9** | **5.5** | **5.9** | **6.1** | **5.3** | **5.0** |
| Excluding Nigeria and South Africa | 4.2 | 4.7 | 4.4 | 5.1 | 5.3 | 5.1 | 6.2 | 6.1 | 5.1 | 4.8 |
| **Low-income countries** | **3.2** | **3.6** | **3.0** | **3.2** | **2.9** | **2.8** | **3.0** | **2.7** | **2.5** | **2.5** |
| Excluding low-income countries in fragile situations | 4.2 | 4.3 | 3.7 | 3.4 | 3.3 | 3.4 | 3.5 | 3.2 | 3.0 | 2.9 |
| **Countries in fragile situations** | **2.2** | **3.0** | **3.0** | **3.7** | **2.9** | **2.6** | **3.0** | **2.2** | **2.0** | **2.1** |
| CFA franc zone | 4.0 | 4.9 | 4.3 | 4.4 | 4.1 | 4.0 | 4.6 | 3.6 | 3.1 | 2.9 |
| CEMAC | 4.2 | 5.2 | 4.3 | 4.9 | 5.1 | 4.9 | 5.5 | 4.3 | 3.4 | 3.0 |
| WAEMU | 3.7 | 4.7 | 4.4 | 3.9 | 2.9 | 3.0 | 3.6 | 3.0 | 2.8 | 2.8 |
| COMESA (SSA members) | 2.4 | 3.0 | 2.7 | 2.8 | 3.0 | 2.9 | 3.4 | 3.2 | 3.0 | 3.0 |
| EAC-5 | 4.1 | 4.3 | 3.7 | 3.4 | 4.0 | 4.1 | 4.8 | 4.3 | 4.2 | 4.1 |
| ECOWAS | 7.7 | 6.6 | 4.3 | 4.7 | 6.2 | 5.3 | 5.2 | 5.6 | 4.6 | 4.3 |
| SACU | 4.0 | 5.0 | 4.5 | 4.9 | 5.1 | 5.2 | 6.0 | 5.8 | 5.5 | 5.4 |
| SADC | 3.7 | 4.5 | 4.2 | 4.8 | 5.0 | 5.0 | 5.9 | 5.7 | 5.1 | 4.9 |

See sources and footnotes on page 90.

**Table SA27. Banking Penetration**
*(Total banking sector assets in percent of GDP)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|
| Angola | 27.6 | 58.4 | 57.4 | 57.2 | 56.4 | 57.7 | 60.5 | 72.7 |
| Benin | 33.4 | 44.7 | 49.4 | 53.2 | 54.8 | 59.6 | 65.0 | 69.9 |
| Botswana | 51.4 | 64.2 | 56.6 | 53.2 | 56.7 | 55.0 | 53.4 | 60.8 |
| Burkina Faso | 28.7 | 33.4 | 36.7 | 38.9 | 40.1 | 46.1 | 52.9 | 58.4 |
| Burundi | 28.8 | 31.5 | 33.6 | 33.4 | 31.2 | 30.3 | 31.0 | 32.2 |
| Cabo Verde | 90.0 | 98.5 | 103.0 | 111.2 | 120.6 | 134.5 | 135.3 | 140.4 |
| Cameroon | 22.7 | 26.1 | 28.7 | 29.7 | 28.3 | 29.9 | 30.1 | 31.0 |
| Central African Rep. | 12.6 | 15.8 | 17.3 | 19.1 | 19.2 | 25.7 | 25.4 | 24.6 |
| Chad | 7.3 | 9.4 | 10.0 | 10.4 | 11.1 | 11.8 | 14.7 | 17.1 |
| Comoros | 25.1 | 34.4 | 37.6 | 41.5 | 44.5 | 42.5 | 43.1 | 47.5 |
| Congo, Dem. Rep. of | 6.7 | 12.3 | 11.4 | 12.2 | 14.0 | 14.0 | 14.3 | 14.9 |
| Congo, Rep. of | 11.5 | 16.5 | 18.8 | 23.7 | 28.0 | 30.8 | 35.5 | 43.3 |
| Côte d'Ivoire | 25.9 | 28.7 | 31.5 | 36.8 | 36.2 | 36.6 | 41.0 | 46.1 |
| Equatorial Guinea | 8.8 | 14.2 | 16.1 | 14.1 | 18.0 | 20.2 | 21.8 | 26.0 |
| Eritrea | 143.7 | 126.0 | 124.7 | 113.2 | 104.5 | 110.4 | 102.7 | ... |
| Ethiopia | ... | ... | ... | ... | ... | ... | ... | ... |
| Gabon | 23.6 | 26.5 | 23.4 | 25.5 | 28.8 | 32.3 | 29.9 | 33.5 |
| Gambia, The | 48.3 | 61.7 | 66.8 | 70.5 | 70.6 | 73.6 | 82.0 | ... |
| Ghana | 29.7 | 40.1 | 39.5 | 38.1 | 37.3 | 39.6 | 46.4 | 46.5 |
| Guinea | ... | ... | ... | ... | ... | ... | ... | ... |
| Guinea-Bissau | 11.8 | 20.3 | 24.5 | 27.2 | 26.8 | 29.9 | 27.7 | 31.6 |
| Kenya | 57.4 | 54.1 | 56.0 | 57.6 | 58.1 | 60.7 | 63.7 | 63.7 |
| Lesotho | 42.7 | 50.1 | 50.3 | 46.4 | 45.4 | 53.6 | 52.6 | 54.9 |
| Liberia | ... | ... | ... | ... | ... | ... | ... | ... |
| Madagascar | 23.8 | 25.6 | 25.5 | 26.2 | 26.3 | 24.8 | 25.0 | 25.3 |
| Malawi | 15.3 | 23.5 | 27.3 | 29.8 | 31.8 | 31.6 | 30.2 | 32.1 |
| Mali | 30.9 | 33.5 | 35.3 | 33.9 | 34.3 | 38.5 | 46.0 | 49.9 |
| Mauritius[1] | 284.6 | 316.8 | 369.9 | 378.2 | 377.4 | 365.1 | 352.7 | 349.7 |
| Mozambique | 33.2 | 46.5 | 52.7 | 53.7 | 61.0 | 63.7 | 71.7 | 79.9 |
| Namibia | 66.4 | 94.9 | 92.1 | 93.7 | 87.8 | 85.2 | 81.6 | 88.9 |
| Niger | 16.2 | 20.9 | 23.3 | 23.6 | 24.9 | 26.3 | 29.0 | 30.2 |
| Nigeria | 27.5 | 39.0 | 31.2 | 30.4 | 29.2 | 30.1 | 30.5 | ... |
| Rwanda | 24.1 | 23.0 | 25.9 | 31.9 | 32.1 | 35.8 | 38.3 | 39.0 |
| São Tomé & Príncipe | 62.7 | 75.5 | 76.7 | 72.2 | 81.7 | 81.9 | 82.1 | 79.9 |
| Senegal | 43.6 | 47.3 | 50.4 | 52.6 | 53.1 | 59.8 | 65.8 | 72.3 |
| Seychelles | 118.8 | 100.0 | 109.3 | 113.0 | 102.2 | 118.6 | 115.3 | 93.5 |
| Sierra Leone | 16.2 | 25.9 | 24.9 | 24.5 | 23.0 | 21.3 | 22.6 | 25.1 |
| South Africa | 116.4 | 120.9 | 116.3 | 115.4 | 115.1 | 111.2 | 112.8 | 123.5 |
| South Sudan | ... | ... | ... | 6.7 | 14.7 | 13.4 | 20.8 | 65.3 |
| Swaziland | 28.1 | 34.8 | 33.9 | 34.3 | 32.2 | 34.0 | 33.2 | 35.0 |
| Tanzania | 24.2 | 27.7 | 30.0 | 28.8 | 29.0 | 28.8 | 29.4 | 31.3 |
| Togo | 41.3 | 53.4 | 62.5 | 63.7 | 68.0 | 70.4 | 75.6 | 80.6 |
| Uganda | 24.0 | 23.1 | 26.6 | 26.1 | 26.9 | 28.2 | 29.6 | 30.0 |
| Zambia | 24.9 | 25.9 | 25.5 | 25.8 | 27.6 | 29.2 | 31.9 | 36.9 |
| Zimbabwe | … | ... | ... | ... | ... | ... | ... | ... |
| **Sub-Saharan Africa** | **44.0** | **50.6** | **53.3** | **53.1** | **53.9** | **55.9** | **57.4** | **60.1** |
| *Median* | 27.9 | 33.9 | 34.6 | 34.3 | 34.3 | 36.6 | 41.0 | 46.3 |
| Excluding Nigeria and South Africa | 42.5 | 49.1 | 52.2 | 52.1 | 52.9 | 55.2 | 56.7 | 58.4 |
| **Oil-exporting countries** | **18.4** | **27.2** | **26.5** | **24.7** | **26.8** | **28.3** | **30.5** | **41.3** |
| Excluding Nigeria | 16.9 | 25.2 | 25.8 | 23.9 | 26.5 | 28.0 | 30.5 | 41.3 |
| **Oil-importing countries** | **49.4** | **55.6** | **59.0** | **60.0** | **60.4** | **62.6** | **63.9** | **64.4** |
| Excluding South Africa | 47.3 | 53.6 | 57.2 | 58.3 | 58.7 | 61.1 | 62.4 | 62.4 |
| **Middle-income countries** | **58.2** | **66.6** | **69.3** | **70.5** | **71.0** | **73.3** | **73.8** | **78.9** |
| Excluding South Africa | 55.2 | 63.8 | 66.9 | 68.1 | 68.7 | 71.3 | 71.8 | 76.4 |
| **Low-income countries** | **29.8** | **34.6** | **37.3** | **36.6** | **37.6** | **39.4** | **41.8** | **41.3** |
| Excluding low-income countries in fragile situations | 26.2 | 31.3 | 35.0 | 36.6 | 38.4 | 41.2 | 45.1 | 48.4 |
| **Countries in fragile situations** | **32.0** | **37.1** | **39.3** | **37.9** | **39.2** | **40.4** | **42.3** | **41.0** |

See sources and footnotes on page 90.

**Table SA28. Banking Sector: Loan-to-Deposit Ratio[1]**
*(Percent of deposits)*

| | 2004-08 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|
| Angola | 42.6 | 55.8 | 72.5 | 79.3 | 89.1 | 85.8 | 75.0 | 67.2 |
| Benin | 58.4 | 54.5 | 53.3 | 51.5 | 48.6 | 45.6 | 40.9 | 34.7 |
| Botswana | 55.8 | 55.4 | 55.4 | 67.5 | 74.0 | 79.1 | 82.5 | 76.4 |
| Burkina Faso | 92.2 | 78.4 | 69.0 | 69.3 | 71.8 | 77.4 | 74.3 | 68.1 |
| Burundi | 67.7 | 59.3 | 63.5 | 80.1 | 81.1 | 73.8 | 73.5 | 71.1 |
| Cabo Verde | 54.8 | 72.5 | 74.2 | 80.2 | 73.9 | 64.7 | 59.2 | 57.2 |
| Cameroon | 69.3 | 68.3 | 69.4 | 70.3 | 80.1 | 81.4 | 82.3 | 87.9 |
| Central African Rep. | 118.0 | 98.2 | 103.7 | 99.6 | 109.1 | 108.3 | 108.2 | 99.1 |
| Chad | 82.7 | 85.5 | 73.4 | 73.5 | 77.5 | 80.2 | 80.9 | 83.3 |
| Comoros | 49.5 | 54.2 | 57.6 | 55.1 | 56.5 | 64.7 | 67.9 | 70.0 |
| Congo, Dem. Rep. of | 49.7 | 58.6 | 57.5 | 68.8 | 68.0 | 68.7 | 71.4 | 73.7 |
| Congo, Rep. of | 36.4 | 38.7 | 39.5 | 38.3 | 49.8 | 59.6 | 55.3 | 72.8 |
| Côte d'Ivoire | 78.8 | 80.0 | 73.3 | 63.9 | 63.0 | 66.6 | 65.1 | 66.7 |
| Equatorial Guinea | 43.0 | 56.6 | 59.0 | 68.1 | 38.0 | 48.1 | 54.1 | 74.9 |
| Eritrea | 24.6 | 25.3 | 23.8 | 24.0 | 24.7 | 23.3 | 21.9 | ... |
| Ethiopia | ... | ... | ... | ... | ... | ... | ... | ... |
| Gabon | 62.5 | 59.6 | 62.7 | 62.9 | 65.1 | 77.7 | 81.4 | 73.3 |
| Gambia, The | 38.0 | 42.1 | 43.7 | 40.8 | 39.9 | 37.5 | 30.8 | ... |
| Ghana | 73.3 | 73.4 | 65.5 | 57.9 | 63.2 | 69.5 | 70.6 | 70.3 |
| Guinea | ... | ... | ... | ... | ... | ... | ... | ... |
| Guinea-Bissau | 30.8 | 42.7 | 38.9 | 66.7 | 72.9 | 69.7 | 56.9 | 45.1 |
| Kenya | 76.6 | 72.5 | 72.6 | 77.8 | 76.9 | 80.5 | 83.7 | 87.0 |
| Lesotho | 26.4 | 34.9 | 36.6 | 37.2 | 50.9 | 45.3 | 47.9 | 45.7 |
| Liberia | ... | ... | ... | ... | ... | ... | ... | ... |
| Madagascar | ... | ... | ... | ... | ... | ... | ... | ... |
| Malawi | ... | ... | ... | ... | ... | ... | ... | ... |
| Mali | 82.0 | 74.3 | 71.5 | 82.0 | 78.9 | 72.8 | 64.6 | 62.8 |
| Mauritius | 65.5 | 67.7 | 68.2 | 80.9 | 77.2 | 72.6 | 74.9 | 68.0 |
| Mozambique | 53.3 | 67.7 | 74.4 | 74.4 | 71.1 | 74.4 | 73.5 | 61.7 |
| Namibia | 112.3 | 74.0 | 75.9 | 75.5 | 77.5 | 82.8 | 88.8 | 92.5 |
| Niger | 73.1 | 83.0 | 78.0 | 84.3 | 84.2 | 76.6 | 68.9 | 74.4 |
| Nigeria | 76.3 | 79.1 | 64.0 | 56.2 | 54.8 | 57.4 | 65.3 | ... |
| Rwanda | 78.4 | 85.9 | 83.2 | 88.7 | 94.9 | 84.4 | 86.2 | 81.3 |
| São Tomé & Príncipe | 66.7 | 74.9 | 108.3 | 110.5 | 82.4 | 75.4 | 58.5 | 75.0 |
| Senegal | 77.3 | 78.3 | 76.7 | 78.4 | 80.0 | 79.5 | 75.1 | 68.7 |
| Seychelles | 30.9 | 30.7 | 35.9 | 33.9 | 34.7 | 28.9 | 31.8 | 42.4 |
| Sierra Leone | 38.7 | 47.2 | 47.5 | 46.5 | 40.5 | 37.0 | 34.0 | 31.4 |
| South Africa | 122.8 | 120.1 | 120.7 | 113.2 | 119.0 | 118.7 | 117.3 | 118.1 |
| South Sudan | ... | ... | ... | 9.8 | 11.8 | 15.2 | 11.3 | 7.7 |
| Swaziland | 96.7 | 79.6 | 74.4 | 85.8 | 79.8 | 81.7 | 86.2 | 79.3 |
| Tanzania | 52.0 | 64.6 | 62.1 | 67.1 | 69.9 | 71.2 | 75.6 | 81.4 |
| Togo | 67.5 | 60.6 | 59.0 | 67.1 | 64.3 | 66.1 | 61.8 | 61.9 |
| Uganda | 58.8 | 71.4 | 77.2 | 85.5 | 79.5 | 80.0 | 74.6 | 75.4 |
| Zambia | 50.5 | 60.1 | 52.9 | 56.5 | 65.2 | 61.1 | 65.7 | 60.1 |
| Zimbabwe | … | ... | ... | ... | ... | ... | ... | ... |
| **Sub-Saharan Africa** | **64.1** | **65.4** | **65.7** | **67.4** | **67.7** | **67.8** | **66.6** | **68.5** |
| *Median* | 64.0 | 67.7 | 66.9 | 68.8 | 71.8 | 72.6 | 70.6 | 70.7 |
| Excluding Nigeria and South Africa | 62.1 | 63.5 | 64.2 | 66.5 | 66.6 | 66.7 | 65.3 | 67.1 |
| **Oil-exporting countries** | **59.0** | **63.4** | **62.9** | **57.3** | **58.3** | **63.2** | **63.2** | **66.7** |
| Excluding Nigeria | 56.1 | 60.8 | 62.8 | 57.4 | 58.8 | 64.0 | 62.9 | 66.7 |
| **Oil-importing countries** | **65.2** | **65.9** | **66.3** | **70.0** | **70.1** | **69.0** | **67.5** | **68.9** |
| Excluding South Africa | 63.3 | 64.1 | 64.5 | 68.6 | 68.5 | 67.3 | 65.8 | 67.2 |
| **Middle-income countries** | **65.9** | **66.6** | **67.9** | **69.7** | **69.7** | **70.8** | **71.0** | **72.8** |
| Excluding South Africa | 62.9 | 63.8 | 65.1 | 67.4 | 67.1 | 68.3 | 68.6 | 70.3 |
| **Low-income countries** | **62.0** | **64.1** | **63.2** | **65.0** | **65.5** | **64.6** | **62.0** | **63.7** |
| Excluding low-income countries in fragile situations | 66.6 | 72.2 | 71.0 | 74.4 | 74.3 | 72.8 | 70.6 | 68.1 |
| **Countries in fragile situations** | **59.4** | **60.1** | **61.5** | **61.8** | **61.3** | **61.3** | **57.5** | **63.1** |

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