

# AFRICA

## INVESTMENT REVIEW

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Q1 2018

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# AFRICA

## INVESTMENT REVIEW

### Foreword

The IMF upgraded the global economic growth outlook for 2018, with global growth expected to be about 3.9%, overall. The tax overhaul package introduced in the US is positive for US growth, but will also result in interest rate hikes in the US. Growth in Europe and Japan is also expected to edge up, creating a global unison with positive spillovers for the rest of the world. The outcome of the German elections and coalition arrangements is not expected to dampen economic performance in Germany and Europe. Chinese growth is expected to hover around 6.5% in 2018, after a surprise upward performance in 2017. The much-feared downturn triggered by property prices, rising debt levels, and lower consumption, has not come to fruition.

Of relevance to African countries is the commodity price picture. In this issue of the AIR we present a new Africa commodity index, for key commodities produced in Africa. This includes both soft and hard commodities. The commodity indices are useful as benchmarks for investment purposes. The oil price is expected to average \$60 per barrel during 2018, which augers well for recovery in oil-producing economies like Angola and Nigeria. Overall, growth in sub-Saharan Africa is poised to pick up in 2018, due to rising domestic demand, an improved policy environment and steady commodity prices. The election process in Kenya is casting a shadow on the strong prospects for the country and the region, but the real impact will be negligible. Zimbabwe's new political leadership, ushered in at the end of 2017, is likely to lead the country into economic recovery through new FDI flows, and add positively to South Africa's performance outlook.

Growth recovery in Africa is bound to create a positive environment for more private equity flows into Africa. The fundamentals for successful private equity investment already exist, as discussed in this issue of the AIR. Africa's demographic trends, gaps in infrastructure investment, natural resource endowment, fast urbanization, and food deficit, among others, provide long-term opportunities for investors in private equity.

The rise of cryptocurrencies as an investment asset class experienced a crowning moment in December 2017, with the listing of Bitcoin futures on the Chicago Board of Options exchange (CBOE). This has introduced some transparency into a key cryptocurrency, and will open up more investment into this asset class. Cryptocurrencies will not only create investment opportunities, but could also change the conduct of monetary policy practised by Central Banks. In this issue of AIR, we cover this subject of cryptocurrency, highlighting the dilemmas and opportunities it presents.

**Prof Mthuli Ncube**

Managing Director,

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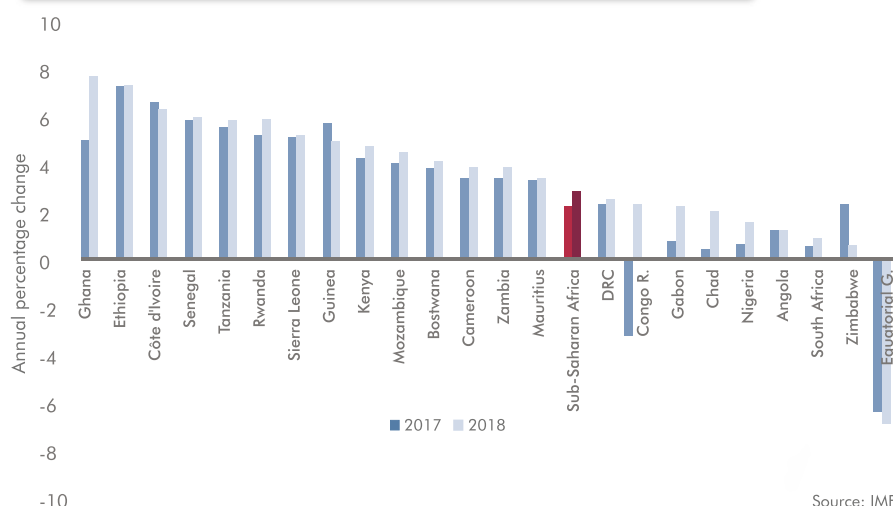
# African Economic Outlook

By Dr Seedwell Hove, Quantum Global Research Lab

Sub-Saharan Africa's (SSA's) economic momentum is expected to continue in 2018, following a GDP growth rebound to 2.7% in 2017. The IMF projects GDP growth to strengthen to 3.3% in 2018, on the back of firming commodity prices, a pick-up in external demand, surging FDI and supportive policies. Commodity prices increased moderately in 2017, with oil prices averaging \$54 per barrel. Oil prices are expected to edge up to \$60 per barrel in 2018, while other commodity prices are likely to hold firm. Growth will be led by oil importers, which are expected to expand by 4.4%, while oil exporters will grow by 1.8%. The large economies – Nigeria, Angola and South Africa – recovered moderately in 2017 and will make further modest gains in 2018. Although their growth rates will be below average, the positive impetus will be helpful to keep the region's growth above the 2016-2017 levels.

Excluding Nigeria and South Africa, SSA growth will be even more upbeat, at 5.1% in 2018. About eight SSA countries are anticipated to grow at rates above 6% in 2018, while over 20 economies will expand at rates over 5%, reigniting the “Africa rising” narrative. Some frontier economies and low-income countries such as Côte d'Ivoire, Ghana, Senegal, Ethiopia and Tanzania will continue to expand at robust paces, while most resource-intensive economies will consolidate recoveries from the 2014 terms of trade shock. Ghana will be the fastest growing economy in SSA, with an 8.9% growth rate, followed by Ethiopia and Côte d'Ivoire, which will expand by 8.5% and 7.3% respectively. Growth in these countries will be supported by vigorous infrastructure investments, dynamic expansion of services sectors, a recovery in agricultural production, and policy support. However, in some metal and oil exporters that adjusted slowly to lower commodity prices, growth is expected to be weak, as fiscal consolidations and adjustments further constrain public investments. The region's growth will remain barely above population growth, to see GDP per capita growth at 1% in 2018, which is not fast enough to reduce poverty. Persistent imbalances in some large commodity exporters, political risks in countries facing elections and high debt levels, and faster tightening of global financing conditions could weigh on the prospects.

**Figure 1:**  
Growth forecasts of selected African countries, 2017 and 2018



Source: IMF

## Large economies

Nigeria's outlook is strengthening after exiting a five-quarter recession in Q2, 2017. The economy is projected to expand by over 2% in 2018, following a 0.8% expansion in 2017, driven by improving oil prices, an increase in oil production, continued positive dynamics in the agricultural sector and a scale-up of public investments. A stronger manufacturing PMI of 59 points in December 2017 points to continued economic expansion. The foreign exchange window introduced in April is succeeding in attracting portfolio investment, increasing international reserves and helping to rebalance the foreign exchange market. Inflation is decelerating (15.4 % in December), helping to boost domestic demand. However, an imminent political derailing over reforms outlined in the Economic Recovery and Growth Plan 2017–2020 and the fragile situation in the Niger Delta could threaten the nascent economic recovery momentum. In Angola, economic activity is picking up moderately, with the economy expected to expand by 1.6% in 2018. Economic activity is being helped by firming oil prices and reforms from the new government (The Macroeconomic Stabilization Program; and National Development Plan 2018–2022). However, inflation (at 23.7% in December) is set to rise further to average above 30% in 2018, fueled by depreciation of the exchange rate following the decision to float the Kwanza in January 2018. In addition, the heavy debt burden—which prompted S&P and Moody's to downgrade Angola's credit rating—could weigh on the outlook.



Activity in South Africa has continued to strengthen modestly after exiting a short recession in Q2, 2017, to see GDP growth at 0.9% in 2017. The PMI has remained stuck below the 50-point mark for the past seven consecutive months, recording 44.9 points in December 2017, and highlighting still subdued business conditions.

**A moderate pick-up is anticipated in 2018, but political and institutional challenges, lacklustre labour market constraining household consumption and fiscal pressures will prevent growth from leaping beyond 1.1%.**

### **Frontier and low-income countries**

Robust economic activity will continue in frontier market economies (Côte d'Ivoire, Ghana, Kenya and Senegal) and low-income countries (Ethiopia, Rwanda, Tanzania, Burkina Faso and Sierra Leone), with growth rates above 6% expected in 2018. Ghana will be SSA's jewel and fastest growing economy, with strong growth of 8.9% in 2018, following buoyant acceleration of the oil sector towards the end of 2017. The confluence of increased oil production from the new oil fields (Tweneboa-Enyenra-Ntomme (TEN) and Sankofa) and refurbished old fields (Jubilee) and higher oil prices will drive dynamism in the oil sector. The easing fiscal constraints following the extension of the IMF Extended Credit Facility (ECF) will help boost spending in public capital projects. The continued stellar performance of GDP and strong PMI reading of 54 points in December were confirmed by the upgrade of Ghana's sovereign rating outlook to positive by S&P. However, the favorable outlook could be saddled by the country's elevated public debt burden of 66% of GDP in 2018 and a high level of non-performing loans in the banking sector (21.6% in October, 2017). Dynamic service sectors, increased infrastructure spending and extensive international support will drive strong growth above 7.3% in Côte d'Ivoire in 2018, despite the decline in cocoa prices, which weighed down household spending and weakened fiscal and export revenues in 2017. Kenya's positive outlook continues to be muffled by renewed political tensions following the self-inauguration of Raila Odinga, the opposition leader, as the alternate president on 30 January. Although the jump in the PMI to 53 points in December points to a visible upturn, the escalation of political tensions, together with a high debt overhang and the continued cap on interest rates could keep growth from rising beyond 5.5% in 2018.

Ethiopia's GDP growth remains resilient, projected at 8.5% in 2018, driven by strong public infrastructure investments (e.g. the Grand Ethiopian Renaissance Dam, railways and highways) under the second Growth and Transformation Plan (GTP II) 2016-2020, robust foreign direct investments, and extensive international support. Recent IMF data suggests that Ethiopia has overtaken Kenya as East Africa's largest economy, with a GDP of US\$87.3 billion in 2017. Robust activity in the manufacturing, construction and service sectors will sustain a higher GDP growth rate of 6.8% in Tanzania in 2018. However, the recent crackdown on the mining sector could discourage foreign direct investment and constrain economic activity in the extractive sectors. Activity will be moderate in some Southern and East African countries, while effects of drought shocks are expected to wane in the Horn of Africa.

The region's inflationary pressures will continue to subside, inching below 10% in 2018, helped by stabilizing currencies, declining food prices and dissipation of past inflation drivers. Inflation continues to decelerate in Ghana, Nigeria and Kenya, albeit at different paces, but remains elevated in DRC and Sierra Leone. The fiscal deficit for the region is slowly narrowing and is projected at 4.3% of GDP in 2018, from 4.7% in 2017, as fiscal adjustments and consolidation continues, especially among oil and metal exporters. Debt levels continue to balloon, with more than 62% of countries having debt levels above the region's average of 46% in 2018. This is raising debt sustainability concerns, and putting upward pressure on external financing costs. The region's current account deficit is projected at 3.6% of GDP in 2018, with a number of oil importers including Tanzania, Ethiopia, Kenya, Mozambique and Guinea having current account deficits above 10% of GDP. This reflects large imports of capital goods for infrastructure and a higher cost of fuel imports as oil prices pick up. Nigeria, Senegal and Côte d'Ivoire issued Eurobonds in 2017, as improved global sentiment toward emerging and frontier markets contributed to the narrowing of sovereign bond spreads. We are likely to see more bond issuances in 2018, as countries try to cover funding gaps.



## Risks to Monitor

A number of downside risks are clouding the outlook. On the external side, trade policy uncertainty from the US persists, especially with respect to the uncertainty surrounding the Africa Growth and Opportunity Act (AGOA). The US has started to renegotiate some trade agreements such as the NAFTA, raising fears that other trade agreements such as the AGOA could be revisited. A faster-than-expected normalization of US interest rates could also tighten global financial conditions, raise the cost of financing and reduce bond issuances in frontier African economies. Moreover, the continued cooling of the housing market in China amid the country's rebalancing process continues to raise hard landing fears. An abrupt slowdown in China could affect African countries through reduced demand for exports and FDI inflows, depressed commodity prices and financial market volatility. However, the risk of a disorderly fallout of the Chinese economy is low. On the domestic front, rising government debt levels, which have exceeded critical levels of 40% of GDP in many countries, are raising debt sustainability concerns. More worrisome is the rise in external debt, which has seen a number of countries' credit ratings being downgraded in 2017, which puts further upward pressure on external financing costs. A number of African countries – including Cameroon, DRC, Mali, Mauritius, Madagascar, Sierra Leone, South Sudan and Zimbabwe – will hold elections in 2018. In Zimbabwe, the elections will be held amid an unfolding political transition, after the resignation of President Robert Mugabe and the inauguration of Emmerson Mnangagwa in November 2017. The election will be a test of the return to democracy as the country pushes for reengagement with the international community. In DRC, further delays in holding elections, since December 2016, are fueling tensions and deepening the political crisis. In South Sudan, the political situation remains tense, hampering economic activity and delaying reforms to jumpstart the battered economy of Africa's youngest nation.

Overall, SSA's economic recovery will continue to solidify in 2018, renewing the region's 'Africa rising' narrative. While the consolidation of recovery gains and maintenance of macroeconomic stability are imperative in the short term, the fundamental shift from commodity dependence to economic diversification should remain a focus in the long term.

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# Commodities Outlook

By Dr Jeremy Wakeford, Quantum Global Research Lab

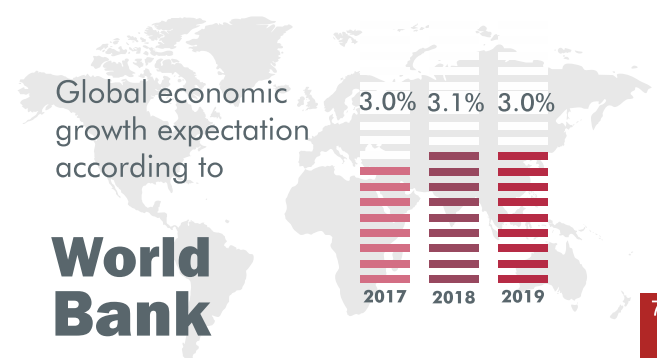
The fourth quarter of 2017 saw mixed fortunes for the prices of the major commodity groups. The energy price index grew by a solid 13.6%, while the non-energy index dipped by 0.3%. The energy index has soared by an impressive 92% since the low point reached in January 2016, but it is still about 45% lower than the pre-collapse level of mid-2014. The majority of commodity prices are expected to remain steady or increase modestly in the coming quarter and year, supported by stronger global economic growth. Downside risks include geopolitical tensions centred on the Korean peninsula and in the Middle East, as well as possibly tighter monetary conditions and more protectionist trade policies.

The price of Brent crude oil has continued its upward trajectory over the past few months, climbing to \$64/b in December following the closure of the Forties pipeline in the North Sea. The rally continued in January, with Brent breaching \$70/b – the highest level in more than two and a half years – on the back of political tensions in Iran and a weaker dollar. The fundamental driver of higher prices has been a drawdown of global oil stocks following the OPEC production cuts of 1.8 million barrels per day (mb/d) in 2017. In addition, a significant geopolitical premium seems to have returned to oil prices, thanks to various tensions in the Middle East. Further support for prices came in November when OPEC and 10 non-member oil exporting countries agreed to extend their production cuts until the end of 2018. The International Energy Agency (IEA) estimates that world oil demand will expand by 1.3 mb/d in 2018, while non-OPEC supply is forecast to rise by a robust 1.6 mb/d. Hence, oil stock levels could rise again, leading to a slight easing of prices. However, much of the projected supply increase depends on the response of US tight oil drillers to rising prices. The slow pace of drilling in recent months suggests that the energy agencies' optimism might be exaggerated, especially as producers have been focusing in the past couple of years on higher-yielding 'sweet spots', which are increasingly being exhausted. In the absence of shocks, Brent is expected to average at around \$60/b in 2018.

The prices of all three precious metals fell in the 4th quarter, reversing the previous quarter's gains. The precious metals index edged down by 4.4% in Q4, but rose 7.2% over the past 12 months. Geopolitical risks could continue to support the gold price in 2018, especially if there is a further

escalation of tensions surrounding North Korea's nuclear weapons programme. Furthermore, if the US equities bull market runs out of steam, this could lead investors to switch into precious metals. Stronger global growth should spur demand for jewellery. The path of monetary policies and the strength of the dollar are major uncertainties clouding the outlook for precious metals. Q4 delivered a mixed bag of results for base metals. The best performer was lead, which gained 5.7%. Copper rose by 3.9%, while nickel and zinc each edged up by 2.5%. Iron ore increased by 1% to \$72.3/tonne. Aluminium dipped by 0.8% in the quarter, and tin recorded the heaviest loss, shedding 6.3%. Overall, the metals and minerals index edged up by 1.7% in Q4, taking the annual increase to a solid 14.4%. The index has climbed by 52.3% since the January 2016 low point. Stronger global growth should continue to support base metal prices in 2018, with additional impetus likely to come from supply constraints, especially in the case of lead, nickel and zinc. Iron ore is the likely exception, as some major new mines in Australia and Brazil are due to start production this year.

The food price index was almost flat in 2017Q4, as a slight increase in grain prices was offset by declines in oils and meals and other food. For 2017 as a whole, food prices eased by 2.2%. The prices of grains showed varied results in Q4, with modest increases for rice and maize but a decline for wheat. Bumper cereal harvests and record inventories are expected in 2018. The major meat prices hardly changed in the last quarter. Mutton prices edged up slightly, while beef dipped marginally. The beverage price index slumped by 6.1% in 2017Q4, taking the 12-month decline to minus 11.4%. Prices of all four major beverage commodities declined on the back of solid production volumes. Timber prices changed only marginally in Q4, with plywood slipping by 2% while pulp remained constant. If the positive momentum in the global economy continues, this could support slightly firmer timber prices in the year ahead. Overall, agricultural commodity prices are not expected to increase much in 2018, as modest demand growth will likely be offset by productivity gains. As usual, however, extreme weather events pose an upside risk to



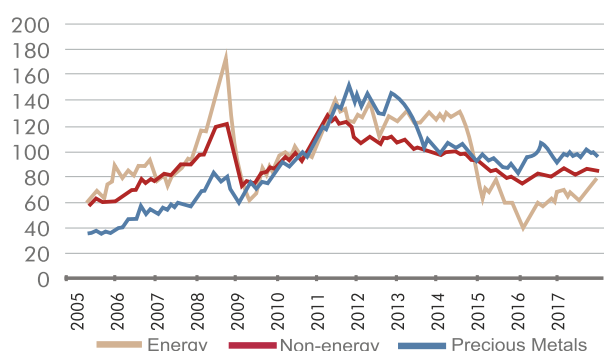


In the January edition of its Global Economic Prospects, the World Bank estimates that the global economy grew by 3% in 2017, up from 2.4% the previous year. The recovery was led by increased investment in advanced economies and an acceleration in EMDEs, especially amongst commodity exporters. The Bank expects the momentum to continue, with the world economy growing by 3.1% this year and 3.0% in 2019. The United States economy is forecast to expand by a brisk 2.5% in 2017, boosted by the Trump administration's success in getting its tax cut bill through Congress in December. On the other hand, growth is projected to slow down in the Euro zone and Japan. Following unexpectedly rapid growth of 6.8% in 2017, China's growth is projected at 6.4% this year, with slight declines the following two years. India is set to be the best performing major economy, with growth picking up to 7.3% in 2018 and 7.5% next year. Emerging and developing economies (EMDEs) are expected to expand by 4.5% this year, quickening to 4.7% in 2019.

The positive momentum in the global economy should be broadly supportive of commodity prices. Nevertheless, there are several major risks to the outlook this year. Likely further monetary policy tightening (at least in the US, but possibly in the Eurozone as well) could raise long-term interest rates and put a brake on the cyclical recovery in advanced economies. China still faces the risk of a sharper correction as a result of slower economic rebalancing and high debt levels. Increased trade protectionism remains a threat, as does financial market instability. Non-economic risks include extreme weather events, geopolitical tensions (especially on the Korean peninsula and in the Middle East), and persistent international security and terrorism threats. The World Bank warns of weaker potential growth in the longer term, as productivity improvements slow down and demographic trends put pressure on several major economies.

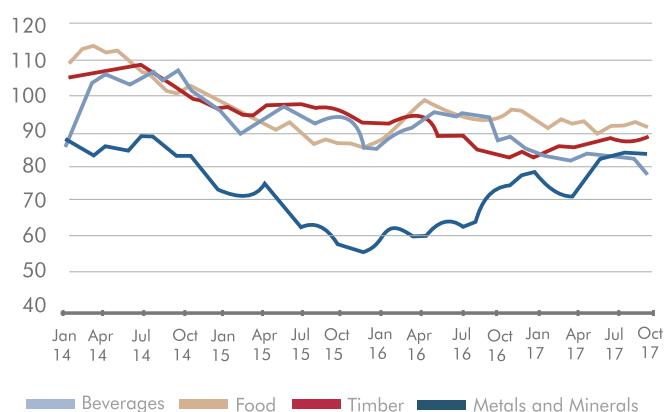
The manufacturing Purchasing Managers Index (PMI) for the US rose strongly from 53.1 in September to 55.1 in December, evidence of robust economic activity. By contrast, China's PMI edged up just half a point to 51.5 over the 4th quarter. India's PMI leapt up 3.5 points to 54.7, indicating the fastest expansion of manufacturing activity in five years. India's economy seems to have recovered from the effects of demonetisation in late 2016 and the imposition of a Goods and Services Tax last year. These developments are good news for commodity prices, especially energy and base metals.

**Figure 2:**  
Aggregate commodity price indices



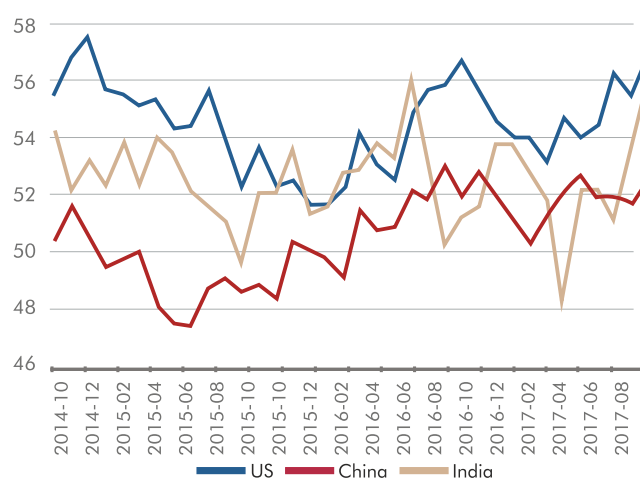
Source: World Bank

**Figure 3:**  
Price indices of major commodity groups



Source: World Bank

**Figure 4:**  
Purchasing Managers Index



Source: Bloomberg



# Why Private Equity Should Invest in Africa

By Prof Mthuli Ncube, Group Head of Advisory & Managing Director, QGRL

Over the past decade, Africa has become a destination for increased foreign direct investment by corporates and private equity funds. The opportunities offered by Africa have become an attraction not only because of the diversification advantage, but also the fact that returns from Africa are high, even in risk-adjusted terms.

## Why focus on Africa? There are ten major reasons.

1

In the last 10 years Africa has been growing steadily at an average rate of 4% per annum, and many Africa counties are among the fastest growing countries in the world. To give two examples, Ghana's GDP is expected to grow by about 9% in 2018, while Ethiopia's economy is projected to expand by about 8%. This economic growth presents investors with opportunities to earn good returns on their investments.

2

Africa's population is growing at about 2.5% per annum, meaning that over the next 40 years an additional 1 billion people will be added to the continent's population. This demographic factor creates opportunities for lucrative investments in various sectors and countries across Africa.

3

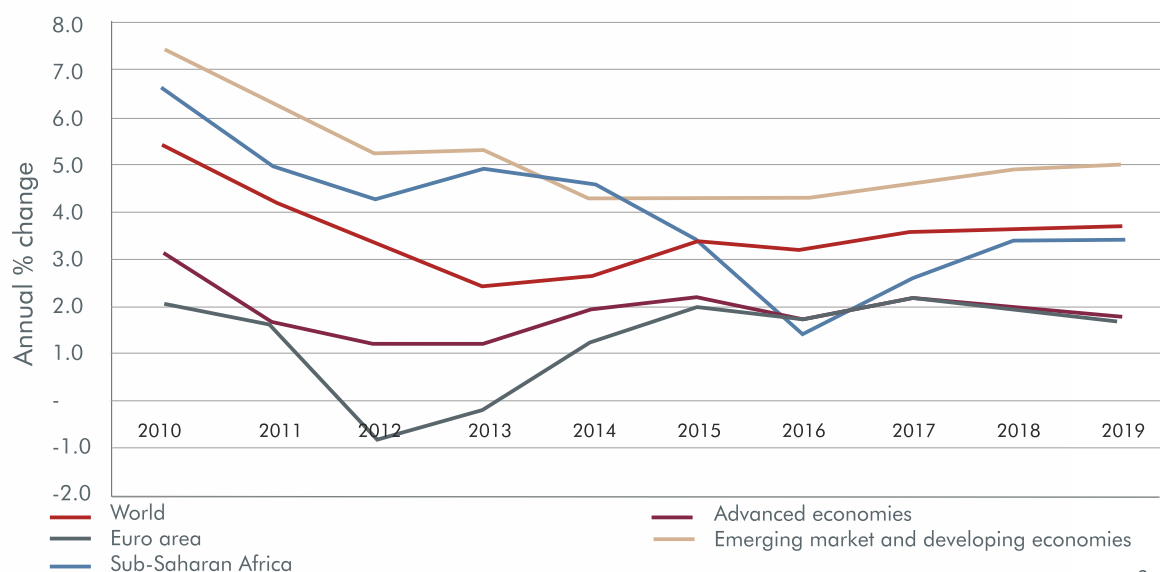
Within the population growth phenomenon, the middle class in Africa is also growing. The core middle class is about 15% of the population, while the broader middle class is about 30% of the population, if we include the lower-middle class. The growing middle class is a source of consumption and skills, and much more.

4

African countries have been steadily improving their business environments, and some have been moving up in the 'ease of doing business' rankings. This has made it easier to register companies in these countries, and the company legislation has been made more accommodative.



**Figure 5:**  
Growth of Sub-Saharan Africa versus other regions of the world



Source: IMF

5

Africa is endowed with natural resources such as minerals and forests. Almost every country in Africa has one mineral form or another. This makes Africa a natural destination for capital seeking opportunities in the extractive industry sector, and also in the forestry sector.

6

The infrastructure gap in Africa requires about \$100 billion a year in financing, and only 50% is actually funded. The small banking sector and small pension fund industry means that domestic capital is not adequate for closing this financial gap. This has opened up opportunities for foreign investors to invest in infrastructure, specifically. The energy, transport and ICT sectors are particularly attractive.

7

Africa is probably the continent undergoing the fastest urbanization in the world. African cities are growing rapidly. All this is putting pressure on urban housing and infrastructure in general. The opportunities for investing in urban housing and transport infrastructure abound.

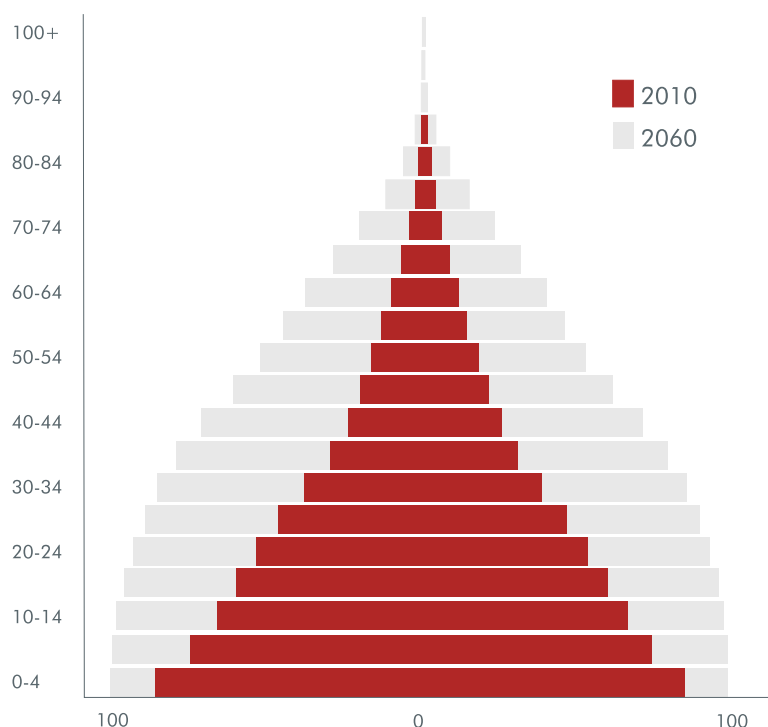
**Table 1:**  
Credit ratings of selected African countries, Jan 2018

Source: Bloomberg

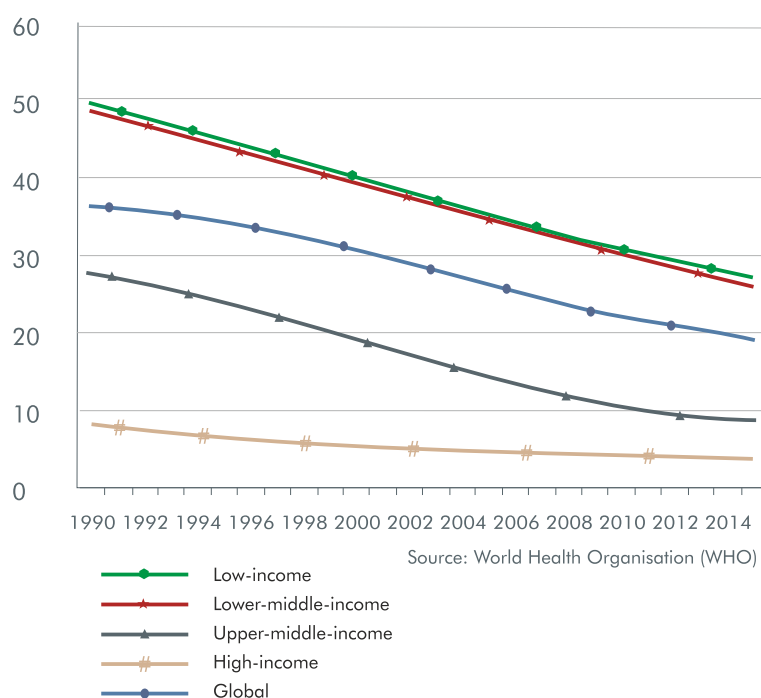
Country	S & P		Moody's		Fitch	
	Credit Rating	Outlook	Credit Rating	Outlook	Credit Rating	Outlook
Angola	B-	Stable	B2	Stable	B	Negative
Côte d'Ivoire	B	Not Rated	Ba3	Stable	B+	Stable
Congo Republic	CCC+	Stable	Caa2	Negative	CCC	Not Rated
DRC	CCC+	Stable	B3	Negative	B+	Not Rated
Ethiopia	B	Stable	B1	Stable	B	Stable
Gabon	B	Stable	B3	Negative	B	Negative
Ghana	B-	Positive	B3	Stable	B	Stable
Kenya	B+	Stable	B1	Stable	B+	Negative
Mozambique	SD	Negative	Caa3	Negative	CC	Not Rated
Namibia	Not Rated	Not Rated	Ba1	Negative	BBB-	Negative
Nigeria	B	Stable	B2	Stable	B+	Negative
Rwanda	B	Stable	B2	Stable	B+	Stable
Senegal	B+	Stable	Ba3	Stable	Not Rated	Not Rated
South Africa	BB	Negative	Baa3	Negative	BB+	Stable
Zambia	B	Stable	B3	Negative	B	Negative



**Figure 6: African population by age cohort, 2010 and 2060 (Millions)**



**Figure 7: Trend in neonatal mortality across income regions globally, 1990 - 2015**



8

The growing population and poor health services have created opportunities in social sectors such as health and education. Figure 7 shows the low-income and lower-middle-income trends in neonatal mortality rates, which pertain to Africa, as well as the other income groups. The World Health Organisation (WHO) defines the neonatal mortality rate as the number of deaths during the first 28 completed days of life per 1000 live births in a given year or other period. The low-income and lower-middle-income region death rates are highest. The growing middle class and success of treatment for HIV/AIDS, for example, have resulted in growth in non-communicable diseases (NCDs). Wealthier Africans escape the poor health services by seeking services abroad. Therefore, there are opportunities for investing in quality health facilities for both the low end and the higher end of the market.

9

Africa has leapfrogged technology in the telecommunications space, by adopting mobile telephony faster than the rest of the world. Equally, Africa has led the world in areas such as mobile banking, which has brought previously unbanked populations into the formal banking sector. The services are spreading to insurance, investors, and other services, which can be accessed through the mobile phone platform. All this has turned Africa into an innovation hub in mobile-based services – a huge attraction to investors.

10

Finally, the political environment in Africa and the quality of macroeconomic management are changing for the better. This has lowered the risk premiums for countries over time, and thus improved credit ratings of countries (Table 1). Improved credit ratings are helping to attract more capital into African economies, and providing useful co-investors for risk-diversification purposes.



# African Commodity Indices

By Dr Jeremy Wakeford, Quantum Global Research Lab

The African Commodity Index (ACI) aims to provide a benchmark for the movements in key commodity prices that are relevant for investors on the African continent. It is composed of energy commodities (oil and gas), “hard commodities” (minerals) and “soft commodities” (agricultural products). Because some of the fundamental drivers differ between energy, hard and soft commodities, we disaggregate the overall index (ACI) into ACI-E, ACI-M and ACI-S sub-indices. Table 2 shows the various commodities that have been included in these sub-indices. They represent Africa's major commodities in terms of annual production values.

Table 2: List of commodities included in each sub-index

Energy Commodities ACI-E	Mineral Commodities ACI-M	Soft Commodities ACI-S
Oil (Brent crude)	Coal (South African Exports)	Cocoa
Gas (European natural gas)	Gold	Coffee <sup>1</sup>
	Platinum	Tea
	Iron ore	Maize
	Copper	Wheat
		Rice
		Sugar
		Timber (Cameroonian logs)

<sup>1</sup> Average of the prices of Arabica and Robusta coffee, since both varieties are produced in Africa.

## Index Methodology

Original price series for each commodity (e.g. the price of oil in US\$ per barrel) were first converted into unit-free price indices, with a base of 100 in January 2000. (This first edition of the ACI uses monthly commodity price data provided by the World Bank.) Next, the overall index (ACI) and sub-indices (ACI-E, ACI-M and ACI-S) were computed as natural log indices, i.e. geometric averages of the natural logs of the various individual commodity price indices. The resulting log indices also have a base value of 100 in January 2000. In this calculation, therefore, each commodity carries an equal weighting within its index.

In addition to the unweighted indices, weighted versions of the indices were constructed, where the weightings of the various commodities in each index relate to the relative importance of these commodities to Africa's economy, based on annual production values (in US\$). The weights will be updated annually at the start of each year, based on the most recent production value data available.

As can be seen in the figure below, the sub-indices have followed broadly similar trends, although the ACI-E and ACI-M have exhibited greater volatility and stronger growth than the ACI-S. All three indices show the commodity boom of 2004-2008 and subsequent collapse coinciding with the Global Financial Crisis. ACI-S reached a peak in early 2011, and since then has been on a gradually declining trend.

Figure 8: African Commodity Indices - unweighted

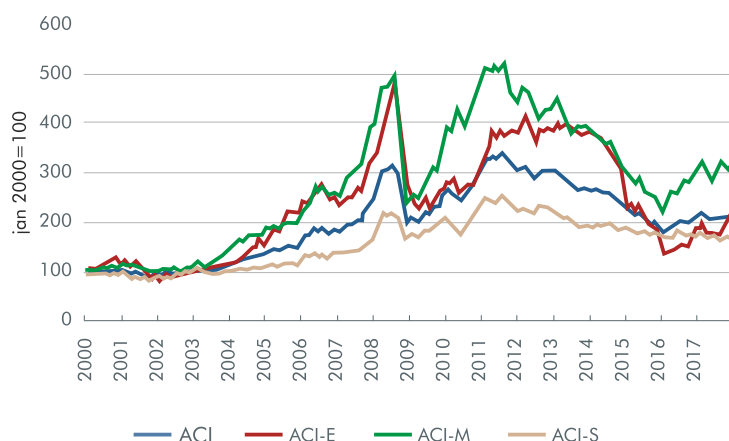


Figure 9: African Commodity Indices - weighted

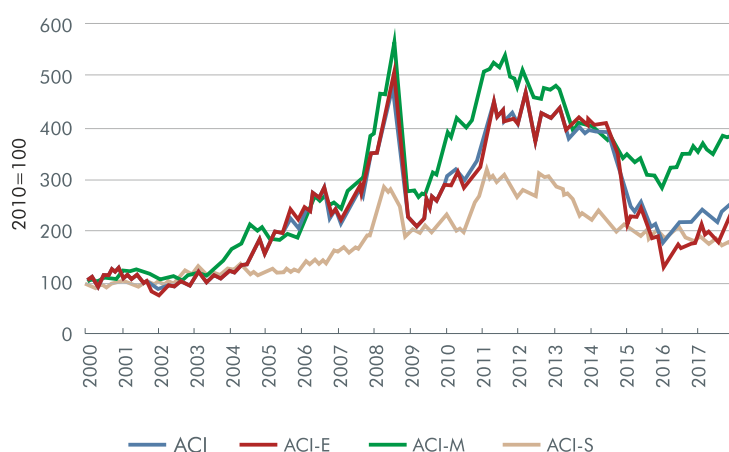
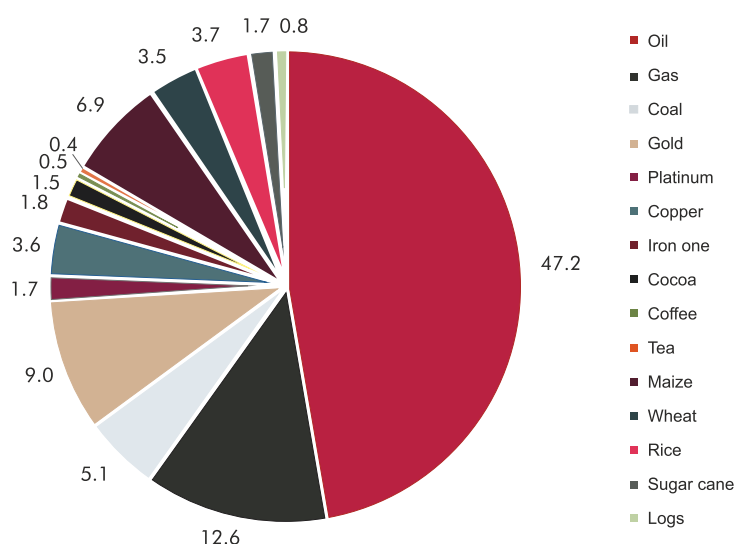


Figure 10: Commodity weights, 2017



A similar pattern is true for ACI-E, although a steeper decline from mid-2014 to early 2016 has been followed by a partial recovery since then.

In the weighted indices, the strongest returns occurred in the case of minerals (ACI-MW), with energy (ACI-EW) performing slightly better than soft commodities (ACI-SW). Energy commodities have been the most volatile, followed closely by minerals. In comparison, the soft commodity index has been relatively stable around its trend, although the trend shifted from growth to contraction after 2011.

The relative sizes of the weights in 2017 are shown in Figure 10. Clearly, oil dominates the ACI-W, with a 47% weight. Natural gas comes second (12.6%), followed by gold (9.0%), while coal (5.1%) is also a significant contributor. The agricultural commodities generally make much smaller contributions, although maize (6.9%) is quite substantial. Prior to 2015, oil and gas had even larger relative weights, before the collapse in oil prices. This explains why the overall index (ACI-W) is so close to the ACI-EW.

Amongst the individual hard commodities included in the index, gold has been the best performer in recent years. Iron ore and coal have been the most volatile price indices since 2000. Among the soft commodities, sugar, cocoa and wheat have exhibited especially high levels of volatility but have been the best performers, while logs, tea and coffee have been relatively more stable.





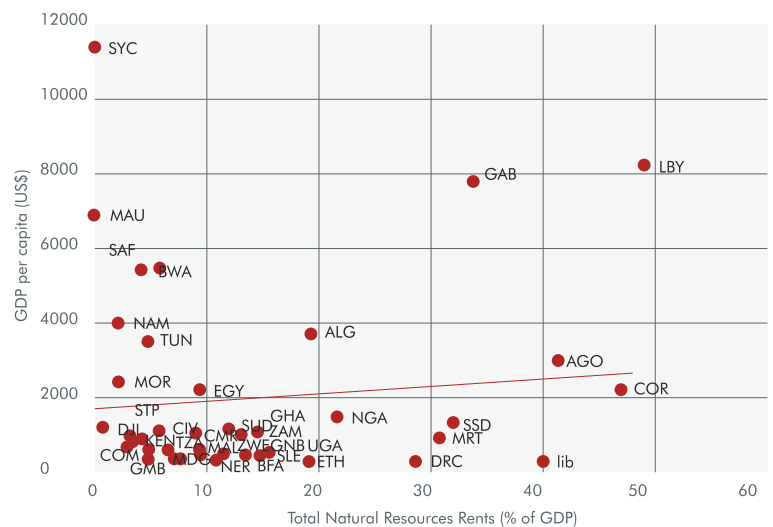
# Leveraging Natural Resources for Africa's Development

By Dr Seedwell Hove, Quantum Global Research Lab and Gladys Gamariel, Botswana International University of Science and Technology

Africa is rich in natural resources. It boasts of over 10% of world reserves of oil, about 40% of gold, 90% of chromium and the platinum group of minerals, extensive fisheries, forests, and vast tourism resources, all of which can support economic development. Explorations in the last decade across many African countries have led to discoveries of more natural resources, such as oil deposits in Ghana, Kenya and Uganda, and natural gas in Mozambique and Tanzania, among others. According to the IMF, about 32 countries in Africa are resource rich, of which 28 are in Sub-Saharan Africa (SSA) and four are in North Africa. In SSA, resource-rich countries account for more than 80% of the region's GDP, while more than a quarter have at least 50% of total export earnings derived from minerals. Natural resource rents account for more than 40% of GDP in countries such as Libya, Congo Republic, Equatorial Guinea, Angola, and Liberia (Figure 12).

Evidence on the role of natural resources in fostering sustainable development is mixed: while some resource-rich countries have succeeded, others have not reaped the full benefits of natural resources. For many African countries, the benefits from natural resources have remained below potential, and strong growth rates have not been sustained for long periods. This has raised questions about the prospects of Africa's development paradigm in light of its resource abundance and what needs to be done to maximize the benefits of natural resources for sustainable economic development.

**Figure 11: Total natural resource rents (% of GDP) and GDP per capita in Africa (ave. 2000-2015)**



Source: World Bank (2017)

We argue that natural resources have the potential to drive Africa's economic development if right strategies and policies are implemented throughout the value chain of natural resources: from discovery of natural resources to extraction, and management of natural resource rents.

## Role of natural resources in driving economic development in Africa

Resource-rich African countries have benefited immensely from abundant natural resources due to rising demand for natural resources (especially from China and India), and firming commodity prices since 2000. Rising commodity prices have catalyzed significant investments in resource exploration, which has helped to increase output and boost national incomes. While the benefits from natural resources are visible, they have remained rather below potential, with many resource-rich countries failing to sustain higher growth rates for longer durations, especially when commodity prices decline. For instance, the recent slump in commodity prices since 2014 has reversed some of the gains achieved during the commodity super-cycle boom, leaving some large African economies such as South Africa, Egypt, Angola, and Nigeria growing at slow paces or in recession in 2016. Reaping the benefits of natural resources is not straight forward.

The literature on the “resource curse” highlights some of the challenges that resource-rich countries encounter in trying to maximize the potential of natural resources for development. These include the Dutch Disease effects (where a natural resource boom appreciates the real exchange rate, which reduces the competitiveness of the other tradable sectors such as manufacturing), volatility of natural resource revenues, and management of resource rents, failure to diversify their economies, corruption, and rent seeking by political elites as well as civil conflicts. Indeed, some of these challenges have affected some resource rich African countries.

### **Strategies to optimise the benefits of natural resources**

According to the World Bank, the wealth of a nation – composed of natural capital, produced capital, and intangible capital (e.g human capital and social capital) – only increases if resources are discovered, and their extraction produces a rent used to create above ground assets. As such, the sustainable economic development from natural resources requires building of both total wealth and improving the composition of wealth, such as transforming natural capital into produced and intangible capital. African countries should develop institutions that support effective discovery, extraction and capturing of natural resource rents. The extraction of resources and the capturing of resource rents (through taxes and royalties) should make other economic sectors competitive by promoting investment, sectoral linkages, supporting local development and not raising costs to other sectors. In fact, governments should set robust fiscal regimes with fiscal rules that help them to smooth their expenditures and avert pro-cyclical spending, while shifting the government mindset from consumption to investment.

Resource-rich African countries should also establish natural resource funds such as Sovereign Wealth Funds (SWFs). According to the Hartwick rule, if natural resources are exhaustible, the best way of sustaining development from their use is to reinvest resource rents into some forms of capital that can generate returns in the future. About 19 African countries have established sovereign wealth funds, with collective assets estimated at US\$159 billion as at 2015. Sovereign wealth funds can also help to buffer economies from the volatility of natural resource markets, limit Dutch Disease effects, support domestic and infrastructure development, while ensuring a provision for savings for future generations and wealth diversification.

By investing a portion of their resource revenues at home in infrastructure, human capital and other key development areas, it is possible for resource-rich countries to transform underground wealth to above-ground assets”. Furthermore, resource-rich African countries can leverage natural resources for industrial development and structural transformation, especially by developing linkages to other economic sectors. The building of strong institutional frameworks is also critical in managing rents and shifting from a short-term rent extraction mindset to long-term rent management focused on long-term development impact.

### **Lessons from international experience**

Several resource-rich countries – such as Norway, Malaysia, Indonesia, Chile and Botswana – have successfully leveraged natural resources (especially hydrocarbons and minerals) for economic development. Norway, which discovered oil in 1970 took important policy steps to integrate the oil sector into the rest of the economy. It established a SWF to effectively manage natural resource rents and established a robust fiscal management framework, supported by fiscal rules to limit discretion. This played an important role in stabilizing and developing the economy. Malaysia started with a diversified resource endowment, including oil, natural gas, rubber, tin and forests. The development of these resources helped to boost and sustain high levels of savings, which were used to support investments in agriculture, manufacturing, infrastructure and technology. Indonesia used its endowments in oil resources to develop agriculture and manufacturing sectors, and to bring down domestic costs, which further encouraged diversification of exports. Chile developed into a dynamic and more diversified commodity exporter largely from its large copper endowments, timber, nitrate, and fish. Chile's prudent fiscal policy, tax incentives, and favorable business climate helped to attract foreign direct investment. Botswana used mineral rents to support rapid growth that has made it one of the most prosperous countries in Africa with GDP per capita of \$15,839 in 2015, almost three times higher than that of Nigeria and the SSA average.

Many lessons can be learnt from these countries. These countries managed to institute coherent counter-cyclical policies (fiscal, monetary and exchange rate policies) to build resilience against boom-bust cycles associated with commodity markets. Apart from developing stability-oriented macroeconomic policies, these countries also benefited from flexible and competitive product markets, high degree of exposure to foreign trade, flexible labor markets, adequate financing and provision of education and training, low levels of taxation, and significant public spending on research and development from natural resource funds. Investments in high-quality human capital and infrastructure helped to sustain higher growth rates, reduce costs of doing business and enhanced competitiveness. These countries also paid attention to linkages and comparative advantages, which helped to boost economies of scale and speed up industrial production and structural transformation.

Africa has the potential to utilize its rich natural resource endowments for sustainable development. Important lessons can be learnt from other successful resource-rich countries. Policies supporting economic development in Africa should take into account the relatively rich presence of natural resources.



# Public Investment, Time to Build, and Fiscal Stimulus in Low-Income Countries

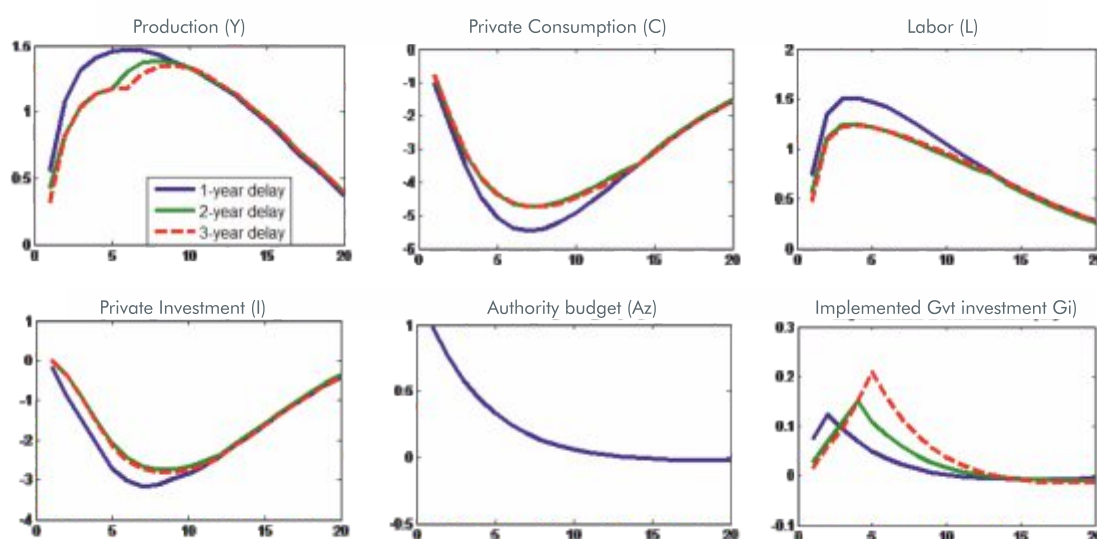
By Dr Lacina Balma, Economic Modeller at Quantum Global Research Lab and Daniel Gurara

Public investment programs have both short- and long-term impacts. First, as a direct injection into the economy, public investment stimulates aggregate demand in the short run. Second, in the long run public investment fosters growth through its positive effect on productivity. This view is consistent with the Keynesian argument of demand management through fine-tuning of fiscal policy, which was popular among economists of the 1950s and 1960s. But this view started to be challenged by the emerging neoclassical synthesis school in the 1960s. In particular, standard neoclassical models tend to downplay the multiplier values by delivering values close to zero, which is in stark contrast with the Keynesian models, which find a spending multiplier in the vicinity of unity (1).

However, irrespective of the school of thought, public investment projects are marred by significant implementation and gestation delays, leading to a significant gap between aggregate demand and aggregate supply until the productivity effects set in. This has important macroeconomic consequences, which in turn depend on the fiscal instruments used to finance the investment. In the literature, this assumption is often dubbed “time-to-build”.

In reality, public investment projects require greater coordination among the various layers of government bureaucracy—from central government to local communities—and have to go through a long process of planning, bidding, contracting, construction, and evaluation. In general, the expenditure processes can take a long time and vary from country to country. According to the IMF's “guideline for public expenditure management”, the usual process guiding the execution of any stimulus package comprises multi-stage procedures, including the legislative appropriation stage. In fact, in most democracies, approval by the legislature is necessary for the government to implement a package. However, parliamentary authorization can sometimes take time or, in the extreme, be defeated. This sometimes happens when the parliament is controlled by the opposition. In this case, a refusal by the opposition to approve the bill can end in the project being cancelled or being retarded until the government finds alternative ways to pass it. In addition, sometimes the lack of budget discipline in some countries can be a source of multiple revisions of line items of appropriations approved by parliament, thus also delaying the execution process.

**Figure 12: Impulse response to an increase in government investment under different lengths of time-to-build delays**





Implementation delays can retard or offset the normal effects. They can lead private investment and private consumption to fall more, and labor and output to rise less in the short run. But this effect can be offset in the long run when productivity gains set in.

Gestation delays of publicly financed projects are prevalent features in a number of developing countries with long legacies of failed public investment projects. The poor record in executing public investment projects has bred skepticism about the ability of these countries to scale up public investment. The underlying issue has to do with institutional factors, such as the quality of project selection, management and evaluation, and the regulatory and operational frameworks. It is generally believed that such institutions are relatively weak in developing countries.

We study the macroeconomic impacts of public investment surges and fiscal policy adjustments to debt-financed public investment in Low Income Countries (LICs) by focusing on two important issues that are pervasive in publicly financed investment projects in LICs: gestation delays and public investment inefficiencies. We assume that public capital takes time to become productive because of the implementation delays typically associated with the different stages of public investment projects. In order to account for the implementation delays associated with the completion of investment projects, we assume that multiple periods are required before new investment is translated into new productive (public) capital, and the rate at which authorized spending for government investment occurs is crucial for short-run effects of fiscal stimulus.

### Findings and policy implications

The key messages can be summarized as follows. First, implementation delays can alter the standard negative wealth effect from an increase in government investment spending. The negative wealth effect argued by the neoclassical school is verified in the short run but tends to disappear in the long run under longer implementation delays. Second, high-yielding public investment can create a substantial positive wealth effect in the long run, raise output and enable private consumption and investment to fall less, thus counteracting the negative wealth effect. Third, assumptions about which fiscal instruments may adjust to stabilize government debt in present value terms are very important for the ultimate impacts of changes in the fiscal stance. Government spending and capital income tax restores the present value balance at best. Finally, the extent to which the adjustment of each fiscal instrument affects the present value balance depends on the fiscal reaction parameters. A higher speed of fiscal reaction to debt tends to generate a greater stabilizing effect compared to a lower speed of fiscal reaction.



*“A vineyard is unproductive for at least three years before it is thoroughly fit for use.”*

*In gold mining there is often a long delay, sometimes even of five or six years, before gold is reached”.*

**William Stanley Jevons  
(1871)**





# Cryptocurrency Volatility and the Response of Central Banks

By Dr Fernando Barbi, QGRL

In December 2017, we saw a crowning moment for Bitcoin with the listing of Bitcoin futures on the Chicago Board of Options Exchange. This will enable better use of this cryptocurrency by investors as it is framed into international trading standards. Bitcoin is the best-known cryptocurrency today.

A cryptocurrency is a decentralized currency that uses cryptography to secure transactions and validate balances, thus obviating the need for a central authority to verify every transaction. Other cryptocurrencies include Ethereum, Ripple, Litecoin, Monero and Dash, but Bitcoin is the first and best known by the general public. The price of Bitcoin has been quite volatile and could render anyone wary of this technical innovation that is trying to position itself both as a means of payment and a reserve of value.

Africa has experienced a rapid uptake of mobile payments solutions such as MPesa in Kenya and East Africa. The rise of cryptocurrency in Africa is driven by volatile local currencies due to weak commodity prices. The technology uptake is also driven by a digitally savvy youthful population, which constitutes half of the African population. However, some African central banks, like Kenya's CBK, positioned themselves against Bitcoin, remembering they are neither legal tender nor regulated, so "the public should desist from transacting in Bitcoin and similar products."

Although the novelty aspect appeals to part of the public, some increasing resistance has emerged as volatility rose sharply. There are different theories to explain this phenomenon, going from simple price manipulation (Gandal et al. 2018) to the wakening of interest among speculators (Bolt and van Oordt 2016). More fundamental reasons to explain the volatile performance of cryptocurrencies may be tied to rising usage fees and longer confirmation times that could be pushing Bitcoin to a role of wealth preserver rather than a payment channel.

At the same time as this roller coaster was capturing the media's attention, quietly but surely, an innovation was being debated (BIS 2015) by central banks worldwide: the Central Bank Digital Currencies (CBDC). The most important difference between cryptocurrencies and CBDC, is that CBDC are produced by central banks based on the same fundamentals used to produce the paper monetary base (fiat currency), but with many advantages as we discuss in this text. One advantage highlighted by Fernández-Villaverde and Sanches (2016) is that competition between pure privately issued currencies may be subject to indeterminacy and unstable price equilibrium.

Bordo and Levin (2017) propose an implementation mechanism for CBDCs that should be interest bearing and that central banks should adjust interest rates to foster true price stability, and thus abandon inflation targeting regimes. These choices have deep implications for monetary policy conduct. Most central banks around the world today have adopted inflation targeting in order to keep inflation expectations under control by means of one instrument, the short-term interest rate. However, it seems a price level target might be preferable, as it reduces the future price-level uncertainty, when compared to an inflation target, and can help mitigate the effects of the zero interest rate bound (Kahn 2009). That lower bound has been a key reason why many central banks currently aim at positive inflation rates of 2 percent or more. CBDC will essentially eliminate the need to maintain such an "inflation buffer" or the need to deploy alternative monetary policy tools such as quantitative easing or credit subsidies. An interest-bearing CBDC could provide a secure store of value, with a rate of return in line with other risk-free assets such as short-term government securities (Friedman 1960). The CBDC interest rate could serve as the main tool for conducting monetary policy to foster true price stability, so that the real value of CBDC remains stable over time in terms of a broad consumer price index.



The interest-bearing design of CBDC would also contribute to greater macroeconomic stability as interest rate adjustments would no longer be constrained by any effective lower bound. Central Banks would be able to push market interest rates below zero in response to a severe adverse shock without resorting to measures aimed at modifying the size or composition of their balance sheets.

The introduction of CBDC provides a landmark opportunity to enhance the transparency of the central bank's monetary policy framework, including its nominal anchor, its tools and operations, and its policy strategy. The central bank's balance sheet could become very transparent: the central bank would generally hold short-term government securities in the same quantity as its liabilities of digital currency. With the adoption of interest-bearing CBDC, the central bank could establish a constant price level target that would be a natural focal point for expectations and hence serve as an enduring and credible nominal anchor.

**Figure 13: Bitcoin average price**



Some attention is required to decide whether CBDC should be closer to cash (through tokens) or to a debit card (through accounts). Individuals and firms would hold funds electronically at the central bank or in specially designated accounts in supervised depository institutions. Under this approach, the central bank would process each payment transaction by simply debiting the payer's CBDC account and crediting the payee's CBDC account. An account-based system has two advantages: payments could be practically instantaneous and costless. The cash alternative has some privacy advantage. However, the cost of verification for a token-based system like that would be inherently expensive. The entire chain of ownership of every token would need to be stored in an encrypted ledger (the blockchain) and a copy of that ledger must be stored on each node of the payment network. Therefore, privacy would come with a cost to society.

At a purely macroeconomic level, CBDC introduction could result in productivity gains that would be similar to those of a substantial reduction in distortionary taxes and raise real GDP by 3 percent (see Barrdear and Kumhof 2016). Could CBDC be produced beyond national borders? This is a possibility. Ripple, for example, is positioned to provide a frictionless platform for sending money globally.

To conclude, a word of caution from BIS: "Central banks need to safeguard payment systems. To date, Bitcoin is not functional as a means of payment, but it relies on the oxygen provided by the connection to standard means of payments and trading apps that link users to conventional bank accounts. If the only "business case" is use for illicit or illegal transactions, central banks cannot allow such tokens to rely on much of the same institutional infrastructure that serves the overall financial system and freeload on the trust that it provides." (Carstens, 2018, BIS General Manager). Will traditional institutions embrace the innovation of cryptocurrency and allow it to replace fiat currencies and monetary policy as we know it? Let's see what the future holds!

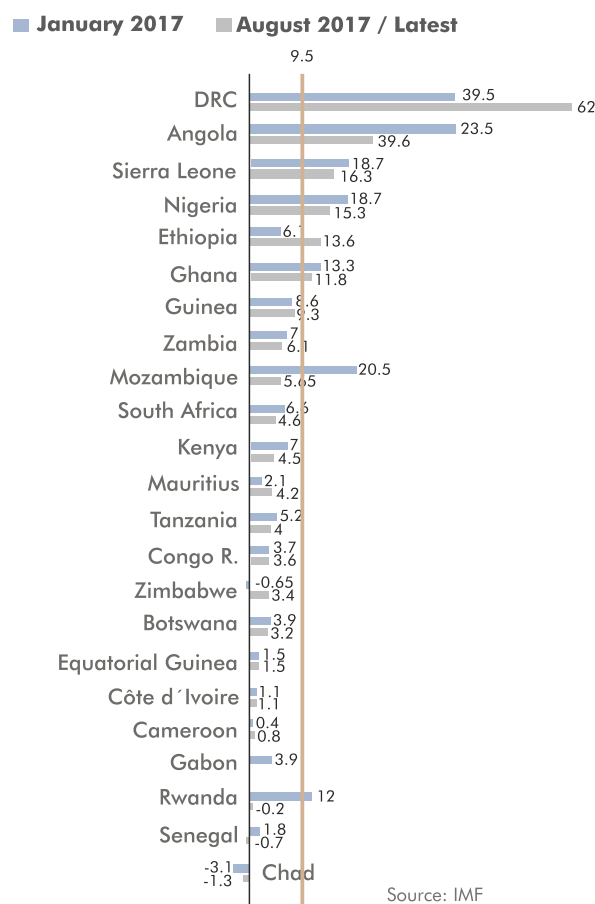
A black and white photograph of an offshore oil rig, showing its complex structure with two tall derrick cranes and various platforms, set against a clear sky and the ocean surface.

# KEY DATA ON AFRICA

# Key Data on Africa

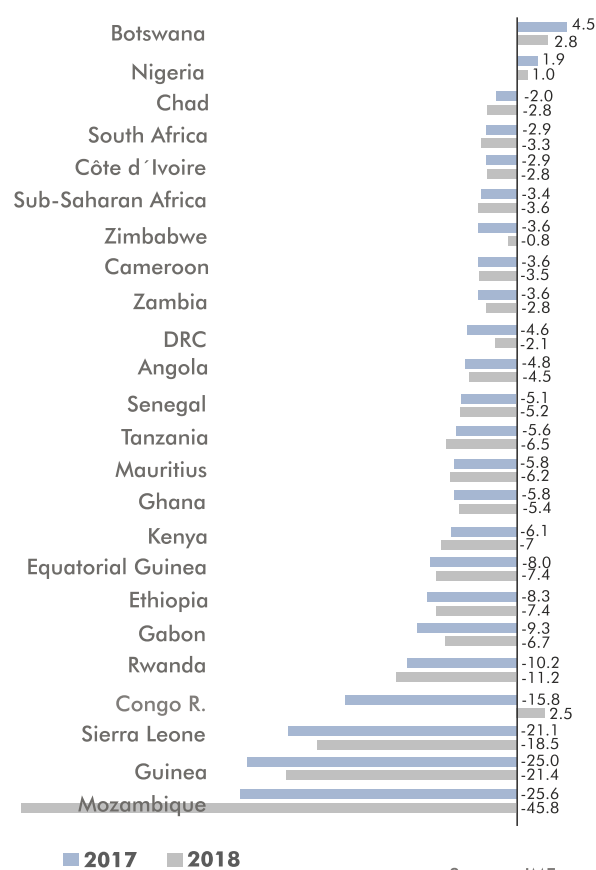
## INFLATION

**Figure 14: Inflation rates of selected African countries %**



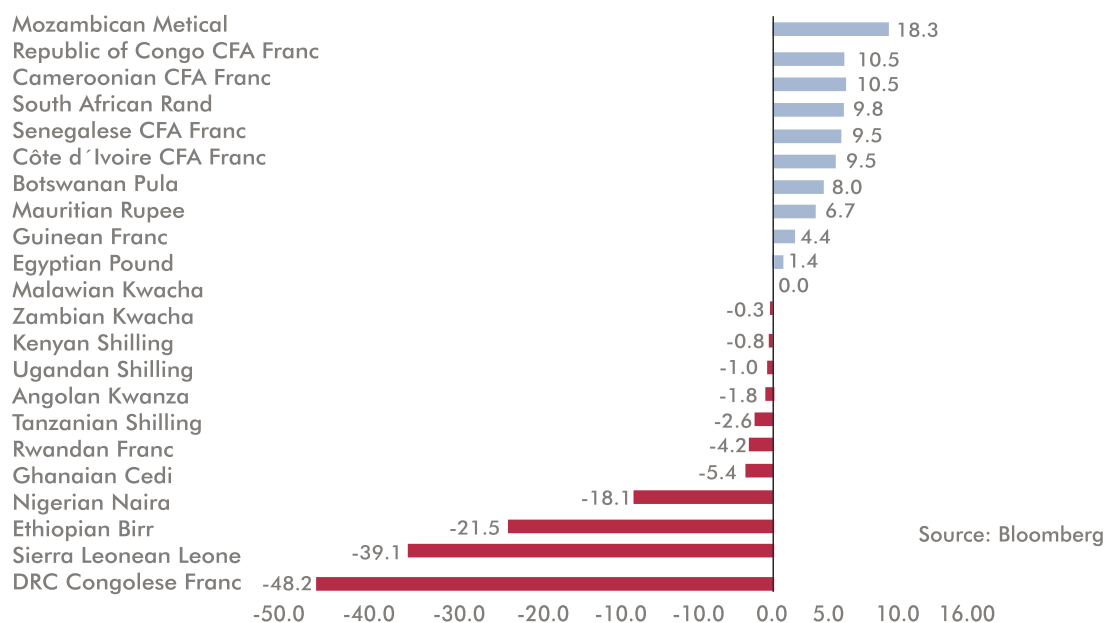
## ACCOUNT BALANCES

**Figure 15: Current account balances of selected African countries**



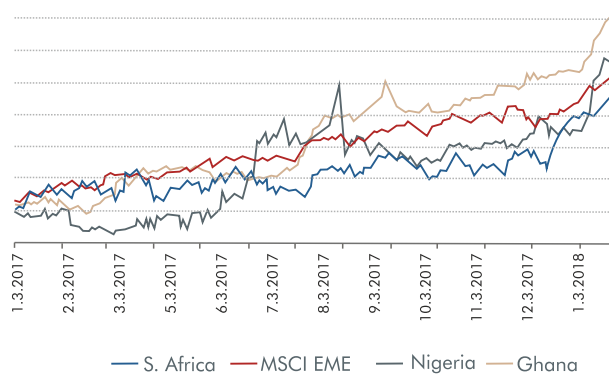
## CURRENCIES

**Figure 16: Changes of selected African currencies against the US\$ (January-June 2017) %**



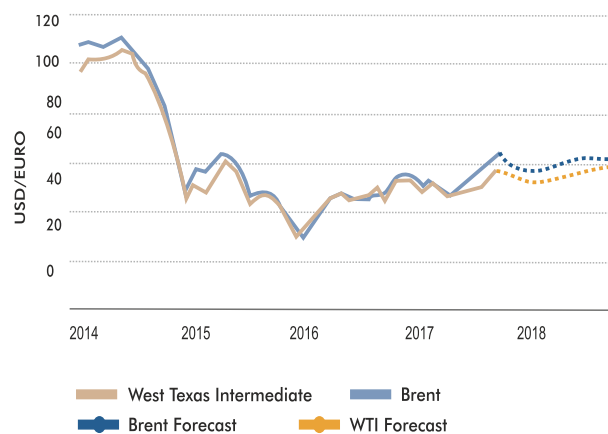


## DEBT

**Figure 17:** African stock markets, 2017

Source: Bloomberg

## OIL PRICE

**Figure 18:** Crude oil prices

Sources: US Energy Information Administration

## MACROECONOMIC INDICATORS

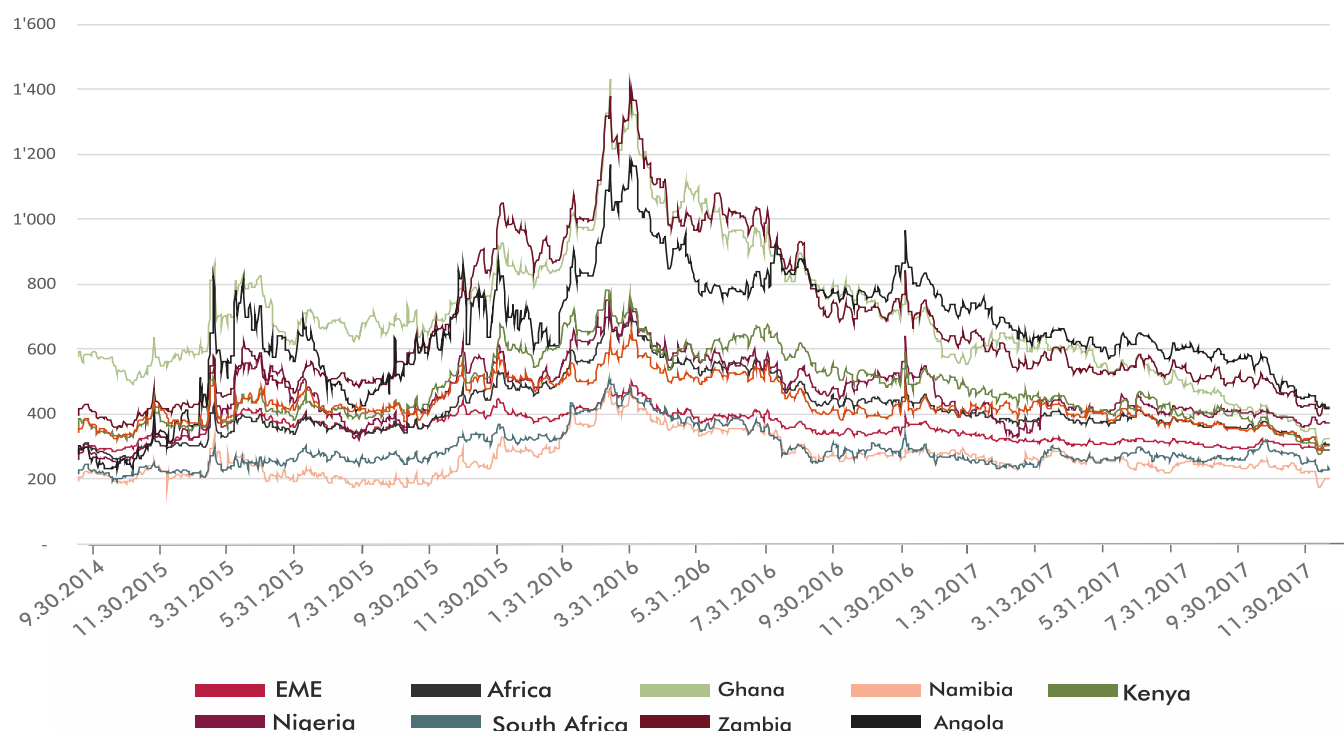
**Table 3:** Selected macroeconomic indicators for Sub-Saharan Africa

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Real GDP Growth (%)	6.9	5.1	4.1	4.1	4.6	3.4	1.4	2.7	3.3
Real Per Capita GDP growth (%)	4.5	2.6	1.8	2.8	2.6	1	-1.0	0.3	1
Inflation (% y-o-y ave.)	8.2	9.5	9.4	6.6	6.3	7.0	11.3	10	9.0
Fiscal Balance	-3.4	-1.1	-1.8	-3.1	-3.5	-4.3	-4.7	-4.7	-4.3
Total Public Debt (% of GDP)	27.7	28.3	28	29	31.6	37.4	43.2	45.1	45.7
Current Account Balance	-0.9	-0.7	-1.9	-2.4	-3.9	-6.1	-6.1	-4.2	-3.6
Net FDI (% of GDP)	2.7	2.1	2.0	1.3	1.6	1.9	2.6	2.6	2.7
Total Investment (% of GDP)	20.3	19.7	20.3	20.3	21.2	20.4	18.9	19.0	19.5
Reserves (Months of imports)	4.2	4.6	5.3	5.0	5.6	5.4	5.1	4.8	4.7
Broad Money Supply growth (%)	13.4	12.6	16.8	7.8	15.5	10.9	11.3	12.5	14.2
Private Sector Credit (% of GDP)	29.2	27.9	28.0	27.7	28.0	28.7	28.5	-	-

Sources: IMF, World Bank

## SOVEREIGN BOND YIELDS

**Figure 19:** Sovereign bond spreads for selected Africa countries



Source: Bloomberg

## SOVEREIGN CREDIT RATINGS

**Table 4:** Credit ratings of selected African countries

Country	S & P		Moody's		Fitch	
	Credit Rating	Outlook	Credit Rating	Outlook	Credit Rating	Outlook
Angola	B-	Stable	B2	Stable	B	Negative
Côte d'Ivoire	B	Not Rated	Ba3	Stable	B+	Stable
Congo Republic	CCC+	Stable	Caa2	Negative	CCC	Not Rated
DRC	CCC+	Stable	B3	Negative	B+	Not Rated
Ethiopia	B	Stable	B1	Stable	B	Stable
Gabon	B	Stable	B3	Negative	B	Negative
Ghana	B-	Positive	B3	Stable	B	Stable
Kenya	B+	Stable	B1	Stable	B+	Negative
Mozambique	SD	Negative	Caa3	Negative	CC	Not Rated
Namibia	Not Rated	Not Rated	Ba1	Negative	BBB-	Negative
Nigeria	B	Stable	B2	Stable	B+	Negative
Rwanda	B	Stable	B2	Stable	B+	Stable
Senegal	B+	Stable	Ba3	Stable	Not Rated	Not Rated
South Africa	BB	Negative	Baa3	Negative	BB+	Stable
Zambia	B	Stable	B3	Negative	B	Negative

Source: Bloomberg

QG quantum global